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2025 Annual Monitoring Report

Lindsay Ops Waste Disposal Site

51 Wilson Road

City of Kawartha Lakes

Prepared for City of Kawartha Lakes

AEC Project No. 26-010 | April 2026



Environmental Assessments & Approvals

April 28, 2026

AEC 26-010

City of Kawartha Lakes
Waste Management Department
322 Kent St. West
Lindsay, ON
K9V 4T7

Attention: Ms. Kayla Pantaleo -Regulatory Compliance Officer

Re: 2025 Annual Monitoring Report – Lindsay Ops Waste Disposal Site

Dear Kayla:

Azimuth Environmental Consulting, Inc. (Azimuth) is pleased to provide the 2025 Annual Monitoring Report (AMR) for the Lindsay Ops Waste Disposal Site (Site). The data and interpretation included provides a summary of the 2025 monitoring data with comparison to the historical data and accurate assessment of the current state of the landfill site. This report has been prepared in compliance with the existing Environmental Compliance Approval (ECA) and applicable Provincial standards. This assessment also interprets the longer-term trends at the Site such that an appropriate monitoring program assesses the current state of the landfill.

The environmental setting at the Lindsay Ops Landfill Site is well understood based on over 40 years of performance monitoring. The data trends over this monitoring period have yielded a relatively consistent geochemical signature such that it is reasonable to infer that the Site reflects a steady state condition without any noted off-site contamination concerns. This is supported by the general consistency between the 2025 data with the historical data set for the majority of monitoring locations.



If there are any questions regarding the content of the report, do not hesitate to contact the undersigned.

Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.



Colin Ross, B.Sc., P.Geo.
Senior Hydrogeologist

c.c. MECP – Peterborough District Office



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EXECUTIVE SUMMARY

The City of Kawartha Lakes (City) is responsible for the operation and maintenance of the Lindsay OPS Landfill Site (Site) in accordance with the Environmental Compliance Approval (ECA) (No. A321504) issued by the Ministry of the Environment, Conservation & Parks (MECP) on originally issued December 14, 2001 and last amended in February, 2026.

The Site is located in proximity to the eastern shoreline of the Scugog River along with the Lindsay Water Pollution Control Plant (WPCP), which is utilized by the Site to manage leachate collected by the leachate collection system.

The soils underlying the Site are mainly comprised of a dense, silty sand to sandy silt glacial till approximately 6-9 m thick, overlying limestone bedrock. Ground water movement at the Site is interpreted to be downward through the overburden sequence to the underlying limestone bedrock with the overburden materials having limited permeability relative to the underlying fractured bedrock. This relative difference limits the migration of leachate into the underlying aquifer, and thus the horizontal extent of leachate influence at the Site. The limited lateral extent of leachate impacts is confirmed with the historical monitoring at the Site, which continues to show leachate impacts only a short distance from the waste areas. The lack of measurable leachate impacts beyond the waste area also confirms the leachate containment and collection system is effectively mitigating leachate impacts at the Site.

The data trends over this monitoring period have yielded a relatively consistent geochemical signature, although some subtle long-term trends are present at select locations owing to the fact that the Site is still active and is also influenced by the adjacent WPCP and lagoons which has created a measurable influence in the adjacent ground and surface water at the Site. Despite this influence, regular maintenance of the lagoons (*i.e.*, cleanouts) has proven to mitigate these impacts, which are also noted to be localized to the lagoon areas such that not off-site impacts are occurring.

The 2025 monitoring completed indicates that no trigger mechanism exceedances were noted and the Site met all compliance criteria with respect to the ECA with the exception of the average daily flow volume of leachate pumped to the WPCP exceeded the maximum allowable average daily flow of 300 m³/day specified in the ECA during March and April. However, these exceedances were likely more related to increased inputs resulting from snow melt events. This will continue to be monitored.



Revisions to the monitoring program are included as part of this assessment and are similar to previous reporting, which will require amendment to the ECA if supported by the MECP. These changes include:

- Removal of PCB and VOC monitoring in ground water, or at a minimum largely reduce the program to targeted locations immediately downgradient of the waste area to a frequency of every five years due to a historical lack of detections;
- Removal of PCB, radionuclide, pesticides and VOCs (or at least reduction in frequency) from leachate sampling program;
- Removal of PCB and VOC monitoring from the surface water at all locations due to a historical lack of detections;
- Reduce ground water monitoring frequency to semi-annual monitoring given the relative consistency in the data over time. This includes reduction of ground water level monitoring from quarterly to semi-annual monitoring;
- Curtail landfill gas monitoring to locations within or immediately surrounding the waste mound given a historical lack of detections from the remaining monitoring network; and
- Remove the Wetland Assessment requirement which is currently required every five years (next assessment to be completed in 2028).
-



1.0 INTRODUCTION

The City of Kawartha Lakes (the “City”) Lindsay-Ops Landfill Site (the “Site”) operates under Certificate of Approval (CoA) No.: A321504 originally issued December 14, 2001. Following the issuance of the original CoA, the Ministry of the Environment, Conservation and Parks (MECP) issued several amendments, the most recent approval being the Amended Environmental Compliance Approval (ECA) Number A321504, issued in February, 2026 (Appendix A).

The purpose of this report is to comply with the requirements of Condition No. 15.1 of the ECA which requires the submission of an Annual Status Report.

1.1 Background

The Lindsay-Ops Landfill Site (the "Site" or the "landfill") is located on Part of Lots 25, 26, and 27, Concession 6, in the former Township of Ops, now in the City of Kawartha Lakes. The Site is approximately 500 m east of the Scugog River and 2.5 km north of Lindsay (Figure 1A). Landfill operations began at this location in 1980. On December 14, 2001, the MECP approved the City’s application for the continued use and north expansion of the Lindsay-Ops Landfill.

The service area of the Site is the City of Kawartha Lakes. The Site is licensed to accept solid non-hazardous municipal waste (as defined in O.Reg. 347/90 [as amended]) including wastes generated by the residential, industrial or commercial sectors, including contaminated fill and treated dewatered sewage sludge, which may be collected and hauled to the landfill by municipal or private haulage vehicles.

1.1.1 Surrounding Land Use

The Lindsay WPCP is located immediately west of the original landfill and southwest of the expansion area. The Sturgeon Lake Wetland and the Scugog River are west of the Lindsay WPCP and Landfill Site. The City owns the land to the north of the Site. Immediately south of the Site is Lagoon Road, with the adjacent land south of the road owned by the City as a Contaminant Attenuation Zone (CAZ). Immediately east of the Site is Wilson Road. The City owns all of the properties to the east side of Wilson Road with the exception of one at the northeast corner of Wilson Road and Highway 36.

As shown in Figure 1B, the Site and the lands east to Wilson Road and north to Lot 27 (area of north expansion), are zoned Industrial Disposal (MD-1). Land to the west is zoned Industrial Disposal (MD-2). The MD-2 zone establishes that the land can only be used for a sewage treatment facility. The remaining lands in Lot 27 are zoned Disposal Industrial Exception Three (MD-3). The MD-3 zone establishes that the land may only be used for a waste transfer station,



a waste processing facility or uses accessory to a landfill operation within the MD-1 zone. Lands on Lot 25, directly south of the existing Site, are zoned industrial with a temporary holding zone applied (M(H)). The holding zone dictates that the land shall be used for existing uses, in this case agricultural, and can be used for industrial purposes only after amending the Zoning By-law to remove the holding category. Finally, it is noted that all current land uses in and around the Site appear to be allowable within their respective zoning restrictions.

2.0 ENVIRONMENTAL MONITORING

The 2025 monitoring program for the Site was undertaken by Azimuth Environmental Consulting (Azimuth) and City staff. Azimuth completed the majority of the monitoring tasks, while City staff were involved with more routine items such as winter gas monitoring and collecting monthly leachate samples. The details of the monitoring programs are outlined in the sections below.

Prior to sampling at ground water monitors, static water levels were measured. Ground water samples were then collected following purging of at least three well volumes of water from each monitor using dedicated check valve pumps and tubing or until the monitor was dry and sufficient recovery allowed for a sample collection. Ground water samples for inorganic analysis were also field-filtered for metals and dissolved organic carbon (DOC) using disposable 0.45 µm filters.

Surface water samples were collected at a depth about equal to half of the surface water features total depth, while minimizing the potential for sediment entrainment and were not filtered. It is noted that surface water features at this Site are seasonal, with most locations being dry or very limited water depth during the summer and fall monitoring events.

Ground and surface water samples also have field parameters measured for pH, electrical conductivity and temperature, with surface water also including dissolved oxygen.

Landfill gas is collected at all monitoring well locations using a RKI Eagle Photo Ionization Detector (PID) which is capable of measuring methane. This instrument has an accuracy of +/- 5% of reading. It is noted that this instrument is commonly used for landfill gas monitoring within landfill gas monitoring networks.

Azimuth calibrates the gas meters prior to each monitoring season, with “bump” testing completed ahead of every monitoring event using methane gas standards at the office to confirm the equipment is measuring correctly. If bump testing indicates variance from



standard, then a full calibration is completed or the unit is sent in for servicing / cleaning of the unit.

In 2025, the analytical testing was completed by Caduceon Environmental Laboratories (Caduceon) of Kingston or Richmond Hill, Ontario. Caduceon is accredited by the Canadian Association for Environmental Analytical Laboratories. All samples were submitted to the lab within appropriate hold times in coolers with ice or ice packs.

2.1 Ground Water

2.1.1 Regional Characteristics

Previous studies conducted for the Site have described the regional hydrogeological setting of the area in detail. These studies form the basis of the understanding of the environmental setting and utilized to develop the site conceptual model:

- Interim Landfill Expansion Study (Hydroterra Limited, 1991);
- Supplementary Report (Hydroterra Limited, 1993);
- Landfill Assessment and Wetland Impact Study (Golder Associates Ltd., 1996); and
- Hydrogeological Conditions and Assessment of Ammonia Loadings - Proposed Lindsay-Ops Landfill Expansion (Golder Associates Ltd., 2000).

The information in these reports is summarized below.

2.1.1.1 Regional Geology

The Site is located on the Peterborough Drumlin Field which comprises a broad glacial till plain forming a mantle over limestone bedrock. The glacial till is typically comprised of dense, silty sand to sandy silt, with some gravel and cobbles/ boulders. The till is mantled by glaciolacustrine clay, silt and sand deposits within the lower lying areas adjacent to the Scugog River. Water well records published by the MECP indicate that the overburden thickness ranges on a regional basis from approximately 5 m to 10 m. The underlying bedrock is grey, fine-grained to crystalline argillaceous limestone and claystone of the Lindsay Formation (Figure 3).

Regional topography slopes northwest from a topographic high of 287 m above mean sea level (masl) located about 1.4 km east of the Site, to an elevation of 250 masl in the vicinity of the Sturgeon Lake Wetland located adjacent to the Scugog River, approximately 0.5 km west of the Site. The Scugog River flows northerly over the till plain into Sturgeon Lake, located a few kilometres north of the Site.



2.1.1.2 Regional Hydrogeology

Water well records published by the MECP indicate that the majority of domestic water wells are drilled wells, completed within the upper few metres of the bedrock. The shallow bedrock aquifer is more permeable and contains less mineralized water than the deeper bedrock sequences. Mineralized and sulphurous water quality is documented on local well records between 9 and 18 m below ground surface (mbgs).

The occurrence and movement of ground water within the upper bedrock is controlled by the variable distribution and hydraulic connection of the fractures, fissures and laterally continuous bedding planes within the bedrock. On a regional scale, the reported static water levels of the existing wells indicate northwest horizontal ground water movement within the upper bedrock, discharging to the Scugog River. A northeast-trending regional ground water divide occurs about 1.4 km upgradient (east) of the Site at the topographic high. The region west of the ground water divide and east of the wetland (including the Site and WPCP lagoons) is considered a recharge area for the regional ground water flow system. Recharge occurs via infiltration and vertical percolation of water through the overburden to the underlying bedrock aquifer. Further to the west, the ground water zone changes from recharge to discharge as the ground water discharges to the Scugog River.

Limited overburden-aquifer data is available. The till plain is not considered to be a significant water bearing zone. However, the reported static-level information suggests that the water table conforms to the surface topography and that an inferred lateral ground water movement within the till overburden is northwesterly toward the Scugog River, the ultimate discharge area for the upper bedrock aquifer around the Site. As noted above, the overburden is a vertically dominated flow system. The low permeability of these till soils restricts significant lateral flow such that this unit is considered an aquitard.

2.1.2 Site Characteristics

The following sections summarize the Site-specific stratigraphy and hydrogeological characteristics based on previous studies by Hydroterra Ltd. (1991, 1993) and Golder Associates Ltd. (1996, 2000). Borehole locations are identified on Figure 2A and borehole records are provided in Appendix B.

2.1.2.1 Site Stratigraphy

The overburden stratigraphy at the Site consists primarily of sandy silt to silty sand and gravel till, containing occasional sand and silt interbeds and many cobbles and boulders. The overburden thickness at the borehole locations ranges from 6 to 9 m.



Figures 3 and 4 show a stratigraphic cross-section through the old landfill area and the north expansion area (Cell 1), respectively. The average thickness of overburden underlying the old landfill area is estimated at approximately 8 m, while that for the north expansion area is approximately 2.5 m beneath Cell 1, 3.3 m beneath Cell 2, 5.0 m beneath Cells 3 & 6 and 5 m beneath the north half of Cells 4 and 5 (constructed in 2016/17). In other words, the overburden thickness increases to the south.

The old landfill area on the north side of Lagoon Road that was filled between 1980 and approximately 2004 and has no base liner system; but, has a synthetic membrane cap and perimeter leachate collection system. The north expansion area has a geomembrane / compacted clay composite base liner system and an overlying leachate collection system, as shown in Figure 2B.

In the southwest, west and northwest portions of the old landfill area, the till overburden contains a widely distributed, sand/silt lens ranging in thickness from about 1.0 to 4.5 m generally bottoming at about 4 to 6 mbgs. This lens (referred to as the granular interbed) is typically comprised of thinly bedded silty sand and silt layers.

The native overburden beneath the WPCP lagoons consists of silty sand to sandy silt till with some clay, ranging in thickness from approximately 2 to 5 m at the locations of the lagoon monitoring wells. The native overburden is overlain by excess soil materials (consisting of local sandy silt till) up to 7 m in thickness; which comprises the interior and exterior berms of the lagoons.

The limestone bedrock beneath the landfill area slopes westward at a relatively flat gradient of less than 0.005. Regionally, the bedrock is anticipated to slope southwest.

2.1.2.2 Site Hydrogeology

2.1.2.2.1 *Ground Water / Leachate Levels and Flow Directions*

The ground water and leachate level data for 2004 through 2025 (inclusive) are contained in Appendix C (Table D-1). Also presented in Appendix C (Figures A-1 to A-5) are the leachate levels measured at a total of five (5) vibrating wire piezometers installed on the surface of the geomembrane liner in Cell 1, Cell 2, and Cells 3 and 6 of the north expansion area (refer to Figure 2A for locations).

Schedule B of amended ECA for the Site, requires that ground water level monitoring occur at all monitoring wells four times annually. During 2025, ground water level monitoring occurred



in February, May, July and October at all wells within both the old landfill area and the north expansion area.

The shallow overburden and upper bedrock aquifer piezometric surface for October 2025 are presented in Figures 5 and 6, respectively. The expectation is that there is little lateral ground water movement within the shallow overburden owing to the limited hydraulic conductivity of the glacial till; but the figure reflects the topographic relief towards the Scugog River. The inferred horizontal hydraulic gradients within the shallow overburden generally range from approximately 0.005 to 0.05; but the dominant hydraulic gradient in the overburden is vertically down. Ground water movement within the upper bedrock aquifer (Figure 6) is in a west to northwesterly direction from the landfill, towards the eventual discharge into the Scugog River. Horizontal hydraulic gradients within the upper bedrock generally range from approximately 0.005 to 0.05 toward the Scugog River.

Beneath the old landfill area and the immediately surrounding lands, vertical ground water movement is interpreted to be downward through the overburden sequence to the underlying limestone bedrock. Comparison of the piezometric surface contours for the bedrock aquifer (Figure 6) with the inferred leachate surface within the old landfill footprint (Figure 5), indicates a downward hydraulic gradient of up to approximately 1.0 (using an average overburden thickness of 7.5 m beneath the old landfill footprint).

In 2006, the City initiated placement of a geomembrane final cover system over the old waste fill area. The purpose of the geomembrane cover system is to minimize leachate generation by limiting moisture infiltration into the landfill. This in turn limits leachate exfiltration from the unlined base of the landfill and allows natural processes (*e.g.*, adsorption, bio-chemical decay and dispersion) to effectively attenuate the existing ground water impacts as well as any future releases of contaminants (predominantly by diffusion) from the landfill base. Placement of the geomembrane cover system was completed in October 2007.

As indicated in Section 3.4, there has been variability over time in annual pumping volumes from Leachate Pumping Station No.: 1 (*i.e.*, the perimeter leachate collector system pumping chamber at the old landfill) over time; however, since 2007 when the geomembrane was installed there has been an overall decrease in volumes indicating the geomembrane has helped to reduce leachate generation at the Site.

The height of the leachate mound relative to the base of the old landfill in 2025 ranged between 3.5 and 6 m at 7-90/7-90-II (base of waste at 257.5 masl) whereas at 6-90-II (base of waste at 256.3 masl) there was no significant leachate mound. The higher leachate mound



height at 7-90/7-90-II reflects its location at the outer (northern) limit of the geomembrane cover system and hence a higher infiltration rate in the area of this well, or a localized area where leachate is perched above relatively low permeability waste/ cover materials. Occasional spikes in leachate water levels have been obtained at the leachate wells (e.g., relatively high leachate levels at 7-90-II in July 2017 and February 2018, [refer to Table A-1]). Golder (2019) suggested that the spikes may reflect gas pressure build-up around the well screen, which lifts the leachate column upward within the well, or may reflect temporary perched water conditions within the waste fill. However, and despite the lower leachate generation volumes, the water levels in the landfill have generally remained within a consistent range for the period of record.

The vibrating wire piezometer VWP02-1 is installed on the surface of the geomembrane liner in Cell 1 of the north expansion area, VWP04-1 is installed in Cell 2 and VWP12-1 and 12-2 are installed in Cells 3 and 6 (refer to Figure 2A for location and Appendix C, Figures A-1 to A-5 for measured leachate levels). The piezometers are monitored, at a minimum, of three times per year as per Condition 10.7 of the ECA. The piezometers indicated negligible leachate heads (<0.01 m) during 2025. VWP04-1 has not been located since 2019 when the cable got buried and could not be located; however historically had leachate levels at or below the liner level. VWP04-2 has not been operational since mid-2012; but gave leachate levels typically less than 0.1 m from the time of installation in 2004 through to 2012. These low leachate heads reflect rapid drainage of leachate above the geomembrane liner via the granular leachate collection system indicating the leachate collection system is working as designed.

As shown on the Cell 1 cross-section in Figure 4, the piezometric level in the upper bedrock aquifer beneath Cell 1 is higher than the leachate level within the cell by approximately 1.0 to 1.8 m. This infers an inward hydraulic gradient (*i.e.*, a hydraulic trap condition). This condition is beneficial with respect to restricting outward migration of leachate through any undetected defects that may potentially exist in the composite liner system. However, the bedrock condition is separated from Cell 1 by the overburden till which needs to be evaluated in order to assess the effectiveness of the hydraulic trap. For outward leachate migration to occur from Cell 1, the leachate level within Cell 1 must be above the overburden water table level. Historically, monitored water levels in the overburden have remained relatively constant and reflected the topographic gradient. In general water table elevations as reflected in Figure 5 have existed at about 254 masl on the down gradient side of Cell 1 which also is above the base membrane elevation as depicted in Figure 4 or inferring an inward hydraulic gradient.

Ground water level monitoring over the past 20+ years at various locations has illustrated a consistent environment. Annually, water levels will fluctuate one to two metres; but the



longer-term trend remains flat. This suggests a steady state condition is prevalent across the Site in both the overburden and bedrock. The consistency and duration of the database suggests that the collection of ground water levels from all monitoring locations four times a year could be reduced.

At certain nested overburden well locations (ex. 13-91) the deeper monitoring well shows a higher piezometric level than the well closer to ground surface. In many instances where this occurs, the deep overburden well was drilled to the bedrock contact. Thus, the piezometric surface measured in the deep well installation is likely reflective of the bedrock condition and an upward flow gradient from the bedrock to the overburden.

Finally, there are noted differences in the water table condition and piezometric surfaces across the Site. It is important to realize that the Site lies at the brow of the Scugog River lands as depicted in Figure 3. Thus, the easternmost series of monitoring wells portray an elevated water level relative to the rest of the Site in both the overburden and bedrock regimes owing to this topographic difference. The schematic also provides insights into the preferential direction of flow in the vicinity of the old landfill site. For the new landfill site, Figure 4 illustrates Cell 1 on top of brow. However, as noted above in Section 2.1.2.1, the bedrock depth increases to the south.

2.1.2.2.2 *Hydraulic Conductivity and Ground Water Velocity*

The velocity of ground water can be approximated using the Darcy flow equation:

$$v = \frac{Ki}{n} \quad \text{Eqn. [1]}$$

where v = average velocity of ground water movement [L/T];

K = bulk hydraulic conductivity [L/T];

i = hydraulic gradient [L/L];

n = effective porosity [L³/L³]

Based on in situ falling-head tests, the horizontal hydraulic conductivity (K) of the till overburden was determined to range from about 10^{-6} to 10^{-7} m/s with an average (geometric mean) value of 4×10^{-7} m/s. The K value was largely dependent on the presence/absence of sand seams or potential desiccation within the tested interval. The K value for the granular interbedded sand was slightly higher than the till, averaging about 8×10^{-7} m/s.



The horizontal hydraulic gradient in the shallow overburden outside the landfill footprint is in the range of about 0.005 to 0.05 in a west, southwest and northwest direction (Figure 5). Based on this range of hydraulic gradient, an assumed effective porosity of 0.3 and the higher geometric mean hydraulic conductivity of 8×10^{-7} m/s for the granular interbedded material, the theoretical horizontal ground water velocity in the overburden is estimated to range from 0.4 to 8.0 m/a. With the landfill operations commencing in 1980, this would translate to a mean lateral distance of 18 to 370 m away from the landfill or part way under the WPCP lagoons.

As noted above, the dominant ground water flow direction in the till overburden is vertically down. The vertical hydraulic conductivity of the till and bedrock has not been measured. It is expected that the vertical hydraulic conductivity is at least one order of magnitude lower than the horizontal hydraulic conductivity. This is a common assumption based upon the general horizontally layered nature of most overburden and bedrock materials (Freeze & Cherry, 1979).

Under the old landfill site, it is suggested that the vertical hydraulic gradient was as high as 1. This would yield an estimated vertical flow velocity of ~ 8 m/year. The till was suggested to be up to 9 m thick so theoretically speaking, the leachate movement into the bedrock conceivably could have occurred within a year.

In-situ packer tests were carried out on bedrock wells (Hydroterra Limited, 1993). Water bearing fractures were intercepted within the upper three meters of the bedrock (referred to as the upper bedrock aquifer zone) at each of the six bedrock wells tested. The packer testing established that the penetrated bedrock intervals had relatively higher bulk hydraulic conductivities compared to the overburden, ranging from about 3×10^{-6} to 7×10^{-5} m/s, with a geometric mean of 3×10^{-5} m/s or one and half orders of magnitude faster than the overlying soils from a lateral perspective and two and half orders of magnitude faster than the overlying soil from a vertical perspective.

In addition to packer testing, pumping tests were carried out on upper bedrock wells by Hydroterra Limited (1993) to evaluate bulk bedrock aquifer characteristics. Transmissivity values were estimated to be in the range of 1 to 35 m²/day (1×10^{-5} to 4×10^{-4} m²/s). Using a bulk aquifer thickness of 3 m, the bulk horizontal hydraulic conductivity of the upper bedrock aquifer is estimated to be in the range of 1×10^{-4} to 4×10^{-6} m/s.

The horizontal hydraulic gradient in the bedrock aquifer is typically about 0.005 to 0.05 in a west to north westerly direction (Figure 6). Based on this range of hydraulic gradient, an assumed effective porosity of 0.05 and the geometric mean of the bulk hydraulic conductivity value from the packer tests (*i.e.*, 3×10^{-5} m/s), the horizontal ground water velocity in the upper



bedrock aquifer is estimated to range from about 100 to 1,000 m/a. Ground water flow modeling indicated that the horizontal bedrock ground water velocity is likely in the upper portion of this range (Golder, 1996).

However, not all lateral bedding plane fractures flow at this rate. Hydraulic testing of 55-98-II in 2006 showed an estimated hydraulic conductivity of 3×10^{-7} m/s or two orders of magnitude below the reported geometric mean presented above.

All of these concepts are quite important. Laterally, the leachate movement in the overburden soils has (at the theoretical upper bounds), spanned half the length of the Site. Thus, ground water monitoring in the till unit can be used to verify this truth. Vertically, the leachate migration has long ago reached the underlying bedrock contact and this too can be assessed. However, the rapid flow in the bedrock in comparison to the vertical flux from the overburden has significantly diluted the leachate contribution and this also needs to be expected in evaluating the geochemical profile at the landfill.

2.1.3 Ground Water and Leachate Quality Monitoring Program

The requirements of the ground water and leachate monitoring program are outlined in Schedules B, C, and D of the current amended landfill ECA. The ground water and leachate monitoring in 2025 was conducted in accordance with the ECA requirements, with the exception of a number of dry locations during the summer and fall monitoring events. As well, BTEX parameters were not collected during the spring monitoring event as the bottles were not provided by the laboratory. This omission was communicated to the MECP through a May 12th, 2025 letter (Appendix A). Given the subsequent BTEX sampling taking place in July and October, sufficient BTEX data was obtained in 2025.

This evaluation will focus on the geochemical trends that have been detected. The entire database was used in order to fully comprehend the trend data over time. The analysis was not concerned with the occasional data point which resulted in an anomalously low or high detection. In the context of the overall database trends this anomalous data can be easily identified and/or discounted.

All ground water and leachate quality data are presented in Appendix D.

2.1.3.1 Leachate Indicator Parameters

UEM (2010) identified chloride, ammonia, phenols, phosphorus, and toluene as the ground water “leachate indicator parameters”. Each of the parameters is generally geochemically independent of each other, and an elevated concentration of these parameters occurs at the



leachate wells completed within the old landfill cell (6-90-II, 7-90-II, 7-90). It appears that these parameters have continued to be used in the longer term and are supported by the existing geochemical database.

Over the past decade, the geochemical database has evolved and it is suggested that other indicator parameters may prove more valuable to the Site evaluation process as trends have been tracked. Some additional parameters that were also assessed included: alkalinity, calcium, dissolved organic carbon (DOC), iron, sulphate, Total Kjeldahl Nitrogen (TKN), barium, boron, electrical conductivity and total dissolved solids (TDS) which have been used at other landfill sites in the Kawartha Lakes area.

Four key parameters when elevated tend to define the presence of leachate waters being: chloride, sulphate, total ammonia and iron. Chloride is a readily solubilized parameter that is commonly found at elevated levels in large landfill operations. Average chloride values in the leachate are at least an order of magnitude higher than that measured in the background bedrock wells and almost two orders of magnitude higher than in background overburden wells. As with many of these indicator parameters chloride will readily move with the leachate impacted waters and hence is a good parameter to assess contaminant transport.

Ammonia is a geochemically reduced nitrogen parameter. Facultative bacteria that biodegrade the organic content of the emplaced wastes will use oxygenated nitrogen species as an oxygen donor for biosynthesis and thereby reduce nitrogen parameters to its most reduced state (*i.e.*, ammonia). Total Kjeldahl Nitrogen (TKN) is a reflection of this ammonia content; but also includes organic nitrogen and therefore is useful to discerning the degree of ammonia content in the overall nitrogen concentration. Traditionally, the ammonia concentration in the old landfill is three to four orders of magnitude higher than the background water quality owing to the biodegradation processes on-going in the landfill. The temperature increase in the vibrating wire piezometers also attests to the biological processes evident in the waste mound.

Phenolics evaluation is a legacy parameter that was used in the past to assess the organic content of the host water when other organic evaluation techniques were not available. However, this parameter does not trend as readily or as significantly as other parameters. Toluene is being used to also assess the organic content since the presence of BTEX compounds appear to be the most prevalent compounds detected in the volatile organic compound scans. However, BTEX is not routinely detected relative to other indicator parameters. A final general parameter used to assess the organic content in water samples is DOC. Elevated DOC measurements can be easily related to leachate migration; but this parameter only trends after the other indicator parameters have identified the leachate influence and thus is considered a



support parameter. Elevated barium concentrations have been known to occur especially as a complexed organic compound. Thus, an elevated barium measurement along with elevated DOC can be used to identify potential leachate impacted waters.

Waste biodegradation will also release phosphorus within the waste mound. The phosphorus concentration in the waste mound is two orders of magnitude higher than in the background water quality. Phosphorus migration is attenuated to a greater degree than some of the other indicator parameters noted above, so this parameter only trends after the other indicator parameters have identified the leachate influence. It can be useful in discerning leachate migration as a support parameter. However, the variance in phosphorus concentrations in the ground water at the Site may be influenced by the fact that historically it has been represented by both total and dissolved phosphorus. Typically, more turbid water samples will influence these concentrations by dissolution of phosphorus bound to the particulate in an acidified bottle (total), whereas this condition would be avoided in the dissolved analysis. As such, this parameter should be viewed with caution.

Leachate is chemically stronger than most natural ground water and can have many elevated parameters. A reflection of this chemical strength is elevated major ion parameters such as calcium and carbonate (*i.e.*, alkalinity). The elevated chemical strength is also reflected in the electrical conductivity of the water and the dissolved content present (*i.e.*, TDS).

As noted above, the leachate water quality is often in a depleted oxygen state (*i.e.*, anoxic). An anoxic state can alter specific elements significantly, including iron and manganese. Since these are earth elements and prevalent in the environment, their concentration provides an opportunity to assess the water redox state with elevated iron and manganese concentrations indicative of an anoxic condition.

Sulphate is used for two reasons. First facultative bacteria can scavenge oxygen from sulphate and thereby alter the sulphur content to a more reduced state. Thus, the absence of sulphate or its decline over time can be indicative of this process which is associated with leachate impacted waters. Sulphate can also be elevated in bedrock settings and is therefore used to discern between overburden and bedrock waters. It is also noted that elevated boron concentrations have been detected elsewhere in the natural bedrock environments of the Kawartha Lake region, but is also a common leachate indicator parameter at many Sites.

The intent of this expanded list of indicator parameters is to justify elevated measurements by cross-correlating to other elevated indicator parameters and thereby reducing false positives for any one indicator parameter.

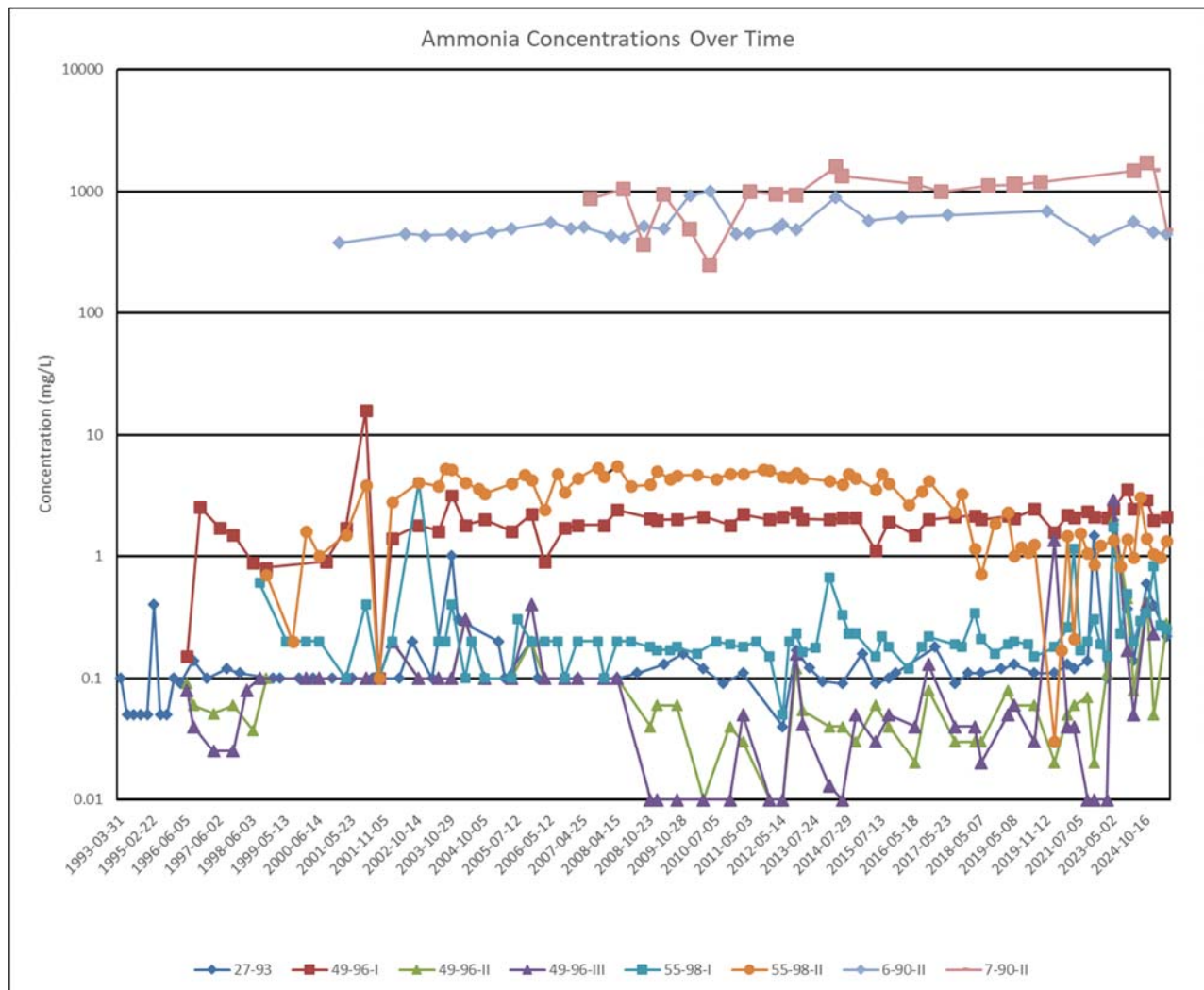


2.1.3.2 Background Ground Water

Background locations at the Site include MW49-96-II & MW49-96-III targeting the overburden, while bedrock background locations include MW27-93, MW49-96-I, MW55-98-I & MW55-98-II. With the exception of MW27-93, which is located southwest of the waste mound, the remaining monitoring wells are southeast of the historical waste mound. Although based on ground water flow patterns, MW27-93 could be considered cross-gradient, it has been included as it is one of the original designated background locations for the Site such that it has been maintained given its consistent background water quality signature. Beyond these locations, several other locations could also be considered background locations given their location south of the historical waste mound. As such, consideration should be given to reduction in monitoring well locations in this area.

Some variability of ammonia and TKN with concentrations have been observed on occasion at some of the locations, but in the absence of other parameter trends are not interpreted to be leachate sourced. This is supported by the fact that ammonia concentrations are most elevated and consistent within the bedrock monitors 49-96-I & 55-98-I. The trends in the overburden may be associated with potential compromised annular seals, as ammonia concentrations at 55-98-I also became more variable and lower in 2019, which correlates to the overburden trending.

It is noted that elevated chloride concentrations are found at varying degrees at all locations except 27-93 as indicated in Tables 1 & 2 (below), which are surmised to be sourced to road salt impacts derived from Wilson and County Road 36 to the east. These well nests have nevertheless been included for defining the range of background concentrations for the indicator parameters. The time trend graphs for the background locations have been provided in Appendix E which shows selected indicator parameter concentrations at these two wells from 1993 to 2025. Overall, the 2025 data follows within the historical range for all leachate indicator parameters at all locations. Further, ammonia concentrations over time are also shown in the graph below for all background locations to illustrate the relative consistency and difference from the leachate wells, albeit some locations have become more variable over the past five years as noted above.



The bedrock well at the background monitoring well nest 49-96 (*i.e.*, 49-96-I) has historically indicated chloride and total ammonia (as N) concentration ranges of 65 to 260 mg/L and 0.2 to 16 mg/L, respectively; which are in excess of background values at the upper bedrock well 27-93. The other anomalous parameter at 49-96-I is calcium, which was quite low historically (~12 mg/L), although more recently showing increasing concentrations (~30 mg/L). However, concentrations are still well below background concentrations at 27-93 (~70 mg/L). Theoretically, if the landfill was the source of the elevated chloride and total ammonia, then higher concentrations of calcium would be anticipated. It would appear that the screened interval depth is associated with an isolated closed fracture which provides a unique geochemical signature.



Two additional bedrock wells, 55-98-I and 55-98-II with screened intervals between 11.5 and 13.4 mbgs and between 16.8 and 18.6 mbgs respectively, were installed in September 1998 adjacent to 49-96-I (screened interval between 12.7 and 15.0 mbgs). The historical ground water sampling at these wells and the other background wells has yielded the following concentration ranges for chloride and total ammonia:

Table 1: Background Bedrock Monitoring Well Summary

Bedrock Well	Screened Interval		Chloride (mg/L)		Total Ammonia (mg/L as N)		Tritium (TU)
	(mbgs)	(mASL)	Range	Ave	Range	Ave	
55-98-I	11.5 – 13.4	254.2 - 252.3	94 – 858	81	<0.1 – 5.6	0.3	14.2
49-96-I	12.7 – 15.0	252.6 - 250.3	65 - 260	118	<0.1 - 16	2	12.4
27-93	11.0 – 15.0	243.6 - 247.6	0.5 - 15	6	<0.1 - 2.0	0.2	
55-98-II	16.8 – 18.6	248.8 - 247.0	33 - 168	524	<0.1 – 4.1	3	1.5

Also shown in the above table are the results of tritium analyses conducted in 2014. The low value of 1.5 tritium units obtained for the deeper well 55-98-II compared to the deeper bedrock wells is indicative of relatively inactive “old” water pre-1953 and supports the hypothesis of negligible flushing of naturally occurring salts. Beyond the details for the bedrock wells, a more complete summary of average concentrations relative to leachate is shown below. It further illustrates the large differential in magnitude for leachate indicator parameter concentrations between leachate and background despite some variance observed across the background network.

The higher tritium concentrations for the shallower bedrock wells indicate mixing with post-1953 water. However, the consistently low calcium concentration at 49-96-I is unique to this calcium-magnesium carbonate (*i.e.*, limestone) environment. Neither 49-96-I or 55-98-II is considered indicative of the conductive lateral bedding plane fractures which convey bedrock ground waters across the Site. This is likely the result of isolated fractures as is evidenced by relatively slow recovery rates at 49-96-I, or possible hydraulic connection to surficial influence at 55-98-I.



Table 2: Summary of Background Water and Leachate Quality Monitoring Data for the Leachate Indicator Parameters

Background Ground Water Quality (1990 - 2025)*							Leachate Quality		
Indicator Parameter	Overburden Wells		Bedrock Wells						
	49-96-II	49-96-III	27-93	49-96-I	55-98-I	55-98-II	6-90-II	7-90	7-90-II
Chloride	101	87	6	118	81	524	1,158	1,011	1,606
Ammonia	0.1	0.2	0.2	2	0.3	3	526	425	1,036
Phosphorus	0.1	0.1	0.1	0.1	0.1	0.1	1	4	4
Phenols	0.001	0.001	0.001	0.001	0.001	0.005	0.03	0.1	0.1
EC	865	893	462	936	724	2,000	10,710	19,535	16,109
TKN	0.3	1	1	2	0.4	3.2	600	478	1,097
Alkalinity	253	297	211	328	234	278	4,251	12,262	6,468
Calcium	113	141	68	16	73	85	161	89	144
Iron	0.3	0.1	1	0.1	1	0.3	11	10	19
Sulphate	69	64	35	22	37	17	21	38	31
Boron	1	0.2	0.1	1	0.1	1	9	8	18
Barium	0.1	0.1	0.1	0.04	0.3	1	1	1	0.4
DOC	2	3	2	2	2	2	364	289	455
TDS	529	524	270	540	421	1,092	6,685	8,027	9,399
Toluene	1	0.5	0.5	1	0.5	0.5	1	2	13

Notes: All values in mg/L except toluene which is in ug/L and electrical conductivity in µhms/cm

* Data presented represents period of record average for each monitoring well

2.1.3.3 Leachate Quality (Old Landfill Area)

Four leachate wells were screened within the waste fill in the old landfill area: 6-90, 6-90-II, 7-90 and 7-90-II. The locations of these wells are shown in Figure 2A. Leachate 6-90 was installed in 1990 and decommissioned in 2000 due to damage. Well 6-90-II was installed in 2000 at essentially the same location as 6-90. In 2019, the well was re-drilled in October to a depth of 14.3 mbgs (*i.e.*, 255.7 masl).

Leachate Well 7-90 was installed to the base of the waste fill in 1990. In December 2007, the 50 mm PVC pipe from well 7-90 was removed due to a blockage and the well over-drilled and re-installed to a depth of approximately 11 m within the waste fill. Sampling resumed at well 7-90 in October 2008. This well was re-drilled in October 2019 to a depth of 15 mbgs due to another blockage.

Leachate Well 7-90-II was installed by the City in December 2006 approximately 125 m northwest of 7-90 and consists of 50 mm PVC threaded pipe and a 3 m long machine slotted PVC screen, installed to a depth of approximately 14 m in the waste fill. The screened interval was packed with silica sand and bentonite seals were placed above the sand.



Table 2, in the previous section presents a summary of the most recent leachate concentrations for leachate indicator parameters. The historical data for the leachate monitoring wells indicates fluctuating concentrations for chloride at ~1,000 mg/L, total ammonia (above 400 mg/L) and phosphorus.

2.1.3.4 Overburden Ground Water Quality (Old Landfill Area)

Tables F1-F4 (Appendix F) identify the landfill leachate indicator parameters that were detected above background levels at overburden wells installed near the west, east, north, and south perimeter of the old landfill area including south of Lagoon Road in the Contaminant Attenuation Zone (CAZ). In each case, the trend in concentration of the indicator parameter(s) is described.

Of the indicator parameters, landfill impacts are most frequently represented by elevated chloride concentrations relative to background. This finding supports the selection of chloride as a key indicator of leachate impact. It was found that an increased iron concentration was also indicative of the leachate influence as was a decrease in the sulphate concentration owing to microbial activity. The presence of elevated total ammonia concentrations was also used to identify leachate influences. As an outcome of the influence, electrical conductivity measurements also increased.

2.1.3.4.1 North Perimeter

In 2025, the only remaining well along the north perimeter of the old landfill was at Well Nest 43-93 located at the northeast corner of the old landfill area, although MW32-93 well nest is also in that vicinity, albeit further northeast. Most of the wells along the north perimeter were decommissioned in the Fall of 2016 to allow construction of the new landfill Cells 4 and 5 (north half).

At these wells, slight increasing trends are noted for many leachate indicator parameters including chloride, alkalinity, calcium, TDS, barium, iron, boron, while ammonia, DOC and TKN has become more variable at 43-93-I and increasing at 43-93-II. These trends correlate to the migration of the active working area south towards this location over the past 10 years such that they may be influenced through some radial flow.

2.1.3.4.2 West Perimeter

Adjacent to the west perimeter of the old landfill area, leachate influence was detected in 2025 at 15-91-I, 15-91-II, 16-91-I and 16-91-II, similar to previous years. These wells are within approximately 15 m of the landfill limit and are west (downgradient) of the perimeter collector. In 2025 and similar to previous years, the greatest impact adjacent to the west perimeter was



at the 16-91 well nest. Chloride concentrations remained elevated at this location (i.e., ~300-500 mg/L for 16-91-I). 16-91-II also shows a degree of seasonality with diluted readings in the Spring. This seasonality is not observed at 16-91-I, which shows consistent trend data. It is noted that the chloride concentrations at 15-91-I & 15-91-II have shown an overall declining trend over the past twenty years, although conditions have been more stable the past five to ten years.

Total ammonia was also elevated at well nests 15-91 and 16-91, while the concentrations were generally found to fall within a predictable range over for the period or record with more stability observed the past 10 years, with iron being the exception with continued variance over time. Beyond the developing stability, a slow but continuous declining trend for ammonia has been noted at 15-91-II and 16-91-II over the same period.

Well nest 17-91 lies at the southwest corner of the former landfill and does not detect significant leachate impacts. With ground water flow toward the northwest, this installation is considered parallel to the lateral landfill contaminant gradient. General stability over time was noted for most leachate parameters, although longer term chloride trending is noted at both intervals, within a predictable range. Given similar trends are not noted for most of other LIP's which indicate stability over time, the chloride trend is not considered to be sourced to a major shift in leachate conditions in the area. Similarly, ammonia and TKN concentrations were noted to be elevated and variable at both intervals during the past four years, but trending does not correlate to the other LIPs. Given these isolated trends, they will continue to be tracked moving forward, but do not suggest obvious leachate influence.

Well 19-91 is also offset from the landfill edge by about 50 m and has not detected any evidence of a significant leachate influence. However, similar chloride and more recent ammonia trends as noted above at 17-91 are observed at 19-91, as well as at another southwest corner location 18-91. The trends are also observed at 23-07 and 27-93, although much more muted. Despite these trends, the fact that the timing of ammonia and chloride trends differ and other notable leachate indicator parameters are not showing the same trends, would speak to the expected downward flow of ground water within the overburden soils. It is also noted that the chloride concentrations are still below 100 mg/L and lower than the monitoring locations along Lagoon Road, which would indicate that road salt influence may be the source of the trending chloride concentrations. As noted in Section 2.1.2.2.1, the estimated lateral migration extent in the overburden was noted to be between 16 and 320 m. The limited leachate presence, beyond chloride and low ammonia concentrations 50 m downgradient (i.e., 19-91) would infer limited contaminant migration. Well 19-91 is cross gradient to the leachate flow regime.



Overall, the stabilizing or decreasing concentrations for most leachate parameters at the west perimeter wells likely reflect the effect of the geomembrane final cover which was installed in 2007.

2.1.3.4.3 South Perimeter

Along the south perimeter of the old landfill area (*i.e.*, along the north side of Lagoon Road), monitoring locations 13-91, 14-07, 23-07, 25-91, 28-93 and 29-93 show varying degrees of leachate impact. The majority of these wells are screened about ~4 to ~5 mbgs where a sandier seam has been observed. 13-91-I is a deep monitor situated immediately above the bedrock contact. Indicator parameters for 13-91-I are quite stable, with the exception of a subtle increasing chloride trend and ammonia / TKN elevations during 2022 and 2023. The remaining parameters trend slowly, if at all. No significant leachate impacts have been detected based on the 30+ years of monitoring.

In contrast, 13-91-II, 29-93 and to a lesser extent 25-91 all have elevated chloride concentrations that have ranged below 100 mg/L; but tend to be above this threshold and as high as 589 mg/L (13-91-II in 2018). The chloride concentration for well 13-91-II has been relatively consistent historically; however, has begun to show seasonal trending along with some other parameters over the past seven years. This seasonal variance follows many others which are observed to have much lower concentrations during the spring monitoring event, which could be attributable to a compromised annual seal which creates dilution when the overburden water table is high in the spring.

The next closest series of monitoring wells are well nest 35-93, 37-93 and 39-93, which are situated ~50 m from the landfill, on the south side of Lagoon Road. The deep wells at these locations are situated immediately above the bedrock contact. In the deep wells, indicator parameters are generally close to background. A slight chloride trend over time is evident at all three locations, along with calcium and TDS at 39-93-I. Wells 37-93-I and 39-93-I also show an elevated iron concentration, albeit minimal compared to background levels. The final note is variable but elevated concentrations of ammonia and TKN the past four years at all the above noted locations either at or beyond the historical range for these parameters. Similar trending is observed at other locations, including background locations, such that these trends in the absence of other leachate indicator parameter trends over the same period would suggest they are not potentially sourced to the landfill.

The shallow wells at these three locations show a greater leachate influence. Upward chloride concentration trends were evident with 35-93-II and 39-93-II; however, have been more stable



since at 39-93-II, albeit seasonal fluctuation still evident. Given the lack of similar trends with other parameters outside of seasonal variation for most parameters at 39-96-II, they may be more related to road salt application on the adjacent road as noted for other locations along western perimeter. Iron concentrations are also elevated at 37-93-II, albeit variable. Similarly, iron concentrations have been more variable at all of these locations over the past ten years, albeit within a predictable range.

Wells 36-93 and 38-93 lie ~100 m south of the landfill and are the furthest perimeter monitoring locations. Both locations show background concentrations, although 36-93 does report an elevated iron concentration. The 36-93 well log suggests the well screen is across a more sandy unit than 38-93 which may account for this difference. Chloride concentrations have increased during 2025 from this historical range of ~30 mg/L to 86.4 mg/L. This is likely sourced to road salting along Lagoon Road.

Given the distances these monitoring wells are from the waste cell, the influences are considered minimal. Some upward trends may be expected at these monitoring locations; but the historical rate of increase is negligible. The three decades of monitoring has defined this trend data and the degree of variation to be anticipated year to year.

The detection at these locations given the age of the landfill is not of considerable concern. The data suggests that the leachate migration away landfill in the overburden is not substantial based on 45 years of operations and 35 years of monitoring.

2.1.3.4.4 East Perimeter

All wells adjacent to the east perimeter of the landfill are located hydraulically upgradient of the landfill at a distance of 70 to 130 m from the landfill. In 2025, concentrations of the indicator parameters at these wells were generally within the range of background values (Table F3 – Appendix F).

2.1.3.5 Upper Bedrock Ground Water Quality (Old Landfill Area)

For the purpose of this discussion, natural (background) water quality for the upper bedrock is considered to be represented by the range of monitoring data from wells 27-93 & 55-98-I (refer to “overall range” for the upper bedrock in Table 1). The following assessment of landfill impacts on bedrock ground water quality focuses on the bedrock wells located along the perimeter of the old landfill and screened within the upper 3 m of bedrock. The upper 3 m of bedrock is generally more permeable (due to fracturing) than the deeper bedrock and is expected to be the primary transmission zone of contaminant migration from the landfill (Golder, 1996). The bedrock monitoring wells along the perimeter of the old landfill area,



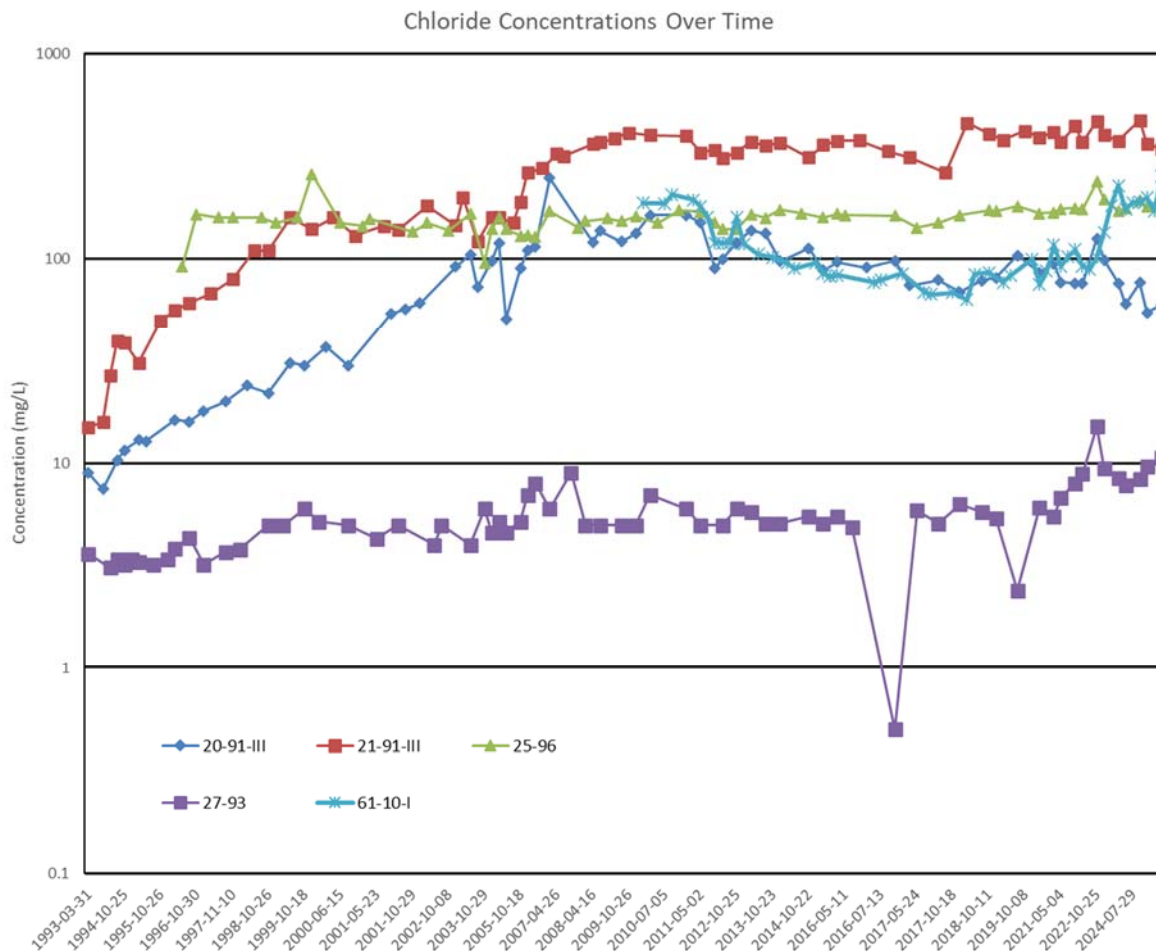
which are screened within the upper 3 m of bedrock, are: 20-91-III, 21-91-III, 25-96 and 61-10-I. A summary of the trends for the indicator parameters at these six bedrock wells is provided below.

The chloride concentrations of these monitoring wells as shown in a graph on the following page illustrate the influence the old landfill has on the underlying bedrock aquifer. Vertical percolation of the landfill leachate has allowed for a portion of the contaminant mass to distribute into this lateral flow system as expected.

The existing database is sufficiently long enough to show the origins of this influence on several of these monitoring wells (*i.e.*, 20-91-III and 21-91-III). As shown in the graph below, the chloride concentrations increased over time which infers that the contaminant flux through the overburden soils was sufficiently slow enough for this plume development to be captured by the monitoring program. All of the surrounding bedrock monitors show a similar increase within the same general timeline.

In the case of wells 20-91-III and 21-91-III, this increase continues until an equilibrium condition is established. This equilibrium condition occurs when the vertical contaminant flux into the underlying bedrock cannot grow any further due to a steady state vertical permeability condition being established under the landfill. This is evident at 25-96, which has established that equilibrium by the time this monitoring well was constructed yielding a relatively constant chloride concentration at this sampling point.

Furthermore, the influence of the landfill capping is also expressed in this data with the decline of the chloride concentration at well 20-91-III and later at well 61-10-I, although it has increased again, likely owing to the active waste area approaching this location in recent years. As summarized in Section 2.1.2.2.1, the volume of leachate diminishing over time following the cap replacement would lessen the contaminant flux into the underlying bedrock. In fact, the lag at which this occurs gives an indication of the vertical transmission rate that has historically existed at the Site.



Both of these findings are quite important to the overall assessment. The equilibrium condition establishes an upper bound to the contaminant flux into the underlying bedrock aquifer and would establish a steady state plume delineation based on the constant flux percolating into the bedrock unit. In Section 2.1.2.2.2, the vertical velocity into the shallow bedrock aquifer was estimated to be about a year. However, the monitoring data would suggest it took appropriately 10 years to break through based on the above noted data, thus it is inferred that the vertical permeability was about two orders of magnitude lower than the lateral estimate as opposed to the order of magnitude estimated in Section 2.1.2.2.2.

However, the hydraulic response (*i.e.*, mound reduction) through media can occur about an order of magnitude faster than the chemistry trends, which accounts for the perceived time lag with the cap construction before concentration reduction began to be seen in the monitoring wells. It is also speculated that the cap's influence on the underlying environment is not



uniform across the landfill since virtually no change in the steady state condition occurred at well 25-96 and 21-91-III. These findings are used for chloride since it is deemed to be a conservative parameter and will readily move with the ground water condition.

The same equilibrium condition is established at Well 25-96 for flux of ammonia into the bedrock aquifer. At 25-96 the total ammonia has measured ~3 mg/L for the past two decades. Well 21-91-III rose slower and appears to have achieved an equilibrium condition as of 2012 at ~1.2 - 2 mg/L.

In fact, many of the bedrock monitoring wells tend to show major and minor ion chemistry at constant levels which attests to the steady state condition which is established rapidly in the bedrock environment. As such, the water quality within the underlying bedrock is not expected to shift significantly over time with the current landfill configuration and operations.

2.1.4 Lagoon Wells

There are currently eight monitoring wells/well nests located along the exterior and central containment dykes of the lagoon system. Wells 30-93, 31-93, 59-05 and 60-05 are overburden wells, whereas well nests 45-95, 46-95, 47-96 and 48-96 have one well in the overburden (-II well) and one well in the upper bedrock aquifer (-I well). It is also noted that wells 30-93 and 31-93 lie in close proximity to each other and are screened across the same depth. In contrast, wells 59-05 and 60-05 also lie in close proximity to each other; but are screened across different depths with 59-05 screened immediately above the bedrock contact and 60-05 screened higher in the soil profile. Finally wells 45-95-II and 46-95-II are also screened immediately above the bedrock contact whereas 47-96-II and 48-96-II are screened about a meter above the bedrock contact. As a result, the 46-95-II and 59-05 responses are similar to the bedrock well 46-95-I.

Subsequent to 1999, the lagoons have been used for sludge storage and/or equalization storage, except for Lagoon 1 which has been pumped out and used as part of the stormwater management system for the landfill expansion area. Any sludges are periodically pumped out of the lagoons to ensure optimal operation of the lagoons. The supernatant in Lagoon 6 was sampled in October 2011 and gave chloride and total ammonia concentrations of 150 and 41 mg/L, respectively. An analysis of the rate of leakage and total ammonia transport through the overburden soil layer below the lagoons is presented in Estimation of Ammonia-N Loadings Due to Leakage from the Sewage Lagoon System (Golder, 1998).

In 2011, an assessment of the exceedances of the Water Pollution Control Plant ECA total ammonia trigger concentration of 9 mg/L at the lagoon monitoring wells 46-95-I (upper bedrock) plus 46-95-II and 59-05 was completed by Golder (September 2011). The primary



source of the elevated total ammonia concentrations was reported to be leakage from Lagoon 6, which had been used for sludge storage over an estimated twelve-year period and had reached its sludge storage capacity. The City removed much of the sludge from Lagoon 6 during 2012 and 2013 and repaired the berms. The ammonia concentrations showed a declining trend with time due to this remedial work and removal of the ammonia-rich biosolids. The decreasing trend was evident at bedrock well 46-95-I and 46-95-II, 59-05, although has since increased again to levels that are above the 2011 values. As a result, the City retained a contractor to undertake sludge removal in Lagoon 4 on September 15, 2025. Sludge removal activities concluded on November 4, 2025, during which time 2,448 bone dry tonnes (BDT) were removed out of the 3,485 BDT specified in the contract (approximately 70%). The contractor is expected to return to the site in summer 2026 to complete removal of the remaining 30%.

Similar conditions were also observed at 30-93 and 31-93, although the ammonia concentrations have not shown the recent increasing trends noted at the other locations with concentrations becoming stabilized. This relates to the overall flow patterns discussed previously where vertical migration into the bedrock represents the primary flow path relative to horizontally through the limited permeability till overburden.

2.1.4.1.1 Overburden Wells

In general, the chloride concentration at all overburden monitoring locations is ~100 mg/L and has been at that level over the period of record for the monitoring wells. There is a degree of variation in some of the well data; but nothing of concern.

At well 30-93, the total ammonia concentration has steadily risen from 0.1 mg/L (2002) to ~10 mg/L in 2021 and has been noted to be in decline since. A similar increase was noted at 31-93; but commencing in 2007 and has maintained a relatively stable concentration (~7-10 mg/L). This elevated total ammonia concentration is also measured at 47-96-II and varies subtly over the same range, albeit more elevated in recent years. In contrast, 48-96-II and 60-05 show a total ammonia concentration generally below 1 mg/L over their period of record, although some isolated elevations have been noted the past few years similar what is observed in the background locations suggesting it may not be related to the lagoons.

An elevated iron concentration is also prevalent at the overburden monitoring wells and suggests an anoxic condition associated with the sewage lagoons, which is anticipated. Most monitoring wells are reporting an iron concentration between ~1 and 15 mg/L in 2025. Well 45-95-II and 60-05 generally shows lower iron concentrations with concentrations declining the



past several years at 49-95-II. The DOC in these monitoring wells is also slightly elevated (~1 – 10 mg/L).

2.1.4.1.2 Bedrock Wells

Unsurprisingly, the chloride concentration in the underlying bedrock is also ~100 - 250 mg/L (including 46-95-II and 59-05), except at 48-96-I which has historically been lower but trending up slightly in recent years to ~60 mg/L.

The total ammonia concentration at 46-95-I (plus 46-95-II and 59-05) had trended up from 1 mg/L (1996) to ~20 mg/L (2011) and then declined presumably due to the biosolids removal which occurred in 2011 to ~3 mg/L by 2015 before trending up again to ~40 mg/L (2022 - 2025). However, this response is unique to this area of the Site. At 47-96-I and 48-96-I, the total ammonia concentration has varied around 0.3 mg/L and been as high as 3 mg/L and as low as 0.1 mg/L. At 45-95-I, the same general variability is noted although more muted with concentrations generally falling around ~1 mg/L, with some more isolated elevated concentrations in 2024 (~3 mg/L).

Iron concentrations are elevated suggesting anoxic conditions. At 46-95-I (plus 59-05 and 46-95-II), the iron concentration is trending up from ~3 mg/L in 1997 to ~14 mg/L (2024/2025). A downward iron trend has been observed at 45-95-I over the past ten years from ~5 to ~2 mg/L. At 47-96-I the iron varies at about 0.3-2 mg/L. However, at 48-96-I, the iron concentration was originally about 0.1 mg/L; but has fallen to around 0.03 mg/L over the past ten years, although shows low concentration seasonal variability.

A downward trend in sulphate to non-detectable levels occurred by 2008 at 46-95-I and by 2006 at 59-05; but these are the only monitors to measure this trend. In contrast, sulphate concentrations have increased at 45-95-I since 2007 from ~40 to ~425 mg/L by 2010, although steadily decreasing since. The previous increase and longer-term trend could be attributed to potential alum-based compounds commonly used in the sewage treatment process. The remaining locations have consistent concentrations of ~10 mg/L.

Beyond the parameter specific trends noted above, 45-95-I indicated significantly different water quality during the May and October 2024 monitoring events with some concentrations being an order of magnitude larger. Given similar deviations were not observed at the shallower interval, it is uncertain as to the source of the elevated concentrations, but they are within the historical range in 2025 such that the conditions were temporary.



Appendix G provides a comparison of the lagoon monitoring well water quality to Provincial Water Quality Objectives (PWQO). Similar to previous years, the data for 2025 indicates concentrations greater than PWQO for several parameters as summarized in Table 3 below. These PWQO exceedances tend to correlate with the parameters noted above (*i.e.*, iron,); but also include a couple other parameters including cobalt, phenols, arsenic and aluminum.

Table 3: PWQO Exceedances in Lagoon Wells

Well No.	Iron	Aluminum	Cobalt	Phenols	Zinc	Arsenic
Overburden Monitoring Wells						
30	S / F	-	S / F	F	-	F
31	S / F	S	S / F	-	-	-
45-II	F	-	-	F	-	-
46-II*	S / F	S	-	F	-	-
47-II	S / F	-	-	-	-	-
48-II	S / F	S	-	-	-	-
59*	S / F	S	-	-	-	-
60	F	-	F	-	-	-
Bedrock Monitoring Wells						
45-I	S / F	-	-	-	F	-
46-I	S / F	F	F	-	-	-
47-I	S / F	-	-	-	-	-
48-I	-	-	-	-	-	-

Notes: * geochemistry indicative of the bedrock water quality
 - no exceedances reported in 2025
 S –spring sampling exceedance in 2025
 F – fall sampling exceedance in 2025

The inferred anoxic conditions permit higher iron water solubility concentrations owing to valence shift (*i.e.*, ferrous iron). Cobalt was exceeded at 30-93, 31-93 & 46-95-I but concentrations are still considered negligible and have been detected on occasion historically. Aluminum concentrations are not considered as concern as it is an abundant natural earth element so its presence in ground water is not unexpected. The arsenic and phenols exceedances are at low concentrations and sporadic over the period of record.

Beyond the general water quality parameters, BTEX compounds are also sampled for these locations which did not indicate any detections in 2025.



2.1.4.2 Perimeter Collector Water Quality (Old Landfill Area)

Schedule C of the amended landfill ECA requires that the perimeter Leachate Collector Pumping Chamber (LPC-1) adjacent to the old area of the Lindsay-Ops Landfill Site be monitored monthly for a comprehensive list of water quality parameters. Further monitoring for parameters including additional major ions, additional trace metals, free cyanide, nitrilotriacetic acid (NTA), pesticides, radionuclides and trihalomethanes is required on a semi-annual basis (*i.e.*, May and October). LPC-1 is shown on Figure 2B.

In 2025, leachate samples were collected monthly from LPC-1, as summarized along with historical data in Appendix D. Laboratory Certificates of Analysis are also provided in Appendix H.

The perimeter leachate collector system collects ground water and leachate. In the past and prior to 2005, the perimeter collection system also collected surface water run-off. The surface water entered the collector via a catch basin near the old landfill entrance area, which was subsequently sealed and covered with waste. The Golder (2019) report indicated that this surface water and ground water ingress is believed to be diluting the landfill leachate component. Hence, the concentrations of contaminants in the perimeter collector system pumping chamber tend to be lower than leachate concentrations within the landfill such as at leachate wells 6-90-II, 7-90 and 7-90-II.

It is acknowledged that the LPC-1 chemistry data is more dilute than the leachate monitoring well chemistry. In some instances, the difference is considerable. For example, the leachate quality wells at the base of the landfill have consistently recorded chloride at ~1,000 mg/L over the past decade, if not longer. In contrast, the LPC-1 data has measured a chloride concentration at ~100-200 mg/L.

While the difference between these two measuring points could be reconciled through dilution, it is felt the volumetric requirements for the ingress of “clean” water are not rational. Percolation through the waste mound to the landfill base yields a stronger leachate signature than the capture at the periphery of the waste mound. For example, the water quality at 16-91-I is comparable to the LPC-1 data. This follows the Site conceptual model which indicates vertical migration is the dominant flow path versus horizontally through the till overburden.

Prior to 2006 and the cap emplacement, the key LPC-1 indicator parameter data was trending upward (*i.e.*, chloride, ammonia, iron, *etc.*). Once the cap was constructed, the LPC-1 chemistry stabilized in terms of chloride, calcium, conductivity and alkalinity following an abrupt downward shift in concentration. Other indicator parameters (*i.e.*, total ammonia, DOC,



sulphate) declined more slowly before stabilizing. Thus, the cap has had a significant mitigating effect on the collection system water quality.

Originally the LPC-1 chloride data had trended upwards from ~100 mg/L (1991) to ~450 mg/L (2005); but then dropped by 2006 to ~200 mg/L. Since then, the chloride trend in the LPC-1 data is remarkably consistent. A seasonal variation is evident where the chloride concentration declines to ~100 mg/L; but consistently returns to the 200 mg/L threshold every summer season.

The ground water evaluation in the sections above suggest that the landfill leachate is diffusing outward slightly in the overburden soils, albeit to a very limited extent. This is expected and not a concern due to the low concentrations. The reduced concentrations in the perimeter collection system are also partially likely due to the capture of younger waters at the periphery of the landfill site.

Like the chloride concentration, the total ammonia data has followed a similar path. In 1991, the LPC-1 total ammonia concentration was ~1 mg/L and increased to ~90 mg/L by 2005 before falling back to ~20 mg/L by 2011 and then has remained at this level (*i.e.*, ~14 to 80 mg/L in 2025 with most concentrations below 30 mg/L). The leachate monitoring well data tends to yield 400 mg/L or more at the base of the waste mound. As anticipated, TKN mirrors the total ammonia data in the LPC-1 data.

The DOC concentrations also followed a similar trend as the total ammonia data. In 1990, the LPC-1 total ammonia concentration was ~30 mg/L and increased to ~180 mg/L by 2005 before falling back to ~20 mg/L by 2011 and then has remained at this level (*i.e.*, ~7 to 30 mg/L in 2025).

The sulphate data has also followed this trend with concentrations in 1991 at ~50 mg/L and then steady increasing to ~200 mg/L in 2002 before trending down to ~50 mg/L in 2006 and then have remained at this level since that time (*i.e.*, 15 to 40 mg/L in 2025).

In general, the iron concentrations have measured between ~10 and ~70 mg/L (*i.e.*, ~9 to 25 mg/L in 2025) with the occasional measurement at or below 1 mg/L or above 100 mg/L. These occasional low measurements have been much less frequent once the cap was constructed.

The MECP has also required the evaluation of specific chemical suites as is discussed below. For minor ion metals, all concentrations were found at trace concentrations. Aluminum



concentrations ranged from 0.06 to 0.65 mg/L. Manganese concentrations ranged from 0.31 to 0.566 mg/L owing to the geochemically reduced state of this parameter. Alkalinity as an indicator parameter had a concentration that was elevated and ranged from 501 to 902 mg/L with an average of 733 mg/L.

In 2025, all cyanide samples were below the detection limit as has been the case over the past decade. Biochemical oxygen demand (BOD) concentrations were relatively low all samples below 13 mg/L. In general, this parameter has been below 15 mg/L for the past decade. Phenols were above detection limits for half of the monitoring events, but concentrations were noted to be low with all below 0.005 mg/L. Although phenols are not routinely detected, the low levels are not a concern, but will be tracked in 2026 to assess any potential trends.

Selenium was below detection limits for all samples in 2025, which is consistent with the historical data set. Further evaluation of this parameter is unwarranted. A single mercury detection was observed in 2025 (0.00005 mg/L - December). It has never been detected above 0.6 µg/L and only detected in 11 of 200 samples run since 2002. Further evaluation of this parameter is unwarranted. A trace silver detection was observed in 2022 (0.2 mg/L). Silver was below detection limits the past three years and only 24 of 278 samples have had detections. Further evaluation of this parameter is unwarranted. Boron concentrations in 2025 varied from 0.187 to 1 mg/L and have yielded these results for the past decade. Fluoride concentrations in 2025 were below the MDL for all samples. The fluoride concentration has not been above 0.3 mg/L since 2005. Further evaluation of this parameter is unwarranted.

Low concentrations of BTEX compounds were detected in 2025. Toluene was not detected in 2025 and has been sparingly detected for 10+ years. This accounts for a recommendation to remove it as an indicator parameter. Xylenes were detected at very low levels in 2 of the 12 months in 2025, although <1.3 µg/L. Similarly, ethylbenzene was detected but at very low levels in on 1 occasion in 2025 at a concentration 0.6 µg/L. Benzene was consistently detected but again at very low levels at concentrations below <3 µg/L, which is above the ODWQS of 1 µg/L, however, most concentrations being marginally exceeded. As such, the low and consistent concentrations are not viewed as a concern.

Nitrilotriacetic acid (NTA) was not detected again for the ninth year in a row. Similarly, trihalomethanes (THMs) were not detected in 2025 and have only been detected three times at trace levels since 2006. Further evaluation of this parameter group is unwarranted. PCBs were also not detected for the 12th year in a row. PCBs while being recalcitrant (resistant to degradation) are highly sorptive and therefore unlikely to move with ground water at significant concentrations. Further evaluation of this parameter group is not warranted.



Similarly, the organochlorine pesticide scan failed to detect any parameter above the MDL for the 19th year. Further evaluation of this parameter group is unwarranted.

Finally, a radionuclide screening yielded detections of gross-beta particles of 0.54 and 0.8 Bq/L in both sampling events, which is within the historical range for this parameter.

The conclusions drawn from this evaluation are that the LPC-1 samples appear to be quite stable in terms of their major ion chemistry over the past decade and that other screening (*i.e.*, pesticides, radionuclide, VOC, PCB) analysis recommended in the past have been conducted over numerous years and their continued evaluation in the absence of any significant historical results is unwarranted.

2.1.4.3 Overburden and Upper Bedrock Ground Water Quality (North Expansion Area)

The north expansion area of the landfill started receiving waste in 2003 in Cell 1 (*i.e.*, most northern cell) which was constructed in late 2002. Cell 2 was constructed in the fall of 2004 and did not receive waste until December 2004. The northern halves of Cells 3 & 6 were constructed during the summer/fall of 2008, with waste receipt commencing in November 2008. The southern halves of Cells 3 & 6 were constructed in the summer of 2011 and started receiving waste in November 2011. The western portion of the northern half of Cells 4 & 5 was constructed in late 2016/early 2017 and started receiving waste in March 2017, while the eastern portion was constructed in 2019.

The key overburden and upper bedrock monitoring wells downgradient of the active fill area during 2025 are as follows:

Table 4: Key Downgradient Monitoring Wells – Active Area

Overburden Wells (Downgradient of Active Fill Area – North Expansion)	Upper Bedrock Wells (Downgradient of Active Fill Area – North Expansion)
57-02-I 58-I 61-10-II	11-90 57-02-II 61-10-I 61-17-I 62-17-I 62-17-II 62-17-III



The concentrations in the downgradient bedrock are elevated above background, but concentration elevations are not significant based on the indicator parameters being used (Table 5 – below).

11-90, 61-10-I & 61-17-I locations also have subtle longer increasing trends for most LIPs. These trends have become more stable at 11-90 the past few years, which might be a function of the active fill area moving south away from this monitor.

Similarly, the overburden monitors 57-02-I and 61-10-II have shown similar trends to 11-90 with historical increases becoming more stable the past few years. 58-I has maintained more stable conditions for the period of record, although some temporary elevations in ammonia were observed between 2023 and 2024, but have since fallen to the historical range.

Similarly, the traditional indicator parameters (*i.e.*, phosphorus & phenols) are marginally elevated in the downgradient locations. The toluene concentration at 58-I was historically elevated and this represents a series of measurements between 2007 and 2011. Since 2011, toluene has not been detected. No other BTEX parameter detection was noted in 2025 for any of the bedrock or overburden monitors.



Table 5: Summary of Background & Expansion Area Ground Water and Leachate Quality Monitoring Data for Leachate Indicator Parameters

Indicator Parameter	Background & Expansion Area Ground Water Quality (1990 - 2025)*													Leachate Quality		
	Overburden Wells					Bedrock Wells										
	Background Wells		Expansion Area Wells			Background Wells		Expansion Area Wells								
	49-96-II	49-96-III	57-02-I	58-I	61-10-II	27-93	55-98-I	11-90	57-02-II	61-10-I	62-17-I	62-17-II	62-17-III	6-90-II	7-90	7-90-II
Chloride	101	87	339	65	66	6	81	101	267	123	137	145	46	1,158	1,606	1,606
Ammonia	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.7	0.6	0.2	526	1,036	1,036
Phosphorus	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	1	4	4
Phenols	0.001	0.001	0.003	0.001	0.005	0.001	0.001	0.002	0.003	0.002	0.004	0.002	0.006	0.03	0.1	0.1
EC	865	893	1,704	1,027	950	462	724	941	1,399	1,142	1,609	1,330	978	10,710	16,109	16,109
TKN	0.3	0.5	0.4	0.4	1	1	0.4	1	1	1	2	1	1	600	1,097	1,097
Alkalinity	253	297	301	431	334	211	234	299	288	409	520	455	401	4,251	6,468	6,468
Calcium	113	141	166	156	133	68	73	120	146	128	98	150	89	161	144	144
Iron	0.3	0.1	0.2	0.5	0.4	1	1	1	0.4	0.3	0.2	0.5	0.1	11	19	19
Sulphate	69	64	78	58	92	35	37	30	42	25	144	50	66	21	31	31
Boron	1	0.2	0.1	0.1	0.03	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.04	9	18	18
Barium	0.1	0.1	0.2	0.2	0.2	0.1	0.3	0.3	1	0.5	0.3	0.5	0.2	1	0.4	0.4
DOC	2	3	3	3	3	2	2	3	2	7	18	8	3	364	455	455
TDS	529	524	1,038	626	553	270	421	556	829	629	959	737	558	6,685	9,399	9,399
Toluene	1	0.5	0.4	0.9	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	13	13

Notes: All values in mg/L exc All values in mg/L except toluene which is in ug/L and electrical conductivity in µhms/cm

* Data presented represents period of record average for each monitoring well



2.1.4.4 Leachate Pumping Chamber Water Quality (North Expansion Area)

Schedule C of the amended landfill ECA requires that monitoring of the north expansion Leachate Collector Pumping Chamber LPC-2 (located immediately west of Cell 1), occur for a select (“comprehensive”) list of parameters on an annual basis, and for additional select (“indicator”) parameters on a semi-annual basis. The results of the chemical analyses are used to characterize the leachate from the north expansion area and to address Condition No. 4.48 of the ECA. The results of leachate quality monitoring at LPC-2 for 2025 and the previous 18 years are summarized in Appendix D. Laboratory Certificates of Analysis are also provided in Appendix H.

During 2025, the leachate pumping chamber received leachate from Cells 1, 2, 3, 6 and the north portion of Cells 4 and 5. A review of the 2025 data for the leachate pumping chamber indicates that the key leachate indicator parameters have remained essentially constant since the monitoring commenced in 2006, although some parameters show a greater range of variability.

The average chloride concentration in the leachate is ~600 mg/L which is reflective of the data trend. These chloride concentrations are approximately three times stronger than that measured at the old landfill LPC-1.

The total ammonia concentration average is ~170 mg/L which is reflective of the general trend. These total ammonia concentrations are an order of magnitude higher than that measured at the old landfill LPC.

The iron concentration average is ~20 mg/L (discounting the anomalously high August 2022 value), which is reflective of the general trend which varies between 1 and 100 mg/L. This parameter concentration is comparable to that measured at the old landfill LPC. The DOC concentrations were initially quite high (*i.e.*, ~600 mg/L in 2007); but have declined to a degree over time. In 2025, the DOC concentrations were between 36 and 60 mg/L. The DOC concentration is significantly higher than that measured at the old landfill LPC. The sulphate concentrations tend to be quite variable between 1 and 150 mg/L and average about the same as the old landfill LPC (*i.e.*, ~40-65 mg/L).

As expected, the phenols concentration is orders of magnitude higher than the old landfill LPC which is attributed to the “young” nature of the leachate signature (*i.e.*, ~0.1 vs. 0.009 mg/L average). Over time the expectation is that it will trend to non-detectable levels, which has been initiated already. Toluene concentrations were historically more elevated compared to the old landfill (*i.e.*, ~18 vs. 0.6 µg/L average), however, are only occasionally detected at either



location since 2010, with a concentration of 3 µg/L noted in the October sample at LPC-2, with the previous detection being 2019. Benzene is still routinely detected at both LPC-1 and LPC-2, but at relatively low and consistent concentrations.

The obvious conclusion is that the expansion area leachate quality is relatively strong and reflective of a young leachate quality and will likely decline in strength with time similar to the old landfill.

Beyond the general characterization of the leachate quality, PCBs are analyzed, but have never been detected. Given the more contemporary operations and waste screenings for the north expansion area, continued PCB monitoring is not considered necessary.

2.1.5 Reasonable Use

The Reasonable Use Guideline establishes limits for contaminant impacts along the property boundary of the landfill based on background ground water quality and the “reasonable use” of ground water on adjacent property. Where a reasonable use of ground water on the adjacent property is for drinking water, which is the case for the adjacent properties to the south, north and east of the Lindsay-Ops Landfill, the Reasonable Use Guideline stipulates that the quality of the ground water at the property boundary may not be degraded by an amount in excess of:

- 50% of the difference between background and the ODWQS for non-health related parameters (e.g., chloride), or
- 25% of the difference between background and the ODWQS for health-related parameters.

For example, chloride which is a non-health related parameter with an ODWQS of 250 mg/L and average overburden and shallow bedrock background concentration of 100 mg/L, the Reasonable Use Criteria for the overburden is 175 mg/L.

The property boundary to the south of the Lindsay-Ops Landfill Site is outside the potential pathway of leachate migration from the landfill (see Figures 5 and 6) and therefore is not impacted by the landfill. This is supported by the absence of any significant leachate impacts at the furthest south monitoring wells: 36-93 (overburden), 38-93 (overburden) and 54-98 (historical - upper bedrock). Parameters that were naturally occurring at concentrations above the ODWQS at some of these monitoring wells were observed but were limited to iron in 2025.

The property boundary to the north of the landfill is also outside of the potential pathway of leachate migration from the landfill (see Figures 5 and 6) and is not impacted by the landfill.



However, the upper bedrock well 53-98 has indicated an overall increasing trend in chloride concentration since approximately 2003, reaching a peak concentration of 871 mg/L in 2025. Furthermore, concentrations exceeding the ODWQS were observed at well 53-98 for hardness, sodium, iron, aluminum, barium, manganese and total dissolved solids, which are considered naturally occurring. It is noted, that the increasing trend in chloride concentration reflects impacts from salt application over the asphalt surface surrounding the landfill administration building. Snow plowed from this surface was normally piled in the vicinity of this well. Iron and manganese concentrations at this well have increased since the installation of this well, reaching values of 2.35 mg/L and 0.15 mg/L in 2025, respectively, although have been more stable for the past several years. The slightly elevated iron and manganese is considered to be the result of a valence change in the water chemistry owing to the oxygen depleted ground waters occurring naturally in the bedrock aquifer. In this anoxic environment the geochemically reduced iron and manganese have an elevated solubility limit compared to the oxygenated valence of these parameters. Both iron and manganese are readily available earth elements and thus the valence change merely permits the naturally occurring elements to be in solution. Iron-rich ground waters from bedrock well are a common occurrence in Ontario owing to this condition. The barium concentration has shown a slight rise for the period of record, but is considered more likely naturally sourced to the bedrock.

The property boundary to the east is at a distance of approximately 130 m from the edge of the landfill and is upgradient of the landfill relative to the direction of ground water flow (Figures 5 and 6). This boundary is not impacted by landfill leachate. Parameters that are naturally at concentrations above the ODWQS at the east boundary monitoring wells include iron, hardness TDS and manganese. Iron, hardness and manganese are considered naturally sourced, while the TDS is more likely attributable to road salting of Wilson Road.

The Reasonable Use Guideline does not apply to the west property boundary as there are no private lands in this area and there is no drinking water usage of the ground water along the ground water flow path downgradient of this boundary. As shown on Figures 5 and 6, the ground water flow path from the west property boundary is to the Scugog River, and the land between the west property boundary and the river is occupied by a wetland and the Lindsay WPCP lagoons.

2.1.6 Ground Water Trigger Mechanism

The approved trigger levels and response plans for the landfill are described in detail in Section 12 of the Design Report – Continued Use of North Expansion of Lindsay-Ops Landfill (Urban & Environmental Management Inc., 2012). The following discussion summarizes separately the trigger mechanism for the old landfill area and for the north expansion area and



provides a comparison of these trigger levels to the ground water quality monitoring results obtained for 2025.

2.1.6.1 Old Landfill Area

The ground water trigger mechanism for the old landfill area applies to the following bedrock monitoring wells located downgradient (*i.e.*, west and northwest) of the old landfill area:

The trigger level for the monitoring wells identified below (*i.e.*, Table 6 - below) is a total ammonia concentration of 9 mg/L, which is based on a maximum allowable total ammonia loading of 0.6 kg/day from the overall landfill (*i.e.*, old landfill area and landfill expansion area combined).

Including these new wells, there were no exceedances of the total ammonia trigger level of 9 mg/L in 2025. Figure 7 shows all of the historical total ammonia results through to the end of 2025 for the old landfill area trigger monitoring wells.

The maximum total ammonia concentration in 2025 was at 20-91-II (4.07 mg/L) which is located west of the old landfill area. Ammonia concentrations have been variable over time, but fall within a range close to 1 mg/L.

Table 6: Old landfill Area Trigger Mechanism Results - 2025

Trigger Bedrock Monitoring Well (Old Landfill Area)	Depth to Bedrock Surface (mbgs)	Depth of Well Screen Interval Relative to Bedrock Surface (m)	Maximum Measured Ammonia Concentration
			2025
20-91-I	10.7	6.9 - 8.4	3.55
20-91-II	10.7	4.2 - 5.7	0.74
20-91-III	10.7	0.8 - 2.3	0.68
21-91-I	9.9	7.5 - 9.0	2.4
21-91-II	9.9	4.2 - 5.7	4.07
21-91-III	9.9	0.8 - 2.3	1.08
61-17-I***	4.4	4.8 - 6.3	1.08
62-17-I***	4.5	9.0 - 10.5	0.6
62-17-II***	4.5	5.0 - 6.5	0.92



Trigger Bedrock Monitoring Well (Old Landfill Area)	Depth to Bedrock Surface (mbgs)	Depth of Well Screen Interval Relative to Bedrock Surface (m)	Maximum Measured Ammonia Concentration
			2025
62-17-III***	4.4	2.2 - 3.7	0.23

Notes: values rounded for presentation purposes

* top of well screen extends above bedrock surface by 0.6 m

*** new trigger wells installed in 2018 to replace decommissioned wells

2.1.6.2 North Expansion Area

The ground water trigger mechanism for the north expansion area applies to the following bedrock monitoring wells located downgradient (west) of the landfill expansion area:

The trigger level for the above trigger monitoring wells is total ammonia concentration of 3 mg/L, which is based on a maximum total ammonia loading of 0.6 kg/day from the overall landfill (*i.e.*, old landfill area and landfill expansion area combined). For the monitoring carried out during 2025, no location exceeded the trigger limit (Table 7 below). Figure 8 show the historical total ammonia results through to the end of 2025 for the landfill expansion area trigger monitoring wells (*i.e.*, 11-90, 57-02-I and 61-10-I). A subtle increasing trend has been noted over time at 11-90, which has stabilized in 2025.

Table 7: North Expansion Area Trigger Mechanism Results - 2025

Trigger Bedrock Monitoring Well (Landfill Expansion Area)	Depth to Bedrock Surface (mbgs)	Depth of Well Screen Interval Relative to Bedrock Surface (m)	Maximum Measured Ammonia Concentration in 2025 (mg/L as N)
11-90	7.6	0.5** - 1.0	0.42
57-02-I*	4.9	0.8 - 2.3	0.23
61-10-I	7.6	1.5 - 3.1	0.65

Notes: values rounded for presentation purposes

* replaced by 57-25-I following October 2025 monitoring event

** top of well screen interval extends above bedrock surface by 0.5 m

2.1.6.3 Supplemental Ground Water Trigger Mechanism (Toluene)

In a memorandum from Mr. Dana Cruikshank of the MECP dated October 1, 2014 regarding review of the 2013 Annual Status Report, it was recommended that “... a trigger mechanism be



... tied to one of the ground water wells that would trigger VOC sampling in surface water before the four (4) year sampling time frame ...".

In response to this request, it was proposed that a trigger be set for toluene at 0.8 µg/L (PWQO value) at shallow ground water wells 18-91 and 58-I. Well 18-91 is located near the southwest corner of the old landfill area and well 58-I is located just west of Cell 2 of the landfill expansion area. Together these proposed shallow wells allow coverage of both the old landfill and the landfill expansion areas. Should the toluene concentration exceed 0.8 µg/L on three consecutive monitoring events at either well (not necessarily the same well each time) then monitoring for VOCs at the surface water drainage ditch stations should resume at least twice per year. In 2025, the toluene concentration at these two wells was below the detection limit of 0.5 µg/L, similar to previous years.

2.1.7 Estimation of Contaminant Mass Loadings

Condition 15.1 of the ECA requires mapping of concentrations of the indicator parameters: chloride, total ammonia, phosphorus, toluene and phenols in the upper bedrock aquifer. This condition also requires estimates of mass loadings for these indicator parameters to the Scugog River from the landfill area and from the Lindsay WPCP lagoons via migration through the upper bedrock aquifer. The mapping of concentrations in the upper bedrock is presented in Figures 9A to 9E. The calculation of mass loadings is presented below.

As required by Condition 15.1, the contaminant mass loadings to the Scugog River via the upper bedrock aquifer were calculated separately for each of the three sources: the old landfill area, the landfill expansion and the Lindsay WPCP lagoons.

2.1.7.1 Old Landfill Area

The loadings from the old landfill area were calculated using the following equation:

$$Loading \left(\frac{kg}{day} \right) = v_{BR} \left(\frac{m}{yr} \right) \times W(m) \times H(m) \times (C_{BR} - C_{BG}) \left(\frac{mg}{L} \right) \times \frac{1}{365} \left(\frac{yr}{days} \right) \times 1,000 \left(\frac{L}{m^3} \right) \times \frac{1}{10^6} \left(\frac{kg}{mg} \right)$$

Where;

- v_{BR} = ground water flux in the upper bedrock aquifer along the downgradient (west) side of the old landfill area;
- = 10 m/yr based on a horizontal hydraulic gradient of 0.003 (Figure 6) and an upper bedrock hydraulic conductivity of 10^{-4} m/s;



- W = width of landfill footprint perpendicular to the direction of ground water flow in the upper bedrock aquifer;
= 270 m;
- H = thickness of the upper bedrock aquifer contaminant mixing zone;
= 3 m (Golder, 1996);
- C_{BG} = median of the “overall range” of background concentration in the upper bedrock aquifer (Table 1);
- C_{BR} = average of maximum measured concentrations in 2025 in the upper bedrock aquifer along the downgradient (west) side of the old landfill area (*i.e.*, maximum concentrations at wells 20-91-III, 21-91-III and 62-17-III, as shown on Figures 9A to 9E).

2.1.7.2 North Expansion Area

The loadings from the north expansion area were calculated using the same equation presented above for the old landfill area, but using the following input parameters:

- U_{BR} = ground water flux in the upper bedrock aquifer along the downgradient (west) side of the current filling area of the north expansion;
= 63 m/yr based on a horizontal hydraulic gradient of 0.02 (Figure 6) and an upper bedrock hydraulic conductivity of 10^{-4} m/s;
- W = width of landfill footprint perpendicular to the direction of ground water flow in the upper bedrock aquifer;
= 300 m;
- C_{BR} = average of the maximum measured concentrations in 2025 in the upper bedrock aquifer along the downgradient (west) side of the current filling area of the north expansion (*i.e.*, maximum of concentrations at wells 57-02-I, 11-90 and 61-10-I, as shown on Figures 9A to 9E).

2.1.7.3 Lindsay WPCP Lagoon Area

The loadings from the Lindsay WPCP lagoon area were calculated using the same equation presented above for the old landfill area, but using the following input parameters:



- U_{BR} = ground water flux in the upper bedrock aquifer along the downgradient (west) side of the lagoons;
= 32 m/yr based on a horizontal hydraulic gradient of 0.01 (Figure 6) and an upper bedrock hydraulic conductivity of 10^{-4} m/s;
- W = width of landfill footprint perpendicular to the direction of ground water flow in the upper bedrock aquifer;
= 1,000 m;
- C_{BR} = the average of the maximum measured concentrations in 2025 in the upper bedrock aquifer along the downgradient (west) side of the lagoon area (*i.e.*, average of concentrations at wells 45-95-I and 46-95-I, as shown on Figures 9A to 9E).

Table 8 below shows the calculated loadings for the indicator parameters in 2025 based on the above method of calculation. The primary loadings are for chloride, with calculated loadings of 0.8 kg/day from the old landfill area, 15 kg/day from the landfill expansion area and 48 kg/day from the lagoon area. Note that the calculated loading from the lagoon area may include some loading from the landfill area, as the lagoons are located downgradient of the landfill. Furthermore, the calculated loadings for chloride from the landfill expansion area are considered to be primarily from road salt impacts at 11-90.

For total ammonia, the total calculated loading from the overall landfill (*i.e.*, old landfill area and the landfill expansion area combined) is 0.06 kg/day, which is much less than the design criteria of a maximum allowable total ammonia loading of 0.6 kg/day. Given that the dissolved phase contaminant plume is in steady state in the bedrock aquifer, this loading will not vary appreciably and is an order of magnitude below the allowable limit. The remaining parameters did not show any appreciable loadings in the three areas.



Table 8: Calculated Contaminant Loadings to Scugog River

Indicator Parameter	Median of Background Concentration Range in Upper Bedrock Aquifer ⁵	Average Concentrations in Upper Bedrock Aquifer in 2025 C _{BR} (mg/L)			Loading (kg/day)		
		Downgradient ¹ of Old Landfill Area	Downgradient ² of Expansion Area	Downgradient ³ of Lagoon Area	Old Landfill Area	Landfill Expansion Area	Lagoon Area ⁴
Chloride	78.4	114	177	171	0.8	15	48
Ammonia	0.2	0.66	0.5	20	0.01	0.05	10
Phosphorus	<0.1	<0.1	<0.1	<0.1	<0.002	<0.012	<0.04
Phenols	0.001	0.003	0.003	0.001		0.0003	0
Toluene	<0.0005	<0.0005	<0.0005	<0.0005		<0.00005	<0.0002

Notes: All values in mg/L

1 average of maximum concentrations at wells 20-91-III, 21-91-III and 62-17-III in 2025

2 average of maximum concentrations at wells 11-90 and 61-10-I in 2025

3 average of maximum concentrations at wells 45-95-I and 46-95-I in 2025

4 loadings from lagoon area may include loadings from the landfill, as the lagoons are located downgradient of the landfill

5 includes median concentrations of wells 55-98-I and 56-02-I for period of record

2.2 Surface Water

2.2.1 Surface Water Hydrology

Surface runoff at the Lindsay-Ops Landfill Site is collected in drainage ditches that have been constructed along the north, east and south edges of the landfill (see Figure 10). The topography of the landfill site is such that the majority of surface runoff from the current landfill site flows towards the stormwater management facility, which is located to the west of the landfill facility. Outflows from the stormwater management facility, old landfill site and WPCP Lagoons are diverted through ditches bordering the Lagoon area and discharged in outlets on the Scugog River at SW13, west of Lagoon 2, and SW3, west of Lagoon 6. Ultimately, the runoff from the drainage ditches enters the Scugog River after passing through the Sturgeon Lake Wetland area, situated along the east bank of the river. The Scugog River flows in a northerly direction into Sturgeon Lake.

Runoff from the compost pad and any lateral seepage occurring within the sub-base materials of the pad are collected in the surface water swale that runs along the east, north, and west edges of the compost pad. Surface water collected in the swale is directed to the runoff collection pond, which has been constructed on the west side of the compost pad.

Water collected in the drainage ditches is typically shallow and the flow low and intermittent. Dry conditions or stagnant waters are typically observed in many parts of the ditches during the spring and fall sampling periods. Water quality in the drainage ditches can also be influenced by factors or sources other than the landfill, such as road salt, the Lindsay WPCP, or agricultural and other activities occurring off-Site. Factors such as stagnant water, intermittent flow and



influence of other contaminant sources often challenge the ability to adequately interpret water quality data between upstream and downstream stations, to meet water quality sampling requirements for the drainage ditches, and to collect samples representative of water quality on-Site. Therefore, these observations need to be considered when assessing on-Site water quality at the Lindsay-Ops Landfill Site. However, the number and locations of sampling stations are sufficient to adequately monitor surface water quality in and around the Site.

For reference, surface water photos from 2025 are included in Appendix I,

2.2.2 Surface Water Monitoring Program

2.2.2.1 Sampling Requirements

The current ECA (No.: A321504 last amended February, 2026) stipulates sampling of drainage ditch flows four times a year following rainfall events for general chemistry, biological and metal parameters. Sampling is required at two upstream locations (SW1 and SW4) and five downstream locations (SW2, SW3, SW13, SW14 and SW18) as well as two on-Site locations (SW15 and SW16) that were constructed after the completion of the landfill expansion. Monitoring of the Scugog River is also required at one upstream (McQuarrie Point) and one downstream site (Alpine Street /Pickerel Point where the Scugog River flows into Goose Bay on Sturgeon Lake). In addition, although not required by the ECA, three downstream sites in the Scugog River embayments that extend into the Sturgeon Lake Wetland (Embayments A, B and C) are also sampled in a similar manner four times a year. These sampling stations are shown on Figure 11. The ECA also requires annual sampling of upstream/downstream sites along the Scugog River and biannual (every 2 years) sampling of two downstream on-Site stations (SW3 and SW13) and two on-Site stations potentially affected by discharge from the stormwater management ponds (SW14 and SW18) for VOCs. This was completed in 2025 and will be done next in 2027. PCB's are to be collected at all surface water locations except CP1 & CP2 every three years, with the next event scheduled to be completed in 2027

A summary of the Surface Water Monitoring requirements for the Lindsay-Ops Landfill Site is presented in Table 9:



Table 9: Summary of Surface Water Monitoring Program

Station	Parameters	Frequency
Drainage Ditches: SW1, SW2, SW3, SW4, SW14 ³ , SW15, SW16, SW18 ³ Up- and Downstream: SW13, SW14, Scugog River (1 upstream, 1 downstream, Embayments A, B, C	conductivity, pH, total alkalinity, hardness, COD, chloride, fluoride, nitrite, nitrate, total phosphorus, sulphate, calcium, sodium, potassium, iron, manganese, phenols, DOC, ammonia, in-situ temperature, in-situ conductivity, in-situ pH, aluminum, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, thallium, vanadium, zinc, antimony, arsenic, selenium referred to as the general water chemistry *just for pH, iron (field filtered duplicate), turbidity and TSS and in-situ dissolved oxygen, total suspended solids, turbidity	Four (4) times per year • samples shall be collected within 12 hours of the first rainfall greater than 15 mm starting from February 1, May 15, August 1, and October 1
SW3, SW13, SW14, SW18 Scugog River (1 upstream & 1 downstream) & WPC-Eff)	Volatile Organic Compounds (VOCs), Halogenated and Non-Halogenated	Biannual (every two [2] yrs)
SW3, SW13 ¹	Polychlorinated Biphenyls (PCBs)	Four times per year ²
Compost Facility: CP-1 and CP-2	The general water chemistry referred to above and total dissolved solids, strontium, magnesium, total Kjeldahl nitrogen, mercury, barium, boron, tannins and lignins	Twice (2) per year during the spring and late summer/early fall

Notes: ¹ all surface water monitoring locations, except for CP-1 & CP-2 appearing in Schedule E shall be sampled for total PCBs every three (3) years

² should concentrations of total PCBs at SW3 or SW13 exceed 0.001 mg/L then the City shall sample all stations in Schedule E for total PCBs for two (2) consecutive sampling events. Should the City find exceedences of 0.001 mg/L total PCBs in any samples in the following sampling events the District Office should be notified

³ tannins and lignins are to be included in the analytical parameters for SW14 and SW18

2.2.3 2025 Surface Water Monitoring Results

2.2.3.1 Sampling Events



Monitoring events were completed on April 28, June 17, August 21 and October 9 with all river samples being able to be collected, while the ditch samples at some locations were not able to be sampled due to dry conditions (SW1 – all, SW2 – August, SW3 – August & October, SW4 – August & October, SW13 – all, SW14 – August & October, SW16 – all & CP2 – October).

The discussion in this section focuses on a limited set of general chemistry and total metal parameters that were chosen because they are common indicators of water quality and/or reported detectable levels in at least some surface waters. VOCs that were sampled in 2025, are also discussed in this section given they were sampled in 2025. The concentrations of many of the parameters included in Appendix J, especially those of trace metals, were below respective method detection limits (MDLs) at both river and drainage ditch stations and are thus not discussed.

2.2.3.2 Scugog River

Data collected from 2017 to present for select general chemistry and total metal parameters from the Scugog River sites are summarized in tables presented in Appendix J. For comparative purposes, the Provincial Water Quality Objectives (PWQOs) for the protection of freshwater aquatic life are included wherever available. More extended data trends are illustrated on chemistry over time graphs (Appendix E) for select leachate indicator parameters.

The upstream and downstream stations along the Scugog River are sampled to monitor for potential cumulative effects in the receiving environment, including leachate from the landfill as well as the treated effluent discharge from the Lindsay WPCP. Alpine Street/Pickerel Point is located downstream of the landfill site and WPCP whereas McQuarrie Point is located upstream of the facilities. Stations at Embayments A and B were established to monitor for potential discharge of leachate impacted ground water from the closed old landfill area and the station at Embayment C for potential discharge from the north expansion area. However, the three embayment sites are downstream, as well as directly downgradient of both the landfill and the WPCP, and therefore can be influenced by either of the facilities.

The most important finding is that the downstream water quality is generally similar to upstream water quality (graph below) and there is no indication of any impairment of the water as a result of the landfill. The exception is calcium, sulphate, magnesium and alkalinity during the April monitoring event. However, as the more defined LIP's such as ammonia and chloride did not see a similar elevation, they are not considered attributed to the WPCP or landfill.

The graphic below shows the consistency in the major ion chemistry for the Scugog River sampling at the upstream and downstream locations. As anticipated, there has been no



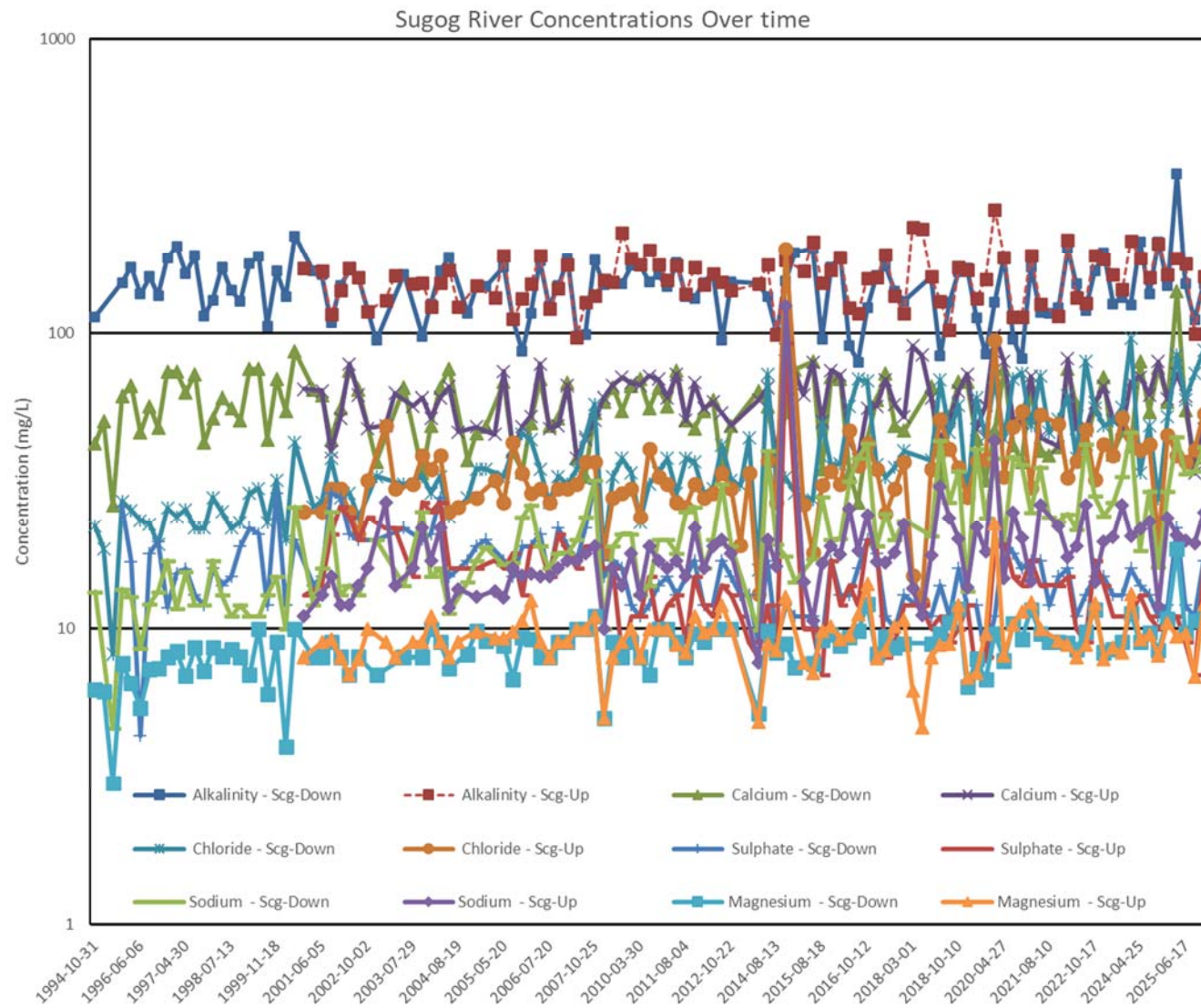
meaningful shift in the data between these two sampling points, beyond some occasional differences in sodium and chloride concentrations. This is stated because the volumetric flow through the Scugog River¹ is very much greater than the ground water seepage that is coming from the shoreline and from external areas including the WPCP property. In essence, the dilution capacity of the river very much controls the resulting water chemistry.

It is interesting to see that over time chloride is trending upward from ~30 mg/L in 1995 to peaks of ~70-100 mg/L since 2016; but this trend is consistent at both locations, although more muted at the upstream location. The downstream location does “spike” up on occasion typically during summer or fall monitoring events; but the trend remains the same. The 2025 data suggests the relative sodium and chloride concentrations between upstream and downstream locations are marginally higher (~3-30 mg/L) in the downstream locations with the April event indicating the smallest variance. Variability in ammonia concentrations has been seen over the past few years at both upstream and downstream locations, with more elevated concentrations observed in the embayment locations. Although some of this source may be attributable to the WPCP effluent during 2021 and 2022 when correlating elevations were also observed in the WPCP effluent samples, the WPCP effluent data over the past three years has not indicated elevated ammonia such that it is likely naturally sourced. The remaining LIP’s show similar trends during the summer and fall monitoring events, but the increases are marginal and not clearly attributed to the landfill or WPCP outfall.

The majority of the heavy metals are not detected above the MDL or if detected are observed at trace concentrations.

Furthermore, the ground water assessment of the landfill influence suggests that the majority of impacted water will move through the upper bedrock horizon. The four critical landfill parameters were identified as chloride, total ammonia, sulphate and iron. Of these indicator parameters chloride is considered to be the most prevalent. However, as illustrated above, the Scugog River does not see a pronounced influence between the upstream and downstream sampling location. This is not unexpected. In Section 2.1.7 it was suggested that the bedrock flow was 32 m/yr across 1,000 m width and over a bedrock thickness of ~3 m. This yields a flow into Embayment A of ~100,000 m³/yr.

¹ Parks Canada suggests that 17 m³/s must flow through Lakefield to maintain a base flow at Trenton and that this requires 35 m³/s from the Haliburton Lakes system. These type of flow requirements from the system including that flowing through Sturgeon Lake are very much greater than the Site flows (0.1 m³/s)
<https://www.pc.gc.ca/en/lhn-nhs/on/trentsevern/info/infonet/eaux-water-questions>





In comparison, the WPCP reportedly discharged ~4,800,000 m³ into Embayment A in 2025. Both the bedrock chloride concentration and the sewage effluent had a chloride concentration of ~100 - 300 mg/L. However, the Scugog River with a chloride concentration of ~40-100 mg/L fails to detect any significant influence between the upstream and downstream sampling locations. Thus, the flow in the Scugog River is sufficiently larger than the annual WPCP discharge such that the influence is not measurable within the river.

2.2.3.3 Embayment Areas

Unlike the Scugog River, the influence of the WPCP outfall is detectable but has been very low in Embayment A historically. Key indicator parameters associated with the effluent quality are readily evident and elevated compared to the Scugog River quality or even that sampled at the other two embayment locations.

The water quality in Embayment B reflects that seen in the Scugog River given that it is upstream to the landfill and sewage treatment plant. At Embayment C, the water quality is slightly above that seen in Scugog River and is believed to represent a muted reflection of that present in Embayment A. Waters leaving Embayment A would flow downstream; but potentially in proximity to the eastern shoreline since full mixing would not occur until further afield. Presumably, a back eddy into Embayment C provides the ability to reflect this muted signature at this sampling location.

Additional locations were added in 2019 to Embayment B to target further into the inlets of Embayment C. These locations (Nearshore 1 & 2) are analyzed for TSS, turbidity, pH, ammonia and iron (filtered & unfiltered). The iron (dissolved) and ammonia results are generally comparable or within the range found at Embayment B, which would indicate seepage into the inlets of the embayment is not occurring to an extent that is distinguishable or consistent within the embayment. The continued monitoring of these nearshore locations is considered unwarranted and were not included in the recent ECA amendment such that they have been removed from the monitoring program.

During the 2025 monitoring period, the following observations were noted:

- In terms of PWQO parameters, the naturally occurring water hardness owing to the limestone setting is consistently above the standard in the Scugog River samples. Phenol concentrations were exceeded on two occasions in 2025 at Embayment A (0.002 mg/L-April & 0.005 mg/L-June), but have historically sporadically detected above the MDL of 0.001 mg/L at all locations in river, including upstream. Phosphorus is also routinely detected above the PWQO limit of 0.03 mg/L. A bit more sporadically detected above the



PWQO limit is aluminum a naturally occurring earth element. Both of these parameters were also noted to exceed in the upstream location in 2025. Unionized ammonia is also exceeded, which most routinely occurs in Embayment A. The elevations at Embayment A are most likely sourced to sewage effluent, while the exceedances have been noted historically at the upstream location such that a natural or upstream source could be contributing. Beyond these parameters the remaining detections above the PWQO limits were for chromium (Embayment A) and zinc (Embayment A & C); however, both have been observed at the upstream location historically such that it is not directly attributed to the WPCP;

- Overall, good water quality was noted in the Scugog River in 2025 where parameter concentrations were generally similar between upstream and downstream stations throughout the year and metal concentrations low and in many cases below MDL values.

2.2.3.4 Scugog River Assessment

The focus of the MECP evaluation of the 2017 Lindsay-Ops Landfill Annual Monitoring Report was to assess whether an impact to the water quality of the Scugog River had occurred. This was accomplished by averaging the historical data and then assessing the percentage difference between stations. The issue with the technique is when anomalous and elevated results skew the average, such that this needs to be accounted for in the evaluation.

The MECP suggested that the percentage difference between stations is usually less than 100%. It was also suggested that a difference of 25% is considered significant. The percentage differences in the following table (Table 10) have been colour coded as outlined by the MECP in their previous review. All downstream sampling stations are being compared to the upstream station (*i.e.*, McQuarrie Point).

The first station downstream of the McQuarrie Point (upstream) station is the Embayment B station. The evaluation suggests that there is virtually no difference between these two stations which is anticipated. The only parameters greater than 25% are ammonia and boron. The results are similar to previous years, while the ammonia is relatively newer and is reflective of isolated elevated concentration during April 2022 and August 2023, which were an order of magnitude larger than historical values. Given the remaining 2022 and 2023 ammonia values and subsequent 2024/2025 values were more in line with the historical range and other parameters did not show similar elevations, it is uncertain as to the source of these elevations in the absence of other more notable leachate indicator parameters. It is known that boron is evident in the upper bedrock waters and is used as an indicator parameter for that reason. However, it is unlikely that a ground water source has resulted in this difference, based on the overall water quality at this location.



Table 10: Percent Difference Comparison Table – Scugog River

Parameter	Units	Scg-Up	Embayment B	Embayment A	Embayment C	Scg-Dwn	Percentage Difference			
							Scg-Up vs Embayment B	Scg-Up vs Embayment A	McScg-Up vs Embayment C	Scg-Up vs Scg-Dwn
pH -Lab	pH units	8.0	8.0	8.1	8.1	8.0	0%	1%	1%	0%
Conductivity	uS/cm	421	429	763	469	416	2%	81%	11%	-1%
BOD	mg/L	4	3	3	3	3	-12%	-13%	-11%	-6%
COD	mg/L	27	29	27	29	28	6%	-1%	5%	1%
Total Dissolved Solids	mg/L	239	238	421	258	239	0%	76%	8%	0%
Total Suspended Solids	mg/L	7	7	8	7	7	7%	14%	-3%	-1%
Alkalinity	mg/L	153	144	166	143	144	-6%	8%	-7%	-6%
Hardness	mg/L	187	176	219	178	175	-6%	17%	-5%	-6%
Ammonia	mg/L	0.10	0.14	1.09	0.26	0.17	39%	983%	157%	64%
Un-ionized Ammonia	mg/L	0.02	0.02	0.07	0.03	0.02	-1%	226%	46%	10%
Calcium	mg/L	59	55	68	56	56	-6%	16%	-6%	-6%
Chloride	mg/L	36	42	115	52	39	18%	223%	45%	10%
DOC	mg/L	9	9	8	9	9	-1%	-17%	-1%	-2%
Fluoride	mg/L	0.1	0.1	0.2	0.1	0.1	-24%	10%	-26%	-28%
Iron	mg/L	0.1	0.1	0.1	0.1	0.1	-29%	-33%	-29%	-18%
Magnesium	mg/L	9	9	11	9	9	-1%	18%	2%	-7%
Manganese	mg/L	0.03	0.03	0.03	0.03	0.03	-2%	14%	-7%	6%
Nitrate	mg/L	0.5	0.5	2.3	0.6	0.5	-11%	330%	13%	-13%
Nitrite	mg/L	0.08	0.07	0.12	0.07	0.07	-9%	65%	-4%	-10%
TKN	mg/L	1	1	2	1	1	7%	155%	28%	5%
Sodium	mg/L	19	23	68	30	21	19%	257%	56%	13%
Sulphate	mg/L	15	14	38	18	16	-6%	154%	20%	5%
Phenols	mg/L	0.001	0.001	0.002	0.002	0.002	8%	22%	28%	29%
Phosphorus	mg/L	0.05	0.05	0.04	0.06	0.04	14%	-7%	26%	-15%
Potassium	mg/L	2	2	7	3	2	5%	258%	45%	22%
Aluminum	mg/L	0.1	0.04	0.2	0.1	0.1	-36%	137%	-17%	-3%
Antimony	mg/L	0.003	0.003	0.003	0.003	0.004	-15%	-13%	-15%	21%
Arsenic	mg/L	0.004	0.003	0.003	0.003	0.004	-13%	-13%	-14%	13%
Barium	mg/L	0.06	0.05	0.06	0.05	0.04	-11%	1%	-7%	-20%
Beryllium	mg/L	0.03	0.03	0.03	0.03	0.02	-16%	-14%	-16%	-30%
Boron	mg/L	0.03	0.04	0.1	0.05	0.04	34%	175%	52%	24%
Cadmium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0002	-2%	-11%	-10%	225%
Chromium	mg/L	0.003	0.003	0.003	0.003	0.004	-10%	-9%	-12%	35%
Cobalt	mg/L	0.001	0.001	0.001	0.001	0.001	9%	11%	7%	14%
Copper	mg/L	0.003	0.001	0.003	0.002	0.002	-50%	-12%	-46%	-30%
Lead	mg/L	0.001	0.0005	0.001	0.0005	0.001	-11%	6%	-10%	95%
Mercury	mg/L	0.002	0.001	0.001	0.001	0.001	-67%	-67%	-67%	-67%
Molybdenum	mg/L	0.001	0.001	0.002	0.001	0.001	-8%	119%	13%	38%
Nickel	mg/L	0.01	0.01	0.01	0.01	0.01	-2%	-2%	-5%	1%
Selenium	mg/L	0.004	0.004	0.004	0.004	0.005	-10%	-9%	-10%	11%
Silver	mg/L	0.0001	0.0001	0.0001	0.0001	0.0002	5%	3%	0%	166%
Strontium	mg/L	0.2	0.2	0.2	0.2	0.2	-3%	21%	-1%	-8%
Thallium	mg/L	0.0001	0.0001	0.0001	0.0002	0.0005	-1%	-8%	15%	229%
Vanadium	mg/L	0.001	0.001	0.001	0.001	0.002	-9%	-17%	-7%	21%
Zinc	mg/L	0.01	0.01	0.02	0.01	0.01	-16%	68%	-7%	21%



The next downstream station is found in Embayment A where the WPCP and landfill discharge. As a result, numerous parameters show a difference of more than 25% and several show a significant elevated difference of more than 100% (*i.e.*, ammonia, unionized ammonia, chloride, nitrate, TKN, sodium, sulphate, potassium, aluminum, boron & molybdenum).

Most of the elevated differences can be associated with the Site operations. The nitrate, unionized ammonia, TKN, and total ammonia concentrations are anticipated to be an outcome of a combination of the WPCP effluent and potentially other land uses in the area (ex. Agriculture and urban development). Sewage effluent is typically nutrient rich. Nutrients include nitrogen, phosphorus and potassium. The elevated sodium, chloride and EC concentrations are likely from both the WPCP discharge and the spring freshet containing road salt elements. Sulphate and aluminum are also elevated and may be from coagulants at the WPCP containing aluminum or other sources. Boron is surmised to be associated with liquid laundry detergents, which are reported to use borax and this may account in part for this detection. Finally, it is noted that many of these differences are only found in Embayment A and despite these concentration differences, the flow from Embayment A is insufficient to meaningfully influence the Scugog River.

The next downstream station is Embayment C. The percentage difference between Embayment A and Embayment C are considered to illustrate the limited influence Embayment A has on the Scugog River outside of the actual embayment. At Embayment C, only ammonia shows a difference greater than 100%, while the difference from upstream is only 24% of that seen at Embayment A. In total, eight parameters show a difference more than 25% being: unionized ammonia, chloride, TKN, sodium, phenols, phosphorus, boron and potassium. It is also noted that the relative differences are very minor and are lower than that shown for Embayment A.

In evaluating the data, some parameters are consistently elevated over all the stations and therefore not readily attributable to the landfill and WPCP. The focus of this assessment was to point out those parameters which trend down from the Embayment A sampling data. Sodium and chloride trend down and it is conjectured whether the waters leaving Embayment A skirt the east shoreline and back eddy in Embayment C before being fully dispersed in the river further downstream. Several of the parameters have declined an equivalent amount (*i.e.*, $\sim 2/3$) which would indicate dilution within the river is significant directly relating to the flow differential between the interpreted ground water contributions from the landfill ($\sim 100,000 \text{ m}^3/\text{year}$) and WPCP outflow ($5,000,000 \text{ m}^3/\text{year}$) relative to the much more significant flow rates of the river (~ 0.5 to $1 \text{ billion m}^3/\text{year}$). It is further noted that of the



~4,800,000 m³/year of WPCP effluent discharged to the river, only about 1% of that volume represents treated leachate volume.

Finally, some parameters could be attributable from other sources. Agricultural application and runoff will provide a similar nutrient-rich signature (*i.e.*, nitrogen, potassium) as can decaying vegetation. While this is expected as a result of the agricultural fields surrounding the river in this area, there will be some nutrient provided by the WPCP effluent.

The downstream sample records show that the majority of the parameters considered above have dissipated by the downstream (Scg-Down) station. Elevated ammonia and phenols concentration are shown. However, the downstream water quality also reports several elevated metal parameters unique to this one station (*i.e.*, silver, thallium, cadmium, chromium, lead and molybdenum). A series of samples collected two decades ago are elevating these parameters and could be discounted given the data collected in the intervening years which would negate the majority of the metal results.

In summary, there are some limited/sporadic concentrations of parameters that have not shown consistent presence in the samples over time and are judged to be questionable. Discounting the questionable concentrations, then the data conforms well to the upstream station. The Embayment A waters has some elevated parameters; but this does not appear to significantly influence the downstream water quality.

2.2.3.5 On-Site Sampling Locations

Data collected in 2025 for select general chemistry and total metal parameters from stations at the new compost facility and along the drainage ditches are presented in Appendix J. Past reporting has established that PWQOs are not applicable to water quality in the drainage ditches and hence data from the on-Site sampling locations are not compared to the guideline values (Golder, 2019).

2.2.3.5.1 *Compost Facility*

Runoff from the new compost pad and any lateral seepage occurring within the sub-base materials of the pad are directed to the surface water swale running along the east, north and west perimeters of the compost pad. The surface water swale in turn discharges into the runoff collection pond (CP-1). Water quality at station CP-2 can be influenced by water flow and other conditions in the drainage ditches off-site and thus is not entirely indicative of conditions at the compost facilities.



As per the ECA (No.: A321504), the compost pad stations were monitored in late summer and early fall, on June 17 and October 9. The data, which is provided in Appendix J indicates that a number of parameters are frequently elevated at CP-1 & CP-2 including alkalinity, ammonia, iron, chloride, TDS, COD, hardness, sodium, strontium and phosphorus. No defined trends are noted beyond some longer-term variability which fall within a consistent range over time. The exception is ammonia at CP-1, which was more elevated during the October monitoring event (13.9 mg/L). However, it is noted that no outflow from the pond occurred and that CP-2 was dry during the period. As well, other Lip's indicated more consistent concentration such that the elevated ammonia could be related to the shallow stagnant conditions of the pond during the October monitoring event. Given these trends are localized and not observed downstream, they are not seen as a concern. These trends are illustrated by the chemistry over time graphs in Appendix E.

2.2.3.5.2 Stormwater Management Facility

Stations SW15 and SW16 are located along the drainage ditch that runs along the east side of the stormwater management facility, as shown in Figure 10. Station SW15 is located at the entrance to the stormwater quality control pond and station SW16 is located further north along the ditch. Both stations are immediately downstream from the north landfill expansion area and monitored for potential effects from the expansion. Given that the north landfill expansion area is lined, it is not expected to influence water quality at stations SW15 and SW16. The drainage swale that collects run-off from the old compost facility also drains into this ditch upstream of station SW15.

The 2025 data (Appendix J) for stations SW14, SW15, SW16, and SW18 (stations SW14 and SW18 are also discussed in a later section relative to upstream drainage ditch stations):

- Table 11 below provides a summary of the leachate indicator parameters for these four stations. In general parameters tend to be comparable with minor exceptions;



Table 11: Average SWM SW Location Concentrations (2006-2025)

Indicator Parameter	Proximal Locations		Downstream	
	SW16	SW15	SW18	SW14
Chloride	231	140	97	50
Ammonia	0.1	0.2	0.2	0.1
Phosphorus	0.2	0.2	0.2	0.1
Phenols	0.003	0.002	0.002	0.002
Toluene	<0.03	<0.03	<0.03	<0.03
EC	1201	835	747	613
TKN	2	2	2	1
Alkalinity	235	175	219	232
Calcium	119	105	94	97
Iron	3	3	1	1
Sulphate	34	36	16	19
Boron	0.1	0.1	0.05	0.1
Barium	0.1	0.1	0.1	0.1
DOC	9	9	9	8
TDS	680	478	405	347

All values in mg/L except toluene which is in ug/L and electrical conductivity in µohms/cm

Data presented represents period of record average for each monitoring well

- The chloride concentration has historically been elevated at SW16 reaching ~500 mg/L in the spring of 2007 and 2010 and the same in early summer of 2018, which it has maintained since. This is likely sourced to road salt application within the Site. This location was noted to be dry during all events in 2024 & 2025;
- This same seasonally elevated chloride concentration (*i.e.*, ~200 to 500 mg/L) is evident in the SW15 data for virtually every year since 2005 with the exception of 2024 and 2025;
- In contrast, SW18 and SW14 have shown an increasing trend in the chloride data from ~20 mg/L in 2002 to ~30-200 mg/L since 2015. The seasonal highs in this data tend to occur in the late summer/ early fall sampling events, with the exception of 2024 & 2025 where more consistent concentrations have been observed;
- Historically, parameters tend to frequently exceed the PWQO limits being: iron, phenols, phosphorus and aluminum for all sampling locations;
- At SW15 and SW16, detections of chromium, copper, cobalt, lead, vanadium and zinc have been measured at slightly elevated concentrations repeatedly, although no upward trending is noted;
- At SW15 boron concentrations have been noted to be elevated but variable with an overall increasing trend from 2017 to 2020, but have subsided since, while ammonia has



also been elevated but variable over the last three years, which may indicate some degree of leachate influence. However, these elevations / trends are not observed downstream at SW14 & SW18 indicating this influence is being mitigated prior to off-site discharge; and

- Measurable concentrations of tannins and lignins continue to be detected at SW14 and SW18 in 2025. This is not unexpected since there is a measurable difference between the TKN and total ammonia results at all of these stations which reflects an organic nitrogen content like due to seasonal vegetation decay. The DOC data also suggest an organic content to the ditch corridors. This is also anticipated to account for the phosphorus concentrations that are detected at these locations. Contributing to this is the fact that the drainage is seasonal at the Site and dries out over the summer. Often and in the past, stagnant waters are being sampled since the water table lies below ground surface and flow only occurs during the spring melt and regional storm events in part because the surficial tills are not overly permeable.

Overall, the surficial drainage network essentially conveys seasonal excess waters and is perched above the ground water table. The ground water flow in the overburden is vertically down and the surface drainage may contribute to some degree; but are likely limited owing to the low vertical permeability. As the excess flow diminishes past the spring freshet, water becomes stagnant in the channels owing to local undulations in the network. Small flows are typically recorded even during significant storm events; but are temporal in nature and wholly dependent on a climatic contribution to sustain the flow conditions.

Beyond the above interpretation, there is a specific requirement for reporting on the Stormwater Management ECA for the Site (No. 8401-AFST88). This report has been prepared and included as part of this report submission in Appendix K.

2.2.3.5.3 North and South Drainage Ditch Stations

Stations SW4, SW14, SW18, and SW13 are located along the north drainage ditch and stations SW1, SW2, and SW3 along the south drainage ditch. Stations SW1 and SW4 are upstream of the landfill while the remaining stations are downstream of the landfill. Any change in SW2 versus SW1 or SW14 versus SW4 is presumed to indicate an influence of the landfill and/or the WPCP sewage lagoons. However, other sources may also influence water quality in the north and south drainage ditches. Stations SW1, SW4, SW14 and SW18 are being influenced by runoff from agricultural/farming activities conducted in the area, as evidenced by elevated nitrate concentrations at SW-4 on occasion. Similarly, the upstream stations (SW1 and SW4) are also affected by road salting along the access road to the Site. Station SW14 may be influenced by the stormwater management facility, which discharges along the north drainage



ditch upstream of SW14 at station SW18. Station SW18 was established in April 2015 to help ascertain whether the outflow from the stormwater management facility impacts the north drainage ditch. Finally, stations SW3 and SW13, in addition to being downstream of the landfill, are also downstream of the Lindsay WPCP, agricultural fields, and potential road runoff.

Parameter concentrations measured at the drainage ditch stations are also greatly affected by dry conditions, and low and intermittent flows often encountered in the drainage ditches. The upstream station SW1 was noted to be dry during all events in 2025 similar to 2024, while SW4 was sampled in April & June only. However, even when water is present, stagnant and shallow waters were often reported at these stations. The following observations were noted from review of the 2025 data (Appendix J).

South Drainage Ditch

- In 2025, the water quality sampling results were comparable to the historical database for these sampling locations. The database shows no obvious trend in the data. Table 12 below provides the average concentrations over the period of record for these sampling stations. It is noted that the chloride concentration diminishes away from the entry road (*i.e.*, SW1) and is attributed to road salt impacts;
- The same general trend with certain parameters was evident with this data. Overall, the difference between the TKN and total ammonia results is considered to show organic nitrogen. DOC concentrations also suggest an organic signature and the detection of phosphorus contributes to the assessment that decaying vegetative matter likely contributes to these results;
- Historically, the parameters noted in the sections above tend to frequently have elevated concentrations including hardness, iron, phosphorus and aluminum for all sampling locations. Phenols detections above PWQO are more infrequent and not observed in 2025. Many of the elevated concentrations are related to shallow, stagnant conditions which increase potential for sediment entrainment, which can skew these parameter concentrations;
- Occasional elevated concentrations of chromium, copper, cobalt, and zinc are historically noted for all three sampling stations, with these parameters exceeding PWQO in 2025 at SW2. Iron and aluminum are typically the most elected parameters exceeding PWQO, but are likely naturally sourced and enhanced through sediment entrainment;
- The data at all three locations has been shown to be stable, with variance, but within a predictable range for the period of record with the exception of elevated but variable ammonia (~0.2-1.5 mg/L) concentrations at SW3; however, are noted to be more limited in recent years. Similarly elevated but variable barium concentrations are observed over



the same period but all other indicator parameters are stable. These trends are noted but not of concern at this time. They will continue to be tracked; and

- In 2025, SW3 was analyzed for PCBs, which were found to be below the MDL value, consistent with the data collected since 2015.

Table 12: Average South Drainage Ditch SW Location Concentrations (2006-2025)

Indicator Parameter	SW1	SW2	SW3
	Upstream	Downstream	
Chloride	121	112	96
Ammonia	0.1	0.2	0.2
Phosphorus	0.1	0.1	0.1
Phenols	0.001	0.001	0.001
Toluene	<0.03	<0.03	<0.03
EC	920	955	897
TKN	1	1	2
Alkalinity	307	312	302
Calcium	127	140	135
Iron	0.5	1	2
Sulphate	22	41	34
Boron	0.1	0.1	0.1
Barium	0.1	0.1	0.1
DOC	9	7	7
TDS	569	578	527

All values in mg/L except toluene which is in ug/L and electrical conductivity in $\mu\text{ohms/cm}$

Data presented represents period of record average for each monitoring well

South Drainage Channel Assessment

Similar to the river assessment summarized in Section 2.2.3.4, the 2017 MECP evaluation of the 2017 Lindsay-Ops Landfill Annual Monitoring Report recommended the same evaluation technique to assess the water quality in the north and south drainage channels. For this evaluation the same techniques are used; but with average values as was discussed above (see Table 13 below).

The first downstream station from SW1 is SW2. The evaluation has identified nitrate as having the most significant difference at 290%, while an additional seven parameters with greater than 25% difference with SW1, being: ammonia, iron, magnesium, sulphate, barium, silver and strontium.



Table 13: Percent Difference Comparison Table – South Drainage Channel

Parameter	Units	SW1	SW2	SW3	% Differences	
					SW1 vs SW2	SW1 vs SW3
pH -Lab	pH units	7.9	7.8	8.0	-1%	2%
Conductivity	uS/cm	920	955	897	4%	-2%
BOD	mg/L	5	4	4	-22%	-17%
COD	mg/L	25	25	23	-1%	-8%
Total Dissolved Solids	mg/L	569	578	527	2%	-7%
Total Suspended Solids	mg/L	110	48	424	-56%	287%
Alkalinity	mg/L	307	312	302	1%	-2%
Hardness	mg/L	352	400	380	14%	8%
Ammonia	mg/L	0.1	0.2	0.2	33%	62%
Un-ionized Ammonia	mg/L	0.01	0.01	0.02	-6%	44%
Calcium	mg/L	127	140	135	11%	7%
Chloride	mg/L	121	112	96	-7%	-21%
DOC	mg/L	9	7	7	-23%	-27%
Fluoride	mg/L	0.1	0.1	0.1	-9%	-12%
Iron	mg/L	0.5	1	2	79%	400%
Magnesium	mg/L	9	13	13	49%	49%
Manganese	mg/L	0.2	0.2	0.4	-10%	77%
Nitrate	mg/L	0.2	1	1	279%	300%
Nitrite	mg/L	0.1	0.1	0.1	-2%	-3%
TKN	mg/L	1	1	2	-26%	41%
Sodium	mg/L	67	62	52	-7%	-22%
Sulphate	mg/L	22	41	34	90%	56%
Phenols	mg/L	0.001	0.001	0.001	6%	2%
Phosphorus	mg/L	0.1	0.1	0.1	-35%	3%
Potassium	mg/L	10	4	4	-60%	-65%
Aluminum	mg/L	0.3	0.3	0.7	14%	129%
Antimony	mg/L	0.006	0.004	0.003	-36%	-44%
Arsenic	mg/L	0.005	0.004	0.004	-29%	-34%
Barium	mg/L	0.1	0.1	0.1	39%	14%
Beryllium	mg/L	0.05	0.03	0.03	-29%	-28%
Boron	mg/L	0.1	0.1	0.1	-12%	-13%
Cadmium	mg/L	0.0002	0.0001	0.0001	-56%	-50%
Chromium	mg/L	0.005	0.005	0.004	-10%	-12%
Cobalt	mg/L	0.001	0.001	0.001	-6%	5%
Copper	mg/L	0.004	0.003	0.003	-28%	-30%
Lead	mg/L	0.002	0.001	0.002	-41%	-22%
Mercury	mg/L	0.00005	0.00004	0.0003	-29%	392%
Molybdenum	mg/L	0.002	0.001	0.001	-37%	-42%
Nickel	mg/L	0.01	0.01	0.01	-1%	-15%
Selenium	mg/L	0.01	0.005	0.004	-24%	-29%
Silver	mg/L	0.0001	0.0002	0.0001	54%	-2%
Strontium	mg/L	0.3	0.4	0.4	32%	26%
Thallium	mg/L	0.0008	0.0005	0.0003	-38%	-65%
Vanadium	mg/L	0.001	0.001	0.002	0%	53%
Zinc	mg/L	0.03	0.03	0.02	-7%	-39%



Some of these parameters are different than those identified for the Scugog River. This is felt to be important since the concern is how Embayment A is influencing the downstream water quality. If the drainage contribution were significant then the elevated differences for the drainage channel should be reflected in the embayment water quality.

The identified differences above appear to be related to major ion species as opposed to the key leachate indicator parameters, likely due to natural variation between surface water features or alternative sources (*i.e.*, sewage effluent). Iron is an earth element and infers issues with sediment entrainment in the sampling program. The silver is sourced to a few isolated elevated concentrations which is skewing the average concentrations. The elevated nitrate parameter has been related to vegetation decay as opposed to a landfill influence. It is worthwhile to point out that nitrate concentration results in the south drain have a lower average value than that in Embayment A and thus would provide a diluting effect.

The low total ammonia concentration attests to this hypothesis of vegetation decay as does the higher TKN result suggesting presence of organic nitrogen. The sulphate difference is another indicator of sediment entrainment.

The differences at SW3 are comparable to those at SW2. The iron difference also speaks to issues with sediment entrainment especially when sample results have greatly exceeded 10 mg/L for several samples. The sampling result variability also infers entrainment issues. For example, the June 2008 sample reported an iron concentration of ~74 mg/L and also reported a manganese concentration at 18.7 mg/L, an aluminum concentration at 11.1 mg/L and elevated concentrations of boron, cadmium, chromium, cobalt, copper and lead. This event has a TSS concentration of 27,400 mg/L. There are several other instances where the TSS exceeded 1,000 mg/L in the sampling result and had similar elevated parameter concentrations.

It has been speculated by MECP historically that seepage from the lagoon system could be influencing the south drainage water quality. Azimuth would disagree with this notion. Between SW2 and SW3, both chloride and sulphate concentration diminish which are elevated within the WPCP effluent. Also, total ammonia concentration is muted at both SW2 and SW3 compared to the lagoon effluent concentrations. When evaluated as a whole there does not appear to be the data supporting this concept.

As such, these differences are not considered significant in terms of contaminant migration. They reflect challenges with sample collection when water depths are quite minimal during the summer season. The south drain dries out over the summer season which also speaks to the fact that ground water is not likely coming to surface. From above, it was shown that the



ground water elevation data does not vary appreciably and is about a meter below ground surface. It was also shown that the overburden soils are not overly permeable. All of this information and the recognition that the drainage channels dry out over the summer lead to the inference that ground water contributions to the surface water condition in this area are unlikely to occur.

In this case, the total flow in the South Drainage Channel was estimated to be between 5,000 & 30,000 m³ based on weekly flow measurements taken following spring melt in 2019 & 2021. A more significant flow period was noted in 2019 with flow observed throughout the summer, while most years do not have persistent flow past May. Regardless, the high-end range of flow is insignificant compared to other inputs into the embayment including the WPCP effluent of 5,000,000 m³/year and flow within the river itself of 0.5 to 1 billion m³/year. The weekly monitoring suggested that the South Drain effectively dries out by the end of June in a typical year.

North Drainage Ditch

- Table 14 below provides the average concentrations for SW4 since this data has remained constant. The data reflects data from 2015 on as of that timeframe represents the time when all locations were active;
- Several indicator parameters including: chloride, phosphorus, TKN, ammonia and iron showed an upward seasonal trend where sample concentrations generally peaked in the dry seasons. However, they have occurred within a predictable range;
- Dry season sampling is challenging due to the minimal flow present and it was observed that TSS concentrations also spiked with these elevated sampling events. It is speculated that the elevated TSS concentrations could account for the elevated indicator parameters which could be present as sorbed elements;
- The difference between the TKN and total ammonia results is considered to show organic nitrogen. DOC concentrations also suggest an organic signature and the detection of phosphorus contributes to the assessment that decaying vegetative matter likely contributes to these results as do the tannins and lignins measurements;
- Historically, the parameters noted in the sections above tend to frequently have elevated concentrations including chloride, sodium, ammonia, hardness, iron, phosphorus and aluminum for all sampling locations;
- Occasional elevations and PWQO exceedances of chromium, vanadium, copper, cobalt, and zinc are historically noted for all sampling stations, albeit less frequently at SW4; and
- In 2025, SW13 was analyzed for PCBs, which were below the MDL value (see Table 3 – Appendix J).



Table 14: Average North Drainage Ditch SW Location Concentrations (2015-2025)

Indicator Parameter	SW4	SW18	SW14	SW13
Chloride	35	95	73	150
Ammonia	0.1	0.2	0.2	1
Phosphorus	0.03	0.2	0.2	1
Phenols	0.001	0.002	0.002	0.003
EC	689	744	743	1026
TKN	1	2	2	8
Alkalinity	294	220	256	237
Calcium	119	95	108	132
Iron	0.1	1	2	5
Sulphate	18	16	17	36
Boron	0.01	0.04	0.03	0.1
Barium	0.04	0.1	0.1	0.1
DOC	6	9	8	9
TDS	383	405	413	590
TSS	10	74	144	629
Toluene	<0.03	<0.03	<0.03	<0.03

All values in mg/L except toluene which is in ug/L and electrical conductivity in μ ohms/cm

Data presented represents period of record average for each monitoring well

North Drainage Channel Assessment

The same general evaluation was also performed for this drainage channel corridor (see Table 15, below).

While several parameters are the same as those identified for the Scugog River, it is noted that the most elevated or dominant parameters are not the same or not as consistent between locations. This is important information since the concern is how Embayment A is influencing the downstream water quality. If the drainage contribution were important then the elevated differences for the drainage channel should be reflected in the embayment water quality.



Table 15: Percent Difference Comparison Table – North Drainage Channel

Parameter	Units	SW4	CP2	SW18	SW14	SW13	Percentage Difference			
							SW4 vs CP2	SW4 vs SW18	SW4 vs SW14	SW4 vs SW13
pH -Lab	pH units	8.0	8.2	8.0	8.0	7.9	2%	-1%	0%	-1%
Conductivity	uS/cm	616	961	744	610	728	56%	21%	-1%	18%
BOD	mg/L	3	3	6	4	10	2%	81%	31%	190%
COD	mg/L	13	27	44	32	191	105%	231%	141%	1340%
Total Dissolved Solids	mg/L	375	531	405	346	433	42%	8%	-8%	16%
Total Suspended Solids	mg/L	10	27	74	80	330	183%	669%	734%	3341%
Alkalinity	mg/L	271	297	220	231	235	10%	-19%	-15%	-13%
Hardness	mg/L	314	391	262	265	277	25%	-17%	-15%	-12%
Ammonia	mg/L	0.1	0.2	0.2	0.1	0.6	183%	124%	43%	604%
Un-ionized Ammonia	mg/L	0.02	0.02	0.01	0.01	0.03	15%	-34%	-11%	60%
Calcium	mg/L	114	136	95	97	111	19%	-17%	-15%	-3%
Chloride	mg/L	30	114	95	49	76	282%	219%	64%	154%
DOC	mg/L	6	8	9	8	10	39%	53%	35%	63%
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0%	2%	4%	20%
Iron	mg/L	0.2	0.3	1.4	1.0	2.5	91%	783%	512%	1410%
Magnesium	mg/L	7	11	8	7	9	48%	14%	2%	26%
Manganese	mg/L	0.05	0.20	0.91	0.46	0.79	290%	1665%	795%	1429%
Nitrate	mg/L	1.1	0.8	0.3	0.3	1.2	-33%	-72%	-70%	3%
Nitrite	mg/L	0.1	0.1	0.1	0.1	0.1	-24%	-7%	1%	33%
TKN	mg/L	0.5	1.0	1.6	1.1	4.7	102%	227%	129%	860%
Sodium	mg/L	19	55	53	31	52	197%	183%	65%	177%
Sulphate	mg/L	26	29	16	19	25	13%	-39%	-27%	-2%
Phenols	mg/L	0.001	0.004	0.002	0.002	0.002	173%	61%	25%	50%
Phosphorus	mg/L	0.03	0.05	0.15	0.14	0.47	64%	463%	403%	1600%
Potassium	mg/L	2	6	5	4	5	290%	256%	144%	206%
Aluminum	mg/L	0.1	0.1	0.2	0.2	2.8	9%	67%	149%	2975%
Antimony	mg/L	0.005	0.0003	0.0002	0.003	0.004	-95%	-96%	-48%	-30%
Arsenic	mg/L	0.005	0.001	0.001	0.003	0.004	-85%	-87%	-36%	-17%
Barium	mg/L	0.1	0.1	0.1	0.1	0.1	16%	0%	2%	61%
Beryllium	mg/L	0.04	0.001	0.002	0.03	0.04	-96%	-96%	-36%	-13%
Boron	mg/L	0.1	0.03	0.04	0.1	0.1	-37%	-12%	4%	58%
Cadmium	mg/L	0.0002	0.00002	0.00004	0.0001	0.0001	-89%	-76%	-61%	-22%
Chromium	mg/L	0.004	0.001	0.001	0.003	0.005	-77%	-68%	-31%	9%
Cobalt	mg/L	0.001	0.0003	0.002	0.001	0.001	-66%	75%	33%	43%
Copper	mg/L	0.002	0.001	0.002	0.002	0.012	-34%	-4%	-12%	481%
Lead	mg/L	0.001	0.0002	0.0004	0.001	0.004	-84%	-69%	-39%	220%
Mercury	mg/L	0.00004	0.00002	0.00002	0.00004	0.00005	-49%	-47%	-7%	28%
Molybdenum	mg/L	0.001	0.0004	0.0002	0.001	0.001	-64%	-81%	-37%	-3%
Nickel	mg/L	0.01	0.01	0.01	0.01	0.01	-2%	14%	-7%	33%
Selenium	mg/L	0.01	0.001	0.001	0.004	0.00	-82%	-82%	-35%	-18%
Silver	mg/L	0.0003	0.0001	0.0001	0.0001	0.0001	-72%	-70%	-66%	-62%
Strontium	mg/L	0.3	0.4	0.3	0.3	0.3	50%	3%	-7%	4%
Thallium	mg/L	0.0012	0.0001	0.0001	0.0001	0.0002	-96%	-95%	-90%	-84%
Vanadium	mg/L	0.001	0.000	0.001	0.001	0.002	-44%	7%	39%	98%
Zinc	mg/L	0.02	0.01	0.06	0.02	0.04	-52%	138%	-31%	68%

For CP-2, the evaluation has identified 16 parameters greater than 25%, which is likely a reflection of this location having sampling events during the summer and fall where water is able to be collected when conditions are shallow and stagnant, while SW-4 is typically only



sampled in the Spring, when dilution potential is higher, therefore skewing the comparative results.

The next station downstream is SW18 which is used to contrast upstream contributions from outflows at the stormwater management system. Sixteen parameters are considered to have a difference greater than 25% from SW4; however, the most prominent parameters are COD, phosphorus, potassium, TKN, chloride, TSS, iron, and manganese; many of which would be heavily influenced by sediment entrainment as evidenced by the more elevated TSS concentrations in the downstream location. Other parameters such as ammonia, show more meaningful increases (124%), while concentrations are both $\sim 0.1\text{--}0.2$ mg/L. This illustrates that parameters with a small concentration can show significant % differences with modest parameter variations. The sodium and chloride are more prominent elevated parameters and speaks to road salt influence contribution at the Site downstream of SW-4. As noted above, the limited depth of SW-4 does not allow for sample collection during the summer when vegetative growth and stagnant conditions can provide natural influences to the surface water quality. As such the background reference values are low biased for many parameters representing only the Spring freshet.

A short distance further downstream SW14 is collected below the stormwater management system outlet. At this location, 16 parameters had a difference greater than 25% from the SW4 data, with the results correlating closely with the further upstream location. This is expected as they fall along the same channel and both are sampled more frequently during shallow and stagnant conditions are present, as noted above. The response at SW14 indicates decline in difference from the upstream location with a similar number of parameters greater than 25%, but most locations were found to decline significantly from the upstream locations indicating attenuation processes are active with distance along this channel.

The final station on the North Drainage Channel is SW13. The response at SW13 compared to SW14 is considered to be elevated and reflected in the differences noted above. Twenty-six parameters show a difference greater than 25% of that measured at SW4. As anticipated the parameters are similar to those noted above for the north drainage channel. This location always has limited water depths and stagnant conditions as illustrated by the TSS concentrations. As such, the same rationale noted above applies to this location.

This assessment while informative and useful in highlighting consistent parameters fails to illustrate the underlying situation. During the spring freshet when there is elevated surface flow, the data suggests that parameter values are diminished with the notable exception of the road salt related parameters. As the ditch dries out, summer and fall sampling event yield



elevated results owing to minimal flow and sediment entrainment which elevates concentrations, especially metal and nutrient values. As noted above, this is exacerbated due to the fact that these conditions are not characterized in the upstream location as it is typically dry beyond the April monitoring event. Beyond this, it is important to note that there is virtually no flow during these drier periods and hence no significant mass flux contribution to the embayment. Therefore, while the parameter measurements are high, there is no appreciable flow and thus no significant impairment to the embayment from the north drainage channel. This is supported by a lack of definable channel past SW14 and the fact that SW13 is routinely dry, or just ponded water in proximity to Embayment A.

Similar to the discussion with the South Drainage Channel, ground water flow into this feature is not anticipated. The drainage channel dries out over the summer months, which negate ground water flow contribution in those months. The overburden soil permeability and downward hydraulic gradient also are contrary to this concept as ground water migration would be vertical and not discharge to surface.

Finally, and like above, it has been questioned historically by the MECP whether the recent spikes in the north drain water quality are possibly due to seepage from the adjacent lagoons. Azimuth does not share this interpretation based on the available data. The argument is that the full complement of the data does not match well. For example, seasonal spikes at SW13 show increases in total ammonia, iron, manganese, and several heavy metal elements. Comparison to the WPCP effluent data would suggest that elevated parameters match for some; but not all parameters. As well, these elevations have not been noted the past two years.

The chemical signature of the North Drainage Channel is not similar to that measured in the Embayment A area and it is concluded that the contribution from the drainage ditch is inconsequential to the embayment water quality.

2.2.3.6 Polychlorinated Biphenyls (Surface Water)

The PCB monitoring program includes PCB monitoring at all surface water stations appearing in Schedule E every three years with the exception of SW3 and SW13, which are sampled for total PCBs four (4) times per year, every year. If a total PCB concentration greater than 0.001 mg/L is measured at station SW3 or SW13, then all surface water stations are sampled for total PCBs for two consecutive sampling events.



In 2025 PCB monitoring was only conducted at SW3 & SW13 with both locations indicating concentrations below detection limits. The next full round of surface water PCB samples is scheduled for 2027. Further sampling for PCBs would appear unwarranted.

2.2.3.7 Volatile Organic Compounds (Surface Water)

The VOC sampling was limited to SW3, SW13, SW14, SW18, an upstream and downstream location in the Scugog River, & WPCP effluent outfall, which is to be completed every two years. Detections were limited to chloroform (1 & 2 µg/L at WPCP Eff during April and August) and toluene (0.6 µg/L at Scg-Down in August). The chloroform detections are in range with previous years which is typically observed owing to the source in sewage effluent.

Occasional trace detections of toluene have occurred in both the up and downstream river locations and are not attributable to the landfill for WPCP outfall given a lack of detections in the surface water or WPCP effluent samples in 2025. The river samples are collected by boat, so potential contamination through the operation of the boat is a more likely source of this trace detection.

2.3 2025 QA/QC Samples

As part of the routine sampling program for the Site, duplicate samples were collected and analyzed for quality assurance purposes. In 2025, 19 QA/QC samples were collected out of 218 samples. Results are provided in the chemistry summary tables (Appendices D & J) and were found to be generally within acceptable limits (*i.e.*, <20% variation), with the exceptions summarized in Table 17 below listed by parameter. It should be noted that as the analytical results approach the detection limit, the precision of the analysis tends to decline, while these differences are also exaggerated with the lower detection limits and may account for some of the variation observed. Although these variances create some degree of uncertainty in the results, they are not seen as a concern at this time as all of the parameters listed had concentrations within the historical range for the corresponding parameter and location.



Table 17: 2025 QA/QC Analysis Summary Table

Parameter	Number of >20% Occurrences Variance	Range (%)	
		Low	High
Unionized Ammonia	5	32	89
Total Ammonia	1		29
COD	8	24	85
Chloride	2	38	47
Electrical Conductivity	1		50
DOC	2		74
Iron	4	35	173
Manganese	1		40
Nitrate	3	22	57
TKN	3	67	100
Potassium	3	29	116
Sodium	6	35	125
TDS	2		50
TSS	3	22	67
Turbidity	3		67
Colour	2	40	67
Aluminum	8	22	164
Antimony	5	24	40
Barium	2	33	40
Boron	2	80	27
Cobalt	2	22	29
Copper	1		162
Lead	2	48	165
Molybdenum	1		34
Mercury	2	29	40

2.4 WPCP Outfall

Sampling at the WPCP Outfall is completed on a quarterly basis. General chemistry parameters and total metals were measured at the WPCP Outfall on four occasions (April, June, August and October) in 2025. Select general chemistry, total metal data for the WPCP Outfall dataset is presented in Appendix J.

The concentrations of general chemistry parameters indicated concentrations in 2025 fall within the historical average, with previous elevated concentrations noted in 2021 and 2022 reduced. These previous trends were attributed to the WPCP operations, which appear to have been rectified in 2023 with data since then falling within the historical range for this location.

As before, the concentrations of several metals such as boron, copper, chromium and zinc were observed above PWQO, but at generally consistent concentrations over time with the exception of copper which has been more consistently above PWQO the past two years. A number of



parameters were seen to be consistently higher at the outlet of the WPCP as compared to the upstream Scugog River station (McQuarrie Point) including ammonia, chloride, nitrate, sulphate, TDS, aluminum, zinc, copper & phosphorus. This is not unexpected since the effluent from the WPCP contains residuals from the treatment process.

2.5 Landfill Gas

Schedule F of the ECA for the Lindsay-Ops Landfill Site requires that landfill gas monitoring occur monthly during frozen ground conditions and quarterly thereafter at monitoring wells 6-90-II, 7-90-I/II, 12-91-I/II, 13-91-I/II, 14-91 (replaced by 14-07 in December 2007), 16-91-I/II, 17-91-I/II, within the old landfill area, and at shallow monitoring probes GP1 to GP10 (inclusive) that were installed to the depth of the ground water table in January 2002. The locations of the monitoring probes are identified on Figure 2A.

During 2025, landfill gas monitoring occurred on seven occasions, with the August event not completed as required due to a scheduling oversight. The omission is not seen as an issue as monitoring of landfill gas was completed on the remaining seven events, including all winter events which would represent conditions where landfill gas concentrations and migration potential are the highest due to ground frost. As well, the concentrations from the remaining monitoring events indicated that concentrations were within the historical range.

Combustible gas is measured by volume and/or as a percentage of the Lower Explosive Limit (LEL). The LEL is 5% by volume. The combustible gas is interpreted to be mainly composed of methane, although gas samples were not collected and analyzed to determine individual constituents. The results of the 2025 landfill gas monitoring program are provided in Table 18 below.

In 2025, methane was detected in the leachate monitoring wells 6-90-II, 7-90 and 7-90-II at concentrations greater than 100 LEL. This is expected as these monitoring wells are screened in the waste. Methane was also measured at concentrations greater than 100 LEL in monitoring well 16-91-II. Well nest 16-91 is located immediately adjacent to the northwest corner of the old landfill area and concentrations greater than 100 LEL have been noted in previous years as well. This is not unexpected due to the proximity of the waste.

No significant levels of methane were obtained at the gas probes GP 1 to GP 10 installed in January 2002. These probes have historically indicated non-detectable methane concentrations.



Table 18: 2025 Landfill Gas Summary Table

Monitoring Well	15-Jan-25		26-Feb-25		18-Mar-25		06-May-25		14-Oct-25		20-Nov-25		01-Dec-25	
	(%Vol)	(%LEL)	(%Vol)	(%LEL)	(%Vol)	(%LEL)	(%Vol)	(%LEL)	(%Vol)	(%LEL)	(%Vol)	(%LEL)	(%Vol)	(%LEL)
12-91-I	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-91-II	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-91	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-91-II	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-07	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-91	NA	NA	NA	NA	-	-	0	0	0	0	0	0	0	0
16-91-II	NA	NA	NA	NA	21	>100	>5	>100	>5	>100	0	0	0	1
17-91	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-91-II	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-90-II	25	>100	NA	NA	NA	NA	>5	>100	3	>100	35	>100	15	>100
7-90-I	24	>100	>5	>100	2	>100	>5	>100	5	>100	27	>100	21	>100
7-90-II	28	>100	NA	NA	22	>100	2	95	5	>100	22	>100	22	>100
GP 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NA - Not Accessible														



Overall, combustible gas concentrations in 2025 were consistent with those observed in previous years. The landfill gas monitoring program indicates that methane gas from the landfill is not migrating off-Site.

During 2008, as a result of recent amendments to Ontario Regulation 347 General – Waste Management (O.Reg. 347/90) relating to the collection and utilization of landfill gas, the City re-examined the landfill gas utilization potential of the old landfill area. Landfill gas capture modeling completed by Integrated Gas Recovery Services in 2003 indicated that the collection of methane from the old landfill area was not an economically favourable endeavour for the City to undertake. In September 2008, a new study was completed by Golder that considered the effect of the newly installed geomembrane final cover system and passive landfill gas vents. The secondary assessment revealed that power generation has since become a viable option for the City.

A conceptual design plan for a landfill gas collection and flaring system, as well as an electricity generation system intended for operation of both the landfill site and the Lindsay WPCP was completed by Golder (2008) and submitted to the MECP as part of the City's Application for Funding of Landfill Gas Capture Facilities in November 2008. A design report (prepared by Comcor Environmental Ltd) was submitted to the MECP in June 2009, as per O.Reg. 347/90 (as amended). The City received an amendment to the ECA (Notice No.: 4) for the landfill gas collection and flaring system in April 2010. On November 10, 2010, ECA (Air & Noise - No.: 5211-8ASRRU) was granted.

Construction of the landfill gas collection and flaring system was carried out in 2011. Commissioning of the system and completion of the Operations and Maintenance manual in accordance with Conditions 2(1)(a) through 2(1)(e) of ECA (Air & Noise - No.: 5211-8ASRRU) occurred in 2012. Also, in October 2015 the City commissioned a Power Generation Facility (*i.e.*, landfill gas generator) that operates under Renewal Energy Approval No.: 8446-9HSGRP. The City continues to operate the system and adds extraction wells as the landfill construction progresses.

2.6 Meteorological Monitoring

Condition No.: 4.52 requires that the City install an on-Site meteorological station to measure weather conditions during the operating life of the Lindsay-Ops Landfill Site. The weather conditions to be monitored are:

- ambient temperature;
- precipitation;
- barometric pressure; and



- wind speed and wind direction.

The purpose of the meteorological monitoring is to confirm estimates of infiltration and leachate generation, and to correlate with any nuisance complaints (*e.g.*, odours and litter). A meteorological station capable of providing the required data was installed in July 2003 at the top of the old landfill area. In 2006, the meteorological station was moved to the west of the administration building parking area at the north end of the Site, in order to allow construction of the geomembrane final cover system on the old landfill area. Information obtained from the meteorological station is routinely used by the City for Site operations and monitoring.

2.7 Biomonitoring Program

Condition 12.2 of the ECA requires that aquatic lethality testing of the water at SW13 be undertaken quarterly every year. Given this location typically has insufficient water levels to obtain the required volume for analysis (~20 L pail), the location was shifted into Embayment A, where SW13 discharges.

The results, which are provided in Appendix L, indicated that all four sampling events (April, June, August & October) indicated a 0% impairment and mortality rate for both Rainbow Trout and *Daphnia magna* during the April, June and October sampling events, while the August event indicated a mortality rate of 20% for rainbow trout and 3% for *Daphnia magna*. These results are comparable to the 2024 results which indicated the same mortality % for each rainbow trout & *Daphnia magna* only in the August monitoring event.

This is the third year for data collection and the only 2 events out of the 16 completed were in August. Continued monitoring will help to establish potential trends.

2.8 Wetland Assessment

Condition 12.1 of the ECA requires that a Wetland Assessment and Impact Study be reviewed and updated every 5 years and included with the Annual Report. This report was last completed and summarized in the 2023 annual monitoring report. The next impact study would be required to be completed in 2028; however, recommendations from the 2023 study were to discontinue the program.

3.0 SITE OPERATIONS

3.1 General Operations

The Lindsay-Ops Landfill Site generally consists of two parts, the original southern disposal area that began operation in 1980 and the northerly expansion area that was approved in



December 2001. The City operates the disposal site utilizing municipal staff. Major activities occurring at the Site in 2025 included the following:

- Disposal operations occurred in the expansion area in the north section of Cells 4 and 5. Steel plates continued to be used as alternative daily cover;
- Calibration completed to methane detection system; and
- The City continued using the residential household hazardous waste (HHW) depot which was established in September 2005; however, recent amendment of the ECA will allow for the movement of the bulk oil tank currently stored inside the building to a new fully enclosed structure beneath the existing HHW canopy. These works will be done in 2026;
- Approval for scale and container station upgrades was received through revised ECA. These changes will be undertaken in 2026 and include the following:
 - Installing a new outbound scale and an automated pay booth near the Site entrance to provide a longer queuing lane for outgoing traffic;
 - Replacing the two existing inbound scales, which are at the end of their service life, with two new scales, and making modifications to allow both scales to operate as inbound scales during high traffic periods to support dual lane queuing for incoming traffic;
 - Expanding access roads to accommodate the upgraded facilities; and
 - Relocating select roll off containers currently situated on the upper platform of the Residential Container Station to an area north of the Recycling Transfer Facility to reduce congestion and improve overall traffic circulation.; and
- Monitoring well repairs included replacement of MW57-I/II, with decommissioning of the old monitors and repairs to riser pipe and protective casing at MW29-93.

Other minor miscellaneous works were conducted throughout the year.

3.1.1 Leachate Outbreak Inspections

Condition No. 4.45 of the ECA requires that the landfill be inspected for evidence of leachate seepage or leachate springs at least once per month. Any incidents of leachate outbreaks and remedial action taken are to be reported monthly to the Lindsay Ops Landfill Public Review Committee (PRC) and MECP District Manager as well as annually to the MECP Regional Director through submission of this Annual Report.

Inspections are conducted for leachate outbreaks on a monthly basis. Results are recorded by City staff on inspection reports. No leachate outbreaks or seeps were noted in 2025.



3.1.2 Screening Inspections

Condition No. 4.24 of the ECA requires that visual screening be installed, inspected and maintained as required. The City developed a vegetative screening plan in June 2003 and began plantings in September 2003. The vegetative plantings continue to grow, thicken and mature each year increasing the visual screening from surrounding land uses.

Inspections of new and existing screening are conducted by City Staff on a monthly basis. Observations from each inspection are recorded by City Staff on the Inspection Reports. No issues were identified in 2025.

3.1.3 Final Cover

With respect to the old landfill area, final contours were reached in the latter part of 2004. The City also added soil materials to this area from the excavation of Cell 2 of the expansion area in 2004 for pre-loading of the North Slope. Following a two-year period after closure to allow for settlement, the City initiated placement of the final cover and the geosynthetic cap on the old landfill site in 2006. Application of the liner and final capping was started on the east side of the old landfill site in 2006 and was completed in October 2007. Seeding for vegetation of the entire old landfill area was completed in 2008.

At the request of the MECP, the City began preparing an annual Cover Plan for the landfill site, beginning in December 2005. The Cover Plan shows the following:

- Areas of the landfill site where landfilling has been temporarily discontinued;
- Areas of the landfill site where landfilling has been temporarily discontinued and interim cover has been applied and vegetated;
- Areas where the active working face was compacted and covered for that monthly inspection period; and
- Bare soil surfaces.

In 2025, disposal occurred in the northeast section of Cells 4 and 5 (north half). Final cover, including topsoil and seed, and was placed on the north and south sections of Cell 2 as well as the sections of Cells 3 and 6 in 2018. Material excavated as part of the construction of Cells 4 and 5 was used as final cover. Interim cover was placed in the southeast section of Cells 3 and 6. Figure 12 (Site Operations and Cover Plan) shows cover conditions relative to the end of 2025. Figure 14 shows the proposed final contour plan for the Site.



3.1.4 Gull Management Program

Condition No.: 4.27 of the ECA requires the development and implementation of a Gull Management Program. In September 2002, the City retained a consultant to develop the gull management program and to obtain all necessary equipment, licensing and develop training program. These activities were completed during late 2002 and early 2003. The gull management program was formally implemented in March 2003 and City staff began to record daily logs for the program in September 2003. Daily log information indicated the time, day and area where gulls were observed, the estimated number of gulls observed, non-lethal control measures taken and gull reactions.

In September 2003, the City designated a Gull Control Officer and alternate. The Gull Control Standard Operating Procedure (SOP) was revised on August 15, 2014. The revised SOP indicates that equipment operators on the tipping face shall be conscious of gull activity, perform gull control as required (with either portable propane noise cannons, bangers or pyrotechnics), and record gull control activities on a daily basis.

The City employs the use of noise bangers as a method to deter gulls. The current gull control permit (Permit No. DA1417) was valid until December 31, 2024. As the City currently uses flares for gull control, there is no longer a need for a permit. The City did not receive any indication from the Lindsay Airport Authority that the landfill was causing bird hazard issues at the airport during 2025. The Lindsay Airport Authority is provided a copy of the annual report when completed.

3.1.5 Spills and Other Incidents

Three spill reports were created in 2025 for hydraulic fluid leaks from the loader at the Site on March 12th, August 29th and September 5th. In all instances, limited amounts of hydraulic fluid (10-30 L), which was contained atop the concrete / paved surfaces in the waste receiver area and cleaned up using sand to absorb and convey into containers for disposal. MECP was notified in all instances and no further investigation or remediation was required for either incident.

3.2 Household Hazardous Waste (HHW) Depot

In 2025, the HHW depot operated during all hours that the landfill site was open to the public to receive residential materials. The HHW depot was operated by City Staff, except for Saturdays when the HHW depot was operated by a private contractor (GFL) on behalf of the City. All material was transported and processed by GFL.



3.3 Site Capacity

3.3.1 Quantity of Materials Received, Disposed and Diverted

3.3.1.1 Materials Received

The total amount of material received at the Site in 2025 was 37,263 tonnes. The material received was either: disposed in the landfill; segregated and stockpiled for use as daily cover (soil material and partially composted leaf and yard material); or diverted off-Site for recycling. The total collected solid waste volume reported on a monthly basis is provided in the following table (Table 19). This quantity represents ~68% of the total material received at the Site.

Table 19: 2025 Monthly Waste Volumes

Month	Total Waste Quantity (tonnes)
Jan-24	1,309
Feb-25	1,302
Mar-25	1,855
Apr-25	2,486
May-25	2,740
Jun-25	2,029
Jul-25	2,885
Aug-25	1,990
Sep-25	1,981
Oct-25	2,593
Nov-25	2,066
Dec-25	1,626
Total	24,863

3.3.1.2 Materials Landfilled

The total amount of waste disposed at the Site in 2025 was 24,863 tonnes (including soil received that was segregated and used for daily cover). This did not exceed the annual approved rate of fill of 58,200 tonnes (Condition No.: 4.6 of the ECA).

The composition of waste received in 2025 included bulky items, compacted waste (including waste from curbside collection program), construction and demolition waste (C&D), clear bags, loose mixed waste, material recovery facility (MRF) residue, waste from public garbage cans, soil (for cover and not for cover), and street sweepings & catch basin waste.



The approved daily rate of fill as indicated in Condition No. 4.4 of the ECA is 240 tonnes per day (TPD). Short-term exceedances (no more than 2 consecutive days) are permitted with concurrence from the MECP District Manager.

A review of the daily landfill records indicate there were 6 days where there were exceedances of the maximum daily rate of fill in 2025 (Table 20). None of these exceedances occurred on consecutive days. The following summarizes the 2025 daily exceedances of the 240 TPD waste disposal limit. The majority of these days occurred when the City undertook road clean-up and the landfill received street sweepings or excess soil.

Table 20: Daily Waste Tonnage Exceedances - 2025

Date	Total Waste Disposed (Tonnes)	Tonnes Above 240 TPD Limit	Reason
2025-03-27	303	63	Soil & Compacted Wastes
2025-05-01	345	105	Street Sweeping / Catch Basin & Compacted Wastes
2025-05-30	244	4	Loose Waste
2025-07-15	246	6	Street Sweeping / Catch Basin & Compacted Wastes
2025-07-17	383	143	Street Sweeping / Catch Basin
2025-10-09	284	44	Street Sweeping / Catch Basin & Compacted Wastes

3.3.1.3 Materials Diverted

A number of materials received at the Lindsay-Ops Landfill Site were diverted from disposal. This includes car batteries, goods requiring Freon removal, scrap metal, household hazardous waste (HHW) material, construction & demolition materials, electronics, wood chips, and items donated for reuse to local Habitat for Humanity. Also, 'blue box' recyclable materials (glass, cans, newspaper, magazines, PET plastic and cardboard) can be taken to the depot at the landfill by residents and businesses for recycling.

In 2025, a total of 12,400 tonnes of material were received at the Lindsay-Ops Landfill, and diverted from disposal, including:

- 171 tonnes of electronics;
- 171 tonnes of HHW material;
- 4,245 tonnes of leaf and yard material;
- 5,697 tonnes of 'Blue Box' curbside and drop-off recyclables;
- 272 tonnes of scrap metal;



- 156 tonnes of mattresses; and
- 1,631 tonnes of construction & demolition wastes
- 13 tonnes of textiles
- 2 tonnes of reuse materials
- 42 tonnes of bulky plastic

3.3.2 Remaining Site Capacity and Site Life

In 2025, 24,863 tonnes of waste was disposed at the Lindsay-Ops Landfill. The City began using steel plates in August 2014 as alternative daily cover in conjunction with soil/sand, and this practice continued in 2025. The City uses approximately 22% less soil/sand as daily cover by using steel plates compared to years when steel plates were not used. Assuming a waste density of 700 kg/m³, approximately 35,519 m³ of airspace was used in 2025 for waste (24,863 tonnes of waste divided by 0.7 tonnes/m³). Based on a 6:1 waste-to-daily-cover ratio, approximately 5,920 m³ of daily cover would normally be required. Accounting for the 22% reduction in soil/sand daily cover associated with the use of steel plates, approximately 4,618 m³ of airspace was used for daily cover in 2025. Therefore, the total airspace used in 2025 for waste and daily cover was approximately 40,137 m³. A cut and fill calculation was also completed between surveys completed in 2024 and 2025, which resulted in a calculated increase in volume of waste and cover material of 43,700 m³. This indicates the calculations based on measured tonnage and assumed waste density used historically is relatively accurate.

The total approved waste disposal capacity for the north expansion fill area including waste, daily cover and interim cover is 1,487,240 m³. Based on the updated Design and Operations Plan (WSP, 2025), the remaining capacity as of October 2024 was 389,886 m³. With the 2025 airspace volume consumed in 2025 of 43,700 m³, there is a remaining airspace volume as of the end of 2025 of 346,186 m³. Given this remaining capacity and an average annual fill rate of ~50,000 m³ (based on last five years), there is ~7 years of lifespan left at the Site. For reference, a summary of the annual volumes (waste and cover) is provided in Table 21 below.

It is noted that the 2025 annual volume is the lowest quantity received at the Site in over 15 years. The reduction in the amount can be partially attributed to diversion of organics and excess soils regulations establishing other uses for materials which may have historically been directed to the landfill.



Table 21: Annual Waste & Cover Volumes

Year	Volume (m ³)
2018	43,916
2019	45,069
2020	44,560
2021	52,524
2022	49,494
2023	58,110
2024	51,653
2025	40,137 / 43,700*

* - volume derived from cut and fill of topographic surveys

3.4 Leachate Collection System

3.4.1 Leachate Volumes Collected

The Leachate Pumping Chambers currently pump the following liquids to the WPCP:

- Ground water and leachate from the perimeter LCS surrounding the Old Landfill Area;
- Leachate collected by the engineered LCS constructed as part of Cells 1, 2, 3, 6 and the western part of Cells 4 and 5 (north half) of the North Expansion Area;
- Sewage from on-Site buildings and RV septage disposal station at the north end of the North Expansion Area; and
- Water pumped from the new compost stormwater pond as per its contingency plan to prevent overflow. If the water is tested to be contaminated and inappropriate for discharge to the main Site stormwater facility. It is noted that the City is approved to divert excess stormwater via the compost pond to the stormwater management ponds in former Lagoon 1.

Flow volumes are regularly monitored and recorded by operators of the Lindsay WPCP. As shown in table below (Table 22 below), a total of approximately 58,424 m³ of ground water/leachate was pumped from the Lindsay-Ops Landfill to the WPCP for treatment in 2025. This total volume consists of 9,705 m³ from Leachate Pumping Station No. 1 (old landfill area) and 48,719 m³ from Leachate Pumping Station No.: 2 (north expansion area).

The ECA specifies that the average daily flow volume of ground water/ leachate from the leachate pumping chambers (combined) only exceeded 300 m³/day based on a calendar year (Condition 4.1(B)(c)) in March and April, 2025. These exceedances are likely attributable to increased collection associated with snow melt.



The peak permissible flow rate is set at 750 m³/day at any time for the combined pump station contributions to the WPCP, which was not exceeded in 2025 with the maximum daily combined flow being 511 m³/day in March, 2025, which as noted above is likely related to snow melt.

The City initiated placement of a geomembrane final cover system over the old waste fill area in 2006. The primary objective of the geomembrane cover system is to minimize leachate generation by limiting moisture infiltration into the landfill. This in turn will limit leachate exfiltration from the unlined base of the landfill and allow natural processes (*e.g.*, adsorption, bio-chemical decay and dispersion) to effectively attenuate the existing ground water impacts as well as any future releases of contaminants (predominantly by diffusion) from the landfill base. Placement of the geomembrane cover system was completed in October 2007 and has resulted in reductions in leachate generation and leachate exfiltration. This is evidenced by the decrease in annual pumping volumes from Leachate Pumping Station No.: 1 (*i.e.*, the perimeter leachate collector system pumping chamber) from volumes of up to 28,126 m³ in 2005 to ranges of ~9,000 to 16,000 m³ over the past five years.

In 2025 the flow volume from Pumping Station No. 2 was 48,719 m³, which is within the five-year range of 25,800 to 63,701 m³. The variance in this range is likely reflective of the progression of filling and capping as operations move south.



Table 22: 2025 Leachate Volume Summaries

Month	LPS No.: 1			LPS No.: 2			Combined (m ³ /day)
	Average Flow Rate (L/s)	Daily Average (m ³)	Total (m ³)	Average Flow Rate (L/s)	Daily Average (m ³)	Total (m ³)	
Jan-25	0.40	34.7	1,075	1.3	113.6	3,523	148
Feb-25	0.32	27.7	777	0.9	80.5	2,255	108
Mar-25	0.79	67.8	2,106	5.1	443.3	13,760	511
Apr-25	0.72	62.3	1,868	3.0	256.7	7,701	319
May-25	0.56	48.8	1,511	2.3	199.1	6,174	248
Jun-25	0.35	30.1	903	1.0	90.0	2,699	120
Jul-25	0.13	11.5	358	0.6	51.0	1,581	63
Aug-25	0.06	5.3	163	0.6	51.7	1,603	57
Sep-25	0.09	8.0	239	0.7	62.4	1,872	70
Oct-25	0.06	5.6	174	0.6	54.4	1,688	60
Nov-25	0.08	7.1	213	1.3	109.8	3,293	117
Dec-25	0.12	10.3	319	1.0	82.9	2,571	93
Total			9,705			48,719	

3.4.2 Collection System Cleaning

Condition No.: 5.16 of the ECA requires the City to high pressure wash and video inspect the leachate collection system annually.

Jet flushing and CCTV video inspection were performed in 2025 for the North Expansion Area LCS, as well as the Old Landfill Area Perimeter Collector. The work was carried out by Nieltech Services Ltd, similar to previous years. A copy of the inspection report is provided in Appendix M. Figure 2B shows the landfill leachate collection system layout. The systems were noted through video inspection to be draining effectively with no indication of damage or repairs required.

3.5 Other Operational Aspects

3.5.1 Dust Control Program

Condition No.: 4.27 of the ECA requires that a dust control program be carried out. In response to dusty conditions as observed by the City's Site operations staff and when complaints are received from residents in the vicinity of the Site, water is applied as a dust suppressant. Water was applied to roads and other Site areas as a dust control measure as required throughout



2025. Beyond water, calcium chloride was applied, but only once in June 2025. There were no complaints for dust received in 2025.

3.5.2 Pest Control Program

The City undertakes a regular pest control program. Miller Pest Control was on Site in the Spring and Fall to complete standard pest control measures. No concerns or complaints regarding pests were identified at the landfill in 2025.

3.5.3 Loads Refused (Landfill Disposal Privileges)

Starting in September 1994, a record of loads refused for disposal, and the reason for refusal, has been logged. A load refusal program and Standard Operating Procedure (SOP) was developed in 2014. Information is recorded for each refusal: the date, materials that would have been tipped, origin of material, vehicle type and license and reason for refusal. In 2025, waste refusal was documented by the City two times throughout the year. The incidents related to a boat motor not removed properly from a boat and wastes from outside of the City of Kawartha Lakes.

3.5.3 Operating Hours

Posted operating hours for 2025 (public) were Monday to Friday from 8:00 am to 5:00 pm, and Saturday from 8:00 am to 3:00 pm during the winter (Oct. 16 through April 30th), while summer hours are the same with the exception of the Site being closed to the public on Wednesdays (but still accepting waste from the curbside program).

3.5.4 Staff Training

City of Kawartha Lakes Waste Management Staff receives training on various aspects of waste management operations throughout the year. In spring and fall of 2025, training was completed for landfill staff that included ECA compliance and general landfill operations.

4.0 PUBLIC CONSULTATION

4.1 Public Review Committee

In 1994, a Public Review Committee (PRC) was formed for the existing Lindsay-Ops Landfill Site. That Committee functioned until about 2001, when the north expansion was approved. The original PRC disbanded as many of the residents who were on the Committee had sold their properties to the City and had moved away from the Site area.



Condition No.: 13.1 of the ECA requires the City to establish a new PRC for the Site. The PRC was re-established in the Spring of 2003 and held its first meeting on April 16, 2003. In 2025, six meetings of the PRC were held in January, March, June, September, October and November.

The committee is comprised of eight members in total, including one Council representative. PRC meetings are open to the public and generally held at City Hall. The meeting dates, agendas and minutes are available on the City's website and are available to all residents. Each meeting provides an opportunity for area residents to stay informed of current projects and operational matters relative to the Lindsay-Ops Landfill Site.

4.2 Public Complaints

No complaints were received by the City in 2025.

5.0 PERFORMANCE OF LINDSAY WPCP

A copy of the 2025 Performance Report for the Lindsay Water Pollution Control Plant (WPCP) prepared by the Ontario Clean Water Agency (OCWA) on behalf of the City of Kawartha Lakes is provided in Appendix N.

Conclusions relevant to the landfill facility are as follows:

- All maintenance required during the 2025 operations was performed/ completed as per manufacturers' instructions by staff and/or contractors. Maintenance records are kept by Operations Staff at the WPCP for updating and for inspection as required;
- The Lindsay WPCP treated a total of 5,042,989 m³ of raw sewage influent in 2025;
- ECA 7748-AYRL8C beginning January 1, 2020 ending June 28, 2020 and the current ECA 1696-BPLL4R beginning June 29, 2020 requires the Owner to make an assessment of the issues and provide recommendations on pro-active actions if the Annual Average Daily Flow reaches 80% of the Rated Capacity. The Annual Average Daily Flow in 2025 was 13,816 m³/day, 56% of the Rated Capacity of 24,500 m³/day;
- Treated effluent loadings and concentrations for CBOD₅, total ammonia nitrogen, total phosphorus, *E. coli* and pH were under the allowable receiving stream discharge criteria as set by the ECA No.: 6145-AJDQ9K (issued June 5, 2017) and current ECA No.: 1696-BPLL4R during 2025. Total suspended solids (TSS) did not meet objective during January, February, March, April, June & August, while the limit was only exceeded in March and April. These limit exceedances were noted to be the result of high flows resulting from heavy rain, snow melt and having alternating North and South Clarifiers offline due to capital improvements. Despite this, throughout 2025, the TSS monthly removal rates ranged from 87.73% to 98.64%.



- Quarterly treated effluent samples were collected on January 7, April 8, July 3, and October 1, 2025 for analysis of acute lethality to rainbow trout and *Daphnia magna*. All sample results for 2025 returned a 0% mortality rate;
- The total volume of sludge generated in 2025 was 126,972 m³;
- There was 2,448,000 kg of sludge was removed from Cell 4 and taken to local agricultural lands for spreading in September and October 2025; and
- In 2025, there were no bypass or overflow events at the Site.

6.0 CONCLUSIONS

The general conclusions of the 2025 Annual Report for the Lindsay-Ops Landfill Site are provided below.

6.1 Environmental Monitoring

6.1.1 Ground Water and Leachate

- The landfill is not creating an offsite impact and meets reasonable use criteria
- Monitoring of ground water and leachate in 2025 was carried out in accordance with the requirements of the ECA with the exception of some ground and surface water locations which are seasonally dry;
- The conceptual ground water flow regime at the old landfill site is vertically downward flow through the till overburden to the upper bedrock aquifer. The bedrock aquifer flows laterally toward the Scugog River;
- The old landfill has a limited “halo” effect in the overburden soils given the age of the facility. However, this lateral extent is limited given the low permeability of the overburden till soils;
- The landfill expansion is a lined site where the water levels within the waste cells are kept to a minimum using a leachate collection system. Vibrating wire piezometer data confirms leachate collection system is continuing to operate effectively. Based on the Site hydraulics there is little opportunity for contaminant migration away from the landfill expansion area;
- The vertical ground water flow estimate through the overburden till under the old landfill to the upper bedrock was estimated to be about 0.8 m/a which indicate that the vertical



flow through the overburden till sediments to the bedrock took about 10 years to occur. The impact to the bedrock aquifer is minor and does not create an off-site impact;

- The lateral flow in the bedrock aquifer is much faster than the vertical percolation through the overburden till (*i.e.*, 100 to 1,000 m/a). As a result, the overburden till contaminant flux has limited effect on the bedrock aquifer. The bedrock aquifer is currently in a steady state condition. This occurs because the rate of flow in the bedrock is sufficiently large enough to attenuate the overburden contaminant flux such that an equilibrium state is established in the bedrock flow field. This equilibrium condition has existed for decades based on the bedrock aquifer monitoring program and will persist into the future until the leachate contaminant flux through the overburden till is completely depleted;
- The contaminant loading calculations indicate that the mass flux in the bedrock aquifer is at least an order of magnitude below the permissible limit in the ECA. Since the contaminant plume has been in a steady state condition for over a decade, this loading will not change over time;
- Given the rate of ground water flow in the bedrock aquifer, it is expected that a steady state contaminant plume extends to the new monitoring wells nests being: 62-17, 61-17 and 61-10; however unlikely to be further such that there is no offsite impact;
- Trigger monitoring in 2025 did not indicate exceedance for any applicable trigger concentration; and
- The leachate strength under the old landfill is stronger than that observed at the perimeter/ periphery. It is that the slow percolation through the waste mass accounts in part for this stronger leachate at depth. This is considered to account for the quality differences that exist between the leachate monitors situated at the base of the waste fill and the leachate collection system encircling the perimeter. Liquids captured by the leachate collection system have not had as long a residence time in the landfill and also represent a composite of younger and older waters.

6.1.2 Surface Water

The surface water monitoring program focuses on two systems. The first is the surface water flow system in the Scugog River passing by the Site. The other is considered to be the on-Site drainage network.



Scugog River

- In the Scugog River, parameter concentrations between the upstream and the downstream are generally similar. Therefore, the Site has no environmental impact to the surface water that can be readily sourced to the landfill;
- The ground water contribution to the Embayment A is estimated to be $\sim 100,000 \text{ m}^3/\text{year}$. The outflow from the WPCP was $\sim 4,900,000 \text{ m}^3$ in 2025 (i.e., $\sim 0.1 \text{ m}^3/\text{s}$). The flow in the Trent-Severn system must exceed $17 \text{ m}^3/\text{s}$ at Lakeview to maintain a base flow at Trenton, which infers a significant flow from Sturgeon Lake. As a result, and despite the concentration differences, the flow from Embayment A is considered to be insufficient to meaningfully influence the Scugog River;

On-Site Drainage System

- Flow in the drainage system is seasonal. Flow commences with the spring freshet and is typically exhausted by June / July;
- Weekly flow monitoring in 2019 and 2021 of the south drainage channel estimated that between $\sim 5,000 \text{ m}^3$ (2023) & $30,000 \text{ m}^3$ (2019) flowed in this channel before it dries out in the summer. The same weekly flow monitoring in the north drainage channel estimated that $\sim 150,000 \text{ m}^3$ (2021) and $400,000 \text{ m}^3$ (2019) flowed in this channel before it dried up in the summer.
- The magnitude of these flows, although variable, is insufficient to influence the Scugog River with the current contaminant levels. Furthermore, when the drainage ditch flow subsides in the summer season, there is no contaminant contribution to the Scugog River;
- The overburden till is not conducive to providing a base flow condition in the drainage ditch system(s). The soil permeability does not allow substantial flow and the hydraulic gradient in the overburden is vertical down;
- The natural condition of the overburden soils will also not facilitate significant infiltration during excess water conditions and thus promotes overland flow to the drainage ditch system;
- The parameter differences highlighted in the drainage ditches differ from those seen in the Scugog River. The flow in the south drainage channel is $\sim 0.1\text{-}1\%$ of that discharged by the WPCP. Similarly, flow from the north drainage channel is $\sim 3\text{-}10\%$ of that discharged by the WPCP. Parameter concentrations in the south drainage channel would need to be



orders of magnitude larger to affect any influence. Furthermore, there is no defined or consistent seasonal “shift” in the Embayment A water that would be anticipated if being influenced by the drainage channels since the drainage channels dry out in July and don’t contribute until the following spring freshet;

- Seepage from the lagoon system is not influencing the south drainage water quality;
- The organic sampling in surface waters regardless of where these samples are collected are not yielding significant results. Both VOC and PCB sampling at surface water sampling stations are unnecessary and should be removed from the monitoring program;

6.1.3 Landfill Gas

The landfill gas monitoring program is designed to evaluate the migration potential of these compounds in the environment.

- The landfill gas sampling results in 2025 are consistent with the previous years;
- Landfill gas concentrations exceeding the Lower Explosive Limit (LEL) of 5% (by volume) are seen at the leachate monitoring wells;
- Landfill gas concentrations are also routinely detected at two downgradient perimeter wells being 16-91 and 12-91 on the west side of the old landfill, although the concentrations at 12-91 are more typically trace or non-detect. This location did not show detection the past four years. Consistent detection at 16-91 is anticipated given the monitor's proximity to the landfill edge. However, these results were not considered important in terms of off-Site migration;
- The landfill gas monitoring program indicates that methane gas from the landfill is not migrating off Site. The remaining landfill gas monitoring locations indicated insignificant methane levels;
- If the landfill gas sampling program which has been run for years yields the same results and indicates there is a negligible chance for off-Site migration then there may be little need to continue to monitor this system or at a minimum reduce the frequency of the program. Despite this, continued monitoring in site buildings would be prudent;



6.1.4 Biomonitoring

The results indicated that three of four sampling events (April, June & October) indicated a 0 impairment and mortality rate for both Rainbow Trout and *Daphnia magna*, while the August event indicated a mortality rate of 20% for rainbow trout and 3% for *Daphnia magna*, with these results and timing (August) are similar to 2024. This is the third year for data collection and the only event of the 12 completed with a measured mortality. Continued monitoring will help to establish potential trends.

6.2 Wetland Assessment

The wetland assessment is completed on a five-year frequency and was updated by Azimuth in 2023.

- The findings of this assessment and overall determination that the influence observed at the monitoring locations is not attributable to the landfill, consideration should be given to discontinue this monitoring program;

6.3 Site Operations

The Conditions associated with the landfill operations are to ensure the facility is being properly operated. The City of Kawartha Lake is diligent in their operations and protocols.

- The Site is being operated well and has no significant problems. No complaints were received in 2025 regarding any significant operational issues at the Site. Overall, operational protocols are effective in remaining attentive to the Site requirements, which are addressed as identified;
- The amount of waste material (including soil received, segregated, stockpiled and used for daily cover) disposed in the landfill in 2025 was 24,863 tonnes, which is lower than previous years;
- Gull control measures continued to be used in 2025, including pyrotechnics as historically outsourced methods were not proving effective. These methods proved effective and will be continued in 2026;
- The total recorded volume of leachate and sewage (combined) pumped from the landfill to the Lindsay WPCP in 2025 was approximately 58,424 m³. This total leachate pumping volume consists of 9,705 m³ from Leachate Pumping Station No. 1 (Old Landfill) and 48,719 m³ from Leachate Pumping Station No. 2 (North Expansion Area), which is below



last years value of ~76,500 m³, but within the average of the past five years (28,500 – 63,700 m³);

- The average daily flow volume of leachate pumped to the WPCP from the Lindsay Ops Landfill for each month of 2025 did not exceed in any month the maximum allowable average daily flow of 300 m³/day specified in the ECA. The peak permissible flow rate is set at 750 m³/day at any time for the combined pump station contributions to the WPCP. The instantaneous rate measured at each location was not exceeded in 2025 at either LPS No. 1 or No.2;
- Construction of the northeastern portion of Cells 4 and 5 were completed in 2019, while clearing for the south half of these cells was completed in 2023/2024 such that filling in 2025 was in the north half of these cells;

6.4 Public Consultation

The Public Review Committee (PRC) continued its activities and mandate in 2025. In 2025, six meetings of the PRC were held.

7.0 RECOMMENDATIONS

The following are the recommendations of the 2025 Annual Report for the Lindsay-Ops Landfill Site:

7.1 Environmental Monitoring

7.1.1 Ground Water / Leachate

The environmental monitoring program is to evaluate the key contaminant flow pathways that exist at the Site.

- The sampling for organic priority pollutants has not detected a significant contaminant threat in the decades this program has been conducted:
 - o PCBs are considered immobile in the environment. Decades of sampling have not yielded significant results. PCBs were banned from use in 1977. Further evaluation for this parameter is unwarranted. A few key monitoring wells (*i.e.*, 20-91-III, 23-91-III, 25-96 & 61-10-I) detecting the leachate influence in the bedrock flow system should be sampled infrequently (*i.e.*, once every three to five years);



- o Decades of sampling for VOC's have not yielded significant results. BTEX concentrations have degraded over time to trace or non-detectable levels. Only limited trace detections were observed at a few monitoring wells in 2025 beyond those at 7-90-II. Given the limited and inconsistent detections over the period of record, further evaluation for these parameters is unwarranted.
- The five primary historical indicator parameters used in the landfill evaluation are not considered to be the best parameters for this assessment. Therefore, the following recommendations are:
 - o Discontinue BTEX monitoring since, the BTEX signature in the ground water environment has degraded over time;
 - o Discontinue phenols monitoring since, the phenols concentrations tend not be consistently detected and appear to have degraded over time;
 - o Discontinue phosphorus monitoring or use as a defined LIP since the phosphorus concentrations tended not to be consistently detected such that they can be relied upon to monitor trends.
 - o Continue using chloride and total ammonia parameters in assessment as they are considered to be appropriate for the performance monitoring program as LIP's;
 - o Continue using other parameters (*i.e.*, sulphate, iron, DOC) in assessment as suggested in Section 2.1.3.1;
- Decades of quarterly water quality monitoring results have suggested that changes at the landfill site occurs slowly and the landfill is now stable. The system is considered to be in a steady state equilibrium. The contaminant flux toward the Scugog River is an order of magnitude below any level of concern.
 - o A quarterly ground water monitoring program would appear excessive under these conditions and semi-annual monitoring (or less) should be considered, including water level measurements;
 - o The existing database could be used to establish normal steady state conditions or slow trending conditions at targeted monitoring locations. This could permit less frequent sampling under a specified condition based on the past year or more of sampling. Similarly, a perceived departure from the norm could necessitate a return to the quarterly to confirm the trend or refute the anomalous data;
- Eliminate PCB's, radionuclides, pesticides and VOCs (or at least reduced frequency) in leachate samples owing to a lack of detections;



- Reduce frequency of leachate collection system inspection and flushing to every three years, or as required based on operational requirements

7.1.2 Surface Water

The surface water monitoring program is to assess any influence the Site may have on the adjacent Scugog River. The monitoring program is also intended to detect contaminant migration via the Site drainage channel network.

- the sampling for organic priority pollutants has not detected a significant contaminant threat in the decades this program has been conducted:
 - o Decades of sampling have not yielded significant PCB results. Further evaluation for PCBs is unwarranted;
 - o Decades of sampling have not yielded significant VOC results.
 - BTEX concentrations have degraded over time to trace or non-detectable levels. Further evaluation for this parameter would appear unwarranted;
 - trihalomethanes is a by-product of WPCP processing and therefore need not be assessed as it does not relate to the landfill;
- the Scugog River sampling program is recommended for the inorganic suite of parameters currently being used;
- The on-Site drainage sampling program is recommended for the inorganic suite of parameters currently being used;

7.1.3 Landfill Gas

The landfill gas monitoring program is design to evaluate the migration potential of these compounds in the environment.

- The findings from the landfill gas monitoring suggest that there is no meaningful gas migration at this Site. A monitoring program needs to be maintained as a safeguard; but should reflect the relative risk given the current understanding;



- o It is proposed that if monitoring wells have not shown any detection in the past five years, then sampling should be reduced to an annual late winter measurement;
- o If a detection occurs during the annual monitoring, then quarterly sampling should be re-established or if source concentrations increase abruptly by more than 25;
- o If a monitoring well has shown no detection for a decade, then monitoring should be terminated;

It is noted that all of these monitoring requirements are specifically identified in the ECA, such that any revisions to the monitoring program would require an amendment to the ECA.

7.2 Wetland Assessment

Given the findings of the assessment completed in 2023, the overall determination is that the influence observed at the monitoring locations is not attributable to the landfill. As such, consideration should be given to discontinue this monitoring program

7.3 Site Operation

The Conditions associated with the landfill operations are to ensure the facility is being operated according to Site specifications outlined by the MECP.

7.4 Public Consultation

No new recommendations.



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Golder Associates Ltd, 2011

Ammonia-N Trigger Concentration Exceedance, Lagoon Monitoring Wells, Lindsay Water Pollution Control Plant, City of Kawartha Lakes

Correspondence to Ms. Cathy Curlew, Ministry of the Environment, Peterborough District Office, dated September 16, 2011

Hydroterra Limited, 1991

Interim Landfill Expansion Study

Hydroterra Limited, 1993

Supplementary Report

Urban & Environmental Management Inc., 2012

Consolidated Maintenance and Operations Report

WESA, 2014

Lindsay-Ops Waste Disposal Site (ECA # A323504) 2013 Annual Status Report

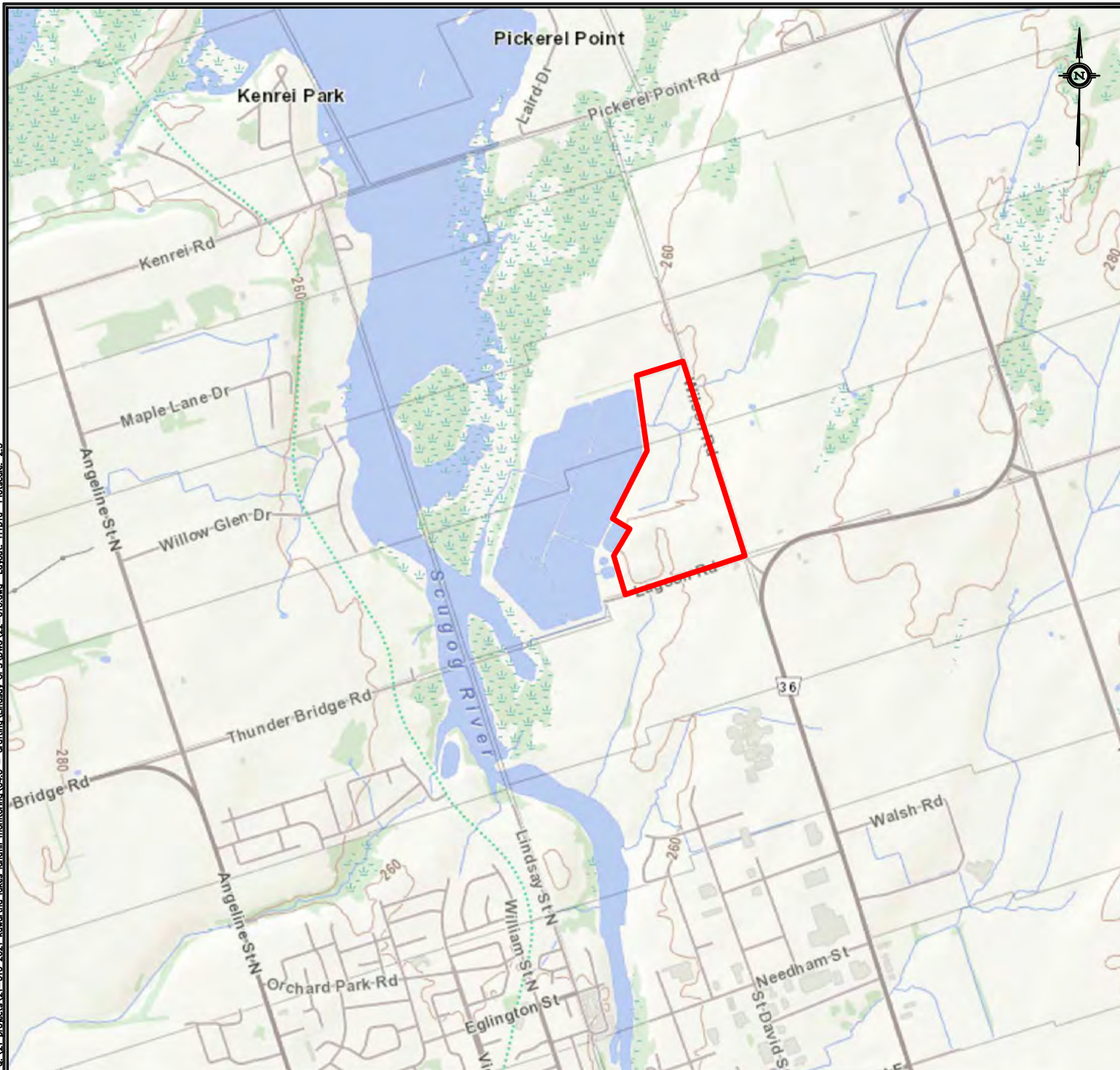
WSP, 2025.

Lindsay Ops Landfill – Design and Operations Report



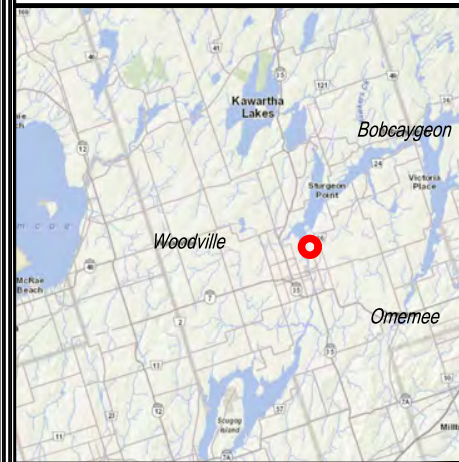
Figures

Printed by: ALU on March 18, 2026 at 11:26am
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LEGEND:

 *Approx. Property Boundary*



REG MAP

250m 0 750m
HORIZONTAL SCALE 1: 25,000



Study Area Location

Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED: March 2026

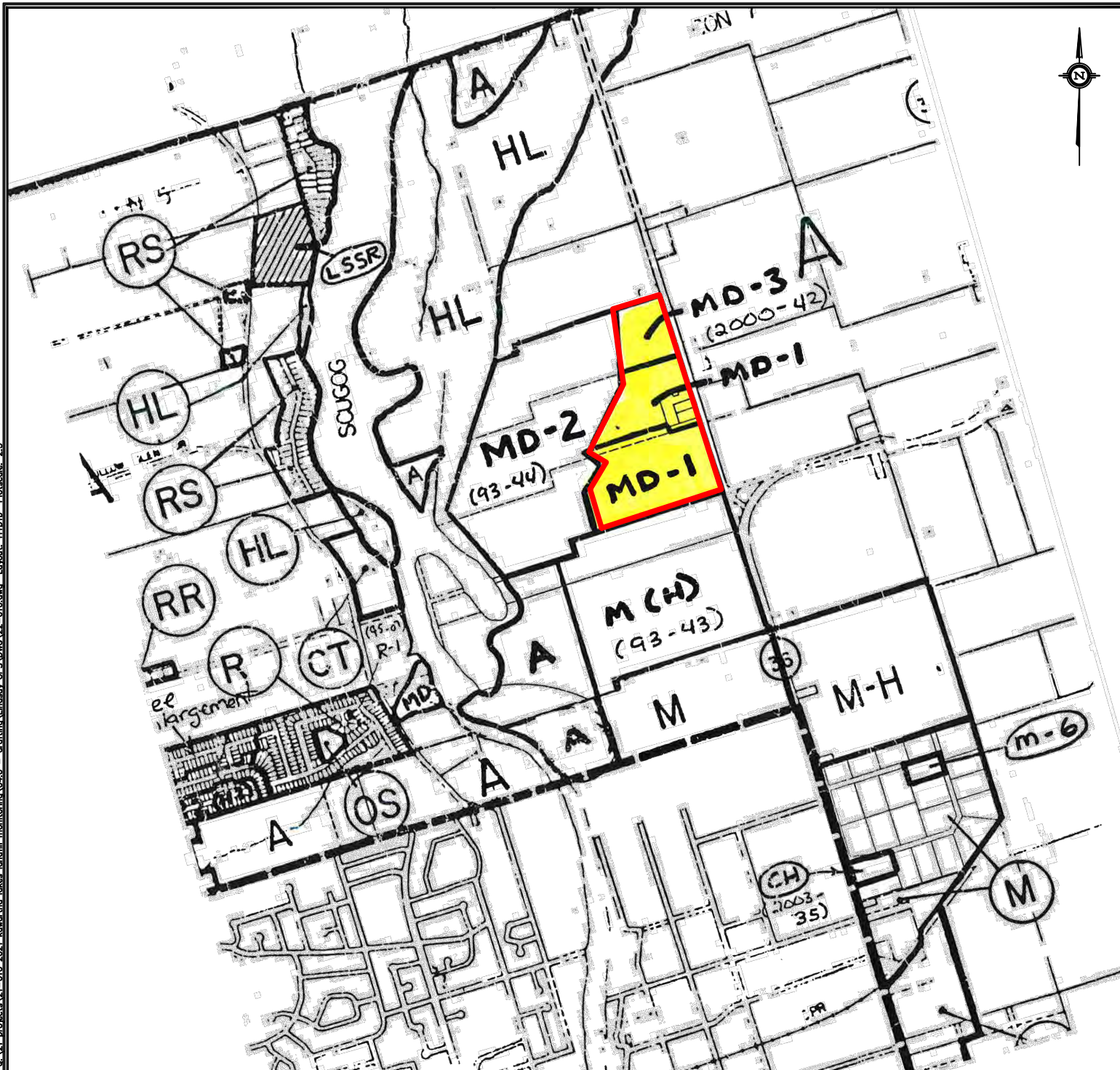
CREATED BY: JLM

PROJECT NO.: 26-010

REFERENCE: MNR

Figure No.

1a



LEGEND:

- Approx. Property Boundary
- A -Agricultural Zone
- CH -Highway Commercial Zone
- CT -Tourist Commercial Zone
- HL -Hazard Lands
- M -General Industrial Zone
- MD-1 -Disposal Industrial Exception One Zone
- MD-2 -Disposal Industrial Exception Two Zone
- MD-3 -Disposal Industrial Exception Three Zone
- M(H) -General Industrial Zone with A Holding
- M-H -General Industrial Zone with A Holding
- M-6 -General Industrial Exception Six Zone
- OS -Open Space Zone
- R -Residential Zone
- RS -Shoreline Residential Zone
- RR -Rural Residential Zone

250m 0 750m
 HORIZONTAL SCALE 1: 25,000



Zoning Map

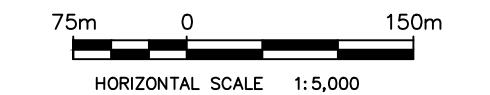
Lindsay OPS Landfill,
 Lindsay, ON

DATE ISSUED: March 2026	Figure No.
CREATED BY: JLM	
PROJECT NO.: 26-010	
REFERENCE: MNR	1b

Plotted by: ALU on April 30, 2026 at 3:24pm
File: Q:\21 Projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: HYD2a Plotstyle: 2.5



- LEGEND:**
- Approx. Property Boundary
 - Limit of Old Landfill
 - Limit of Landfill Expansion Area
 - Leachate Collector
 - Fence
 - Overburden Well Locations
 - Refuse Well Locations
 - Bedrock Well Locations
 - Vibrating Wire Piezometer Installed on Surface of Geomembrane Liner
 - Manhole

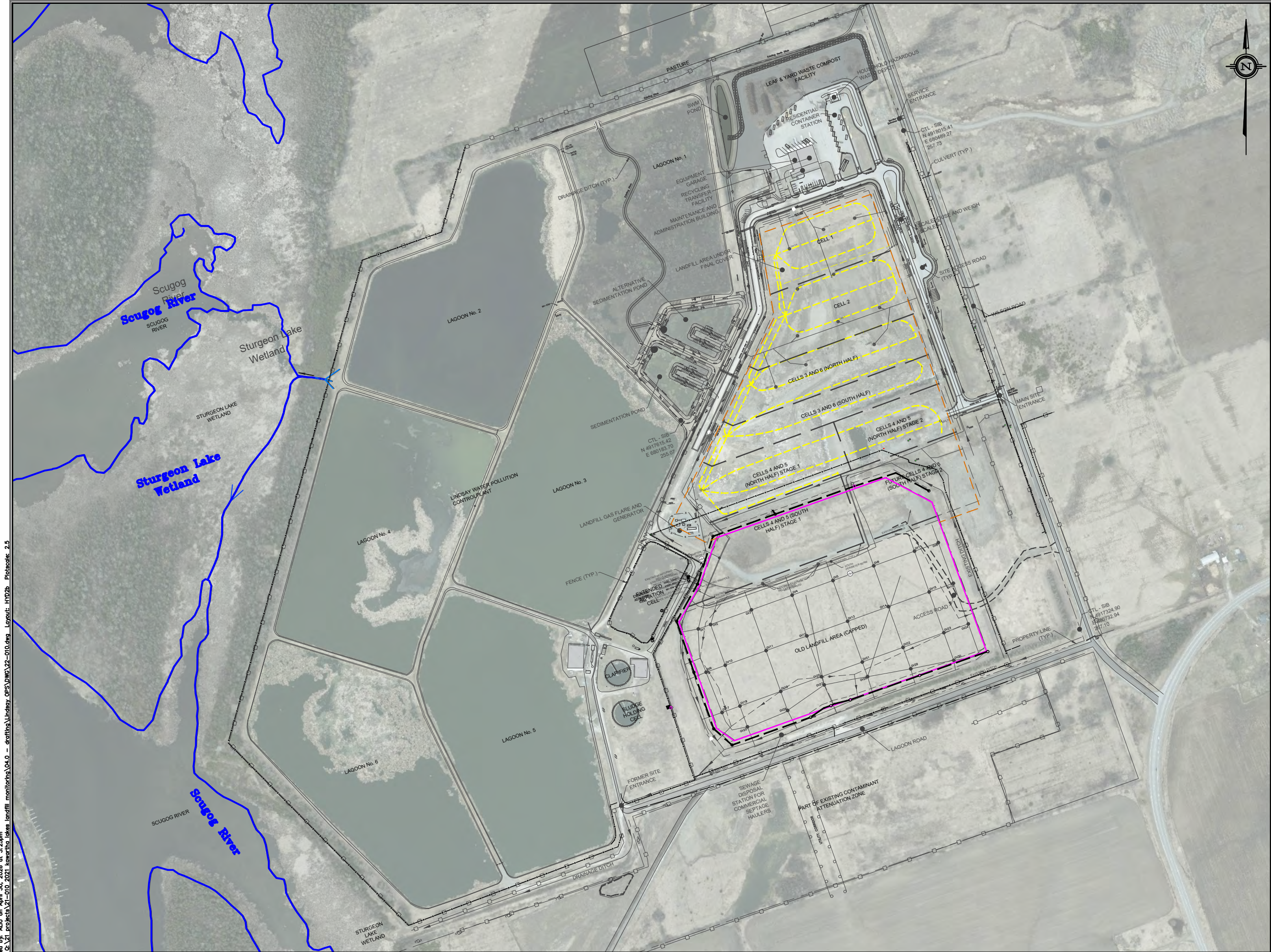


Ground Water Monitoring Network

Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2026	Figure No.
CREATED BY:	JLM	2a
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

Plotted by: ALU on April 30, 2026 at 3:25pm
File: Q:\21 Projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: HYD2b Plotstyle: 2.5



LEGEND:

- Approx. Property Boundary
- Limit of Old Landfill
- Limit of Landfill Expansion Area
- Leachate Collector Alignment
- Fence

75m 0 150m
HORIZONTAL SCALE 1:5,000

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Stormwater and Leachate
Collection System Layout

Lindsay OPS Landfill,
Lindsay, ON

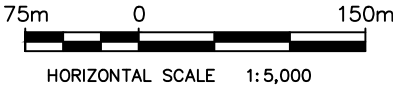
DATE ISSUED:	March 2026	Figure No.
CREATED BY:	JLM	2b
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

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File: Q:\21 projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: 2c GAS MONITORING LOCATIONS Plotstyle: 25



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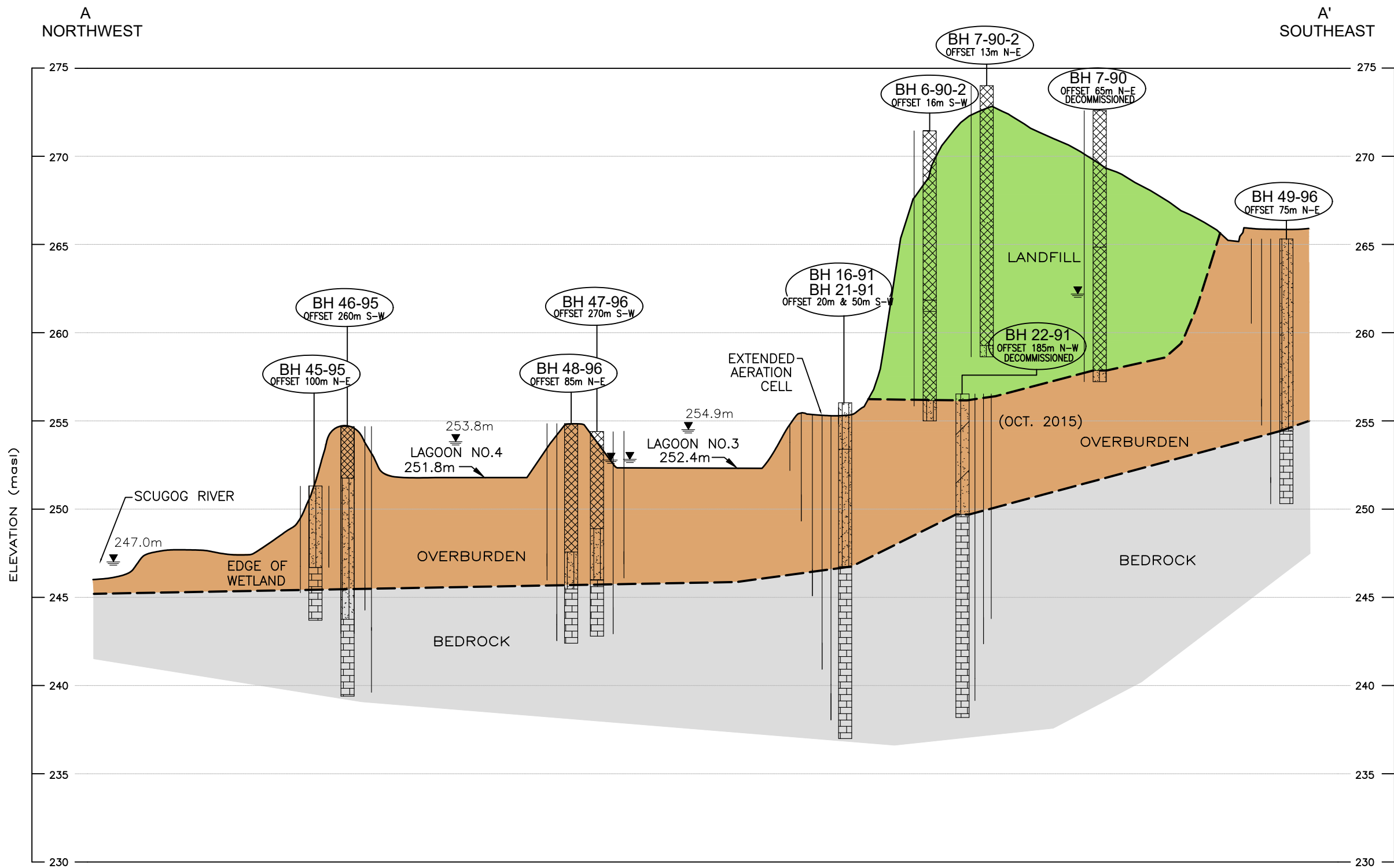
- Approx. Property Boundary
- Limit of Old Landfill
- Limit of Landfill Expansion Area
- Leachate Collector
- Fence
- Gas Probe Location
- Vibrating Wire Piezometer Installed on Surface of Geomembrane Liner
- Manhole



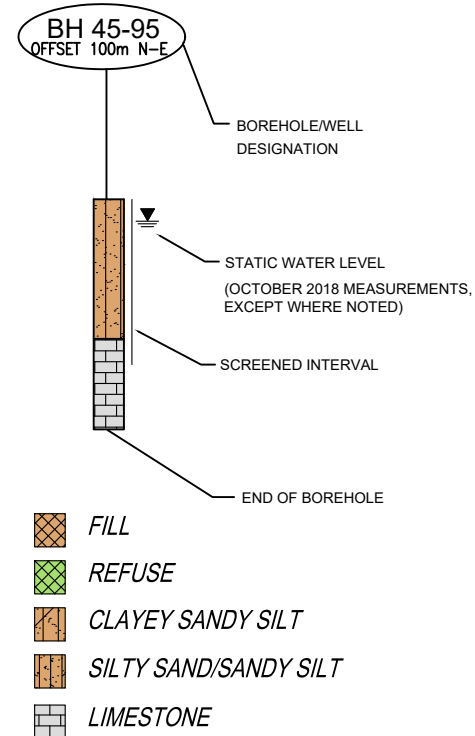
Gas Monitoring Locations

**Lindsay OPS Landfill,
Lindsay, ON**

DATE ISSUED:	March 2026	Figure No. 2c
CREATED BY:	JLM	
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	



LEGEND:



REFERENCE:

1. MAP BASED ON FIGURE 3 TITLED "SURFACE WATER FEATURES" FROM REPORT NO. GLL 99-521, "FENELON LANDFILL SITE - DESIGN AND OPERATIONS REPORT", DATED MARCH 2000, BY GARTNER LEE LTD.
2. CONTOURS FOR THE ACTIVE FILL AREA UPDATED TO REFLECT 2012 LANDFILL SURFACE CONTOURS PROVIDED BY THE CITY OF KAWARTHA LAKES, SURVEYED BY COE, FISHER, CAMERON DATED DECEMBER 4, 2012.
3. SOURCE: GOLDER, 2019

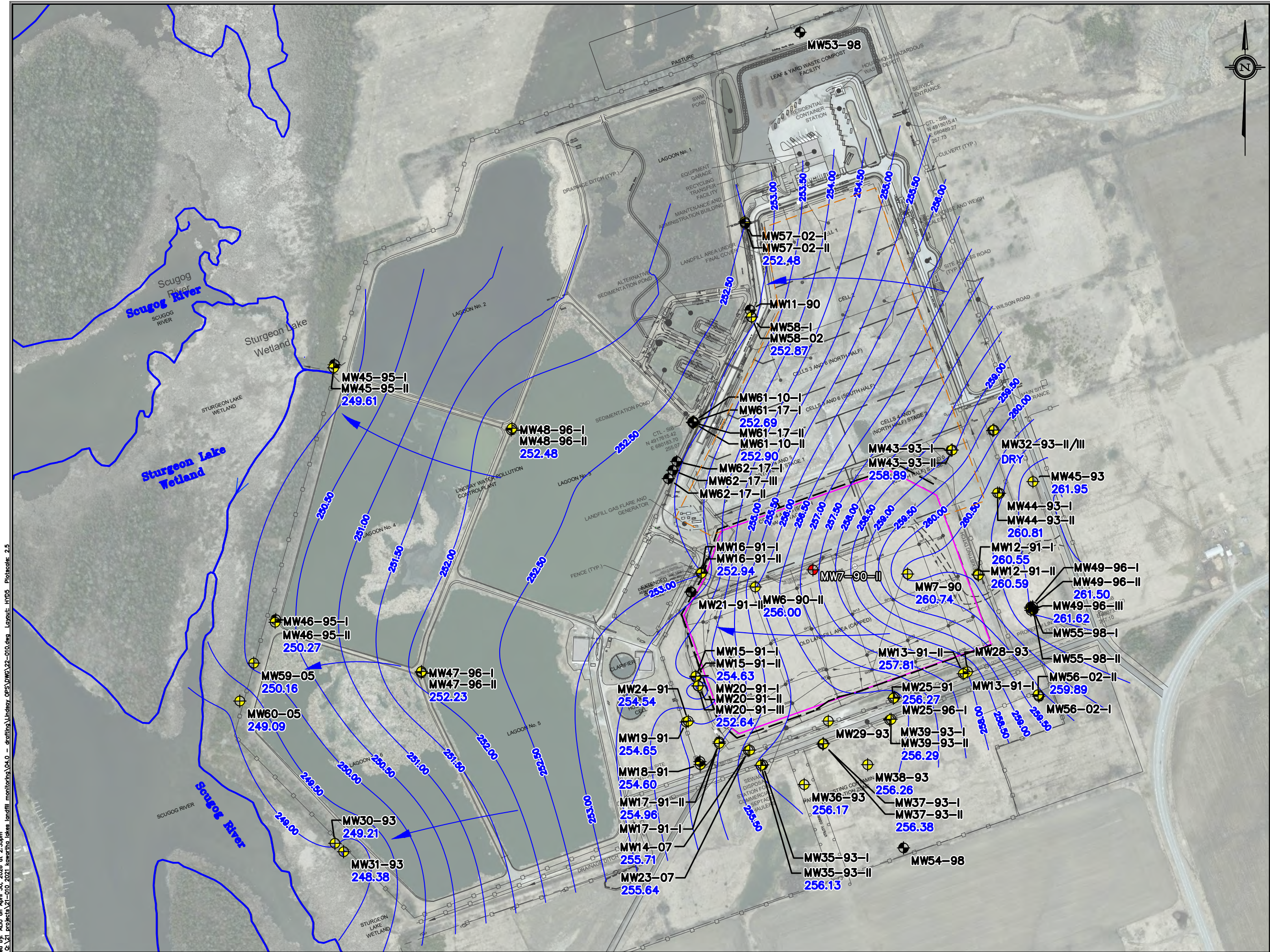


Cross Section A-A'

Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2026	Figure No. 3
CREATED BY:	JLM	
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

Plotted by ALU on April 30, 2026 at 2:35pm
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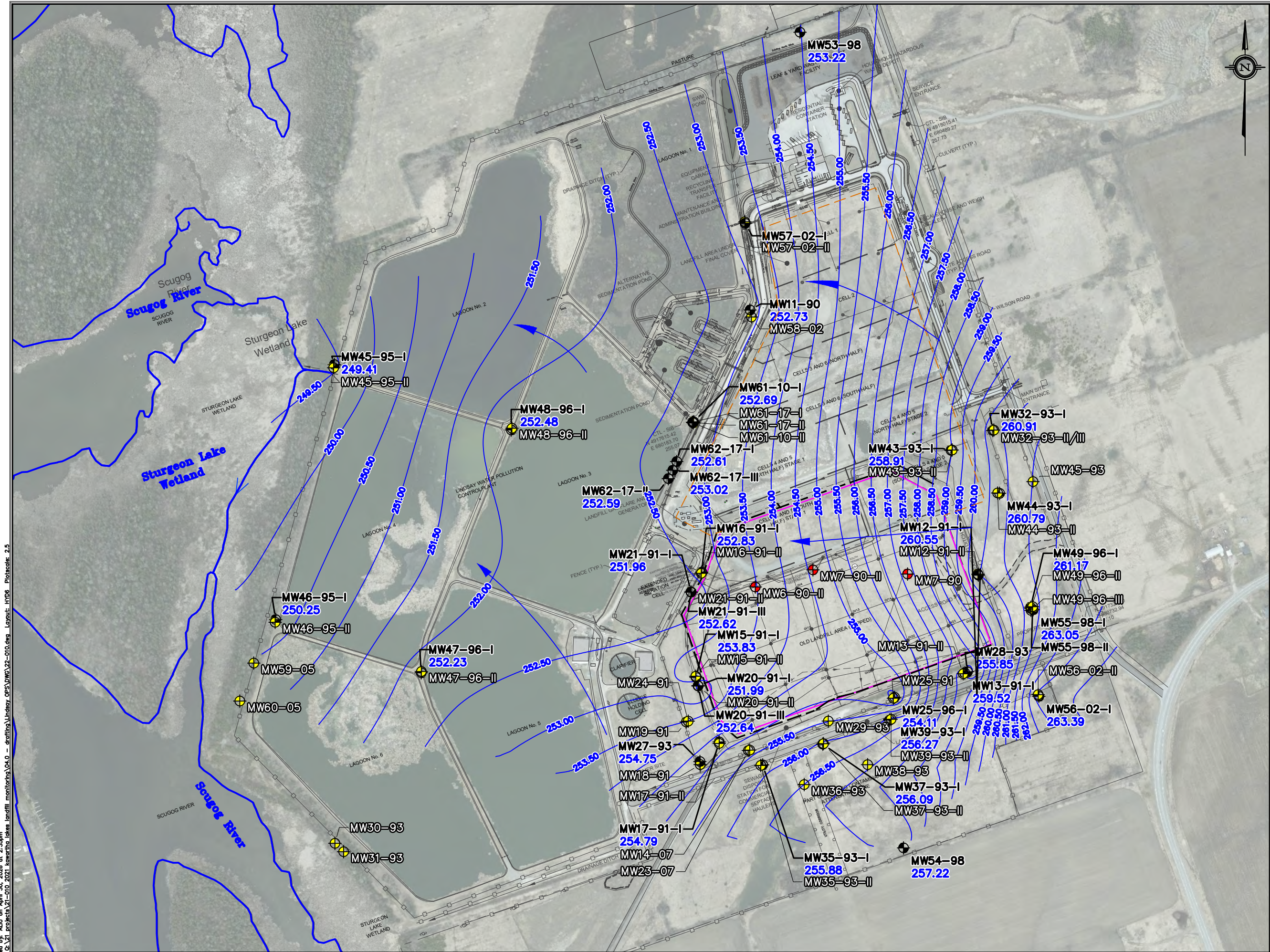
LEGEND:

- Approx. Property Boundary
- Limit of Old Landfill
- Limit of Landfill Expansion Area
- Leachate Collector
- Fence
- Overburden Well Locations
- Refuse Well Locations
- Bedrock Well Locations
- Inferred Direction of Ground Water Flow
- 293.5 Ground Water Elevation (masl)(October 2025)
- 0.5m Ground Water Contours



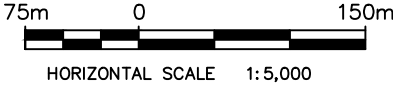
Overburden Ground Water Elevations October 2025		
Lindsay OPS Landfill, Lindsay, ON		
DATE ISSUED:	March 2026	Figure No. 5
CREATED BY:	JLM	
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

Plotted by ALU on April 30, 2026 at 2:35pm
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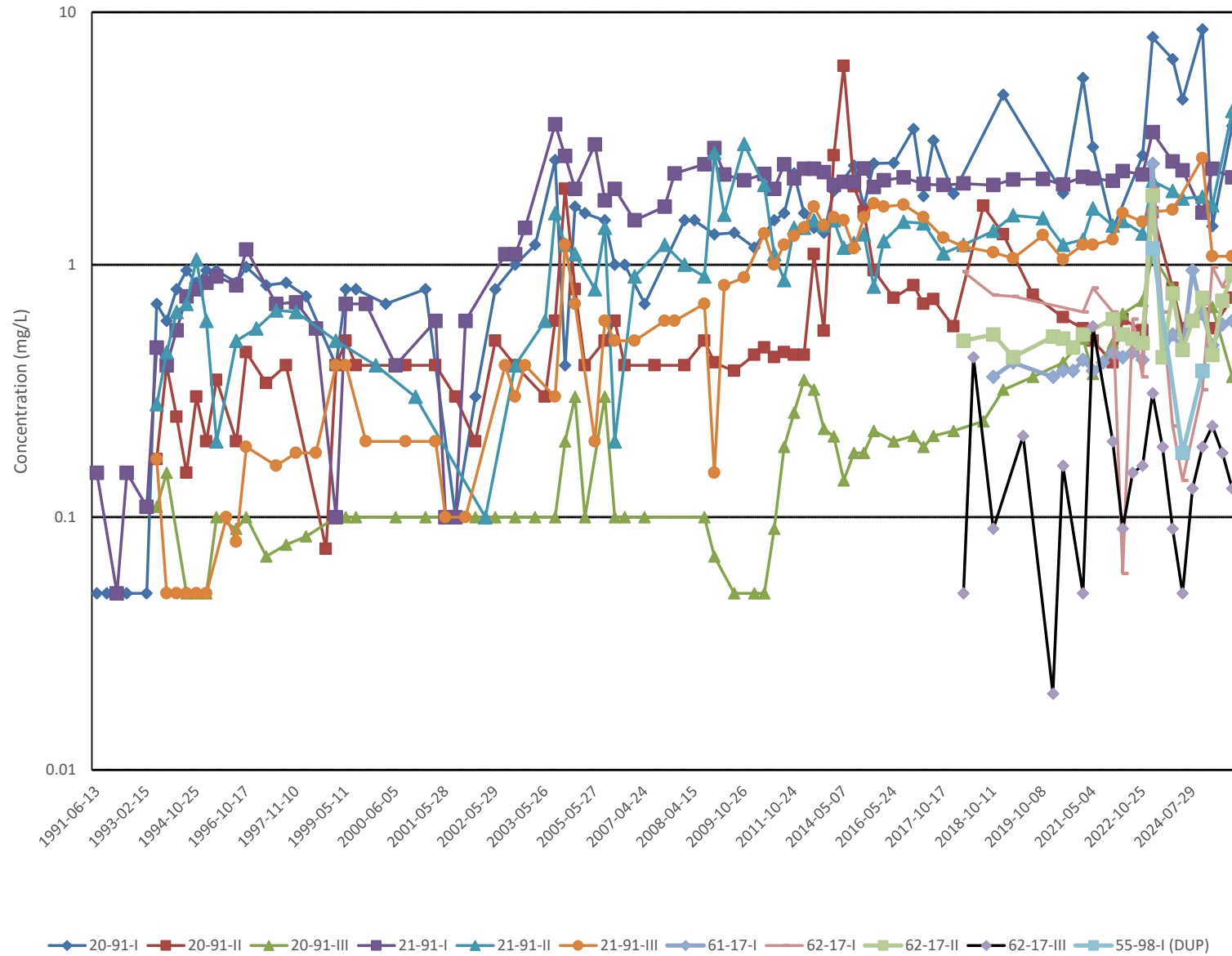
LEGEND:

- Approx. Property Boundary
- Limit of Old Landfill
- Limit of Landfill Expansion Area
- Leachate Collector
- Fence
- Overburden Well Locations
- Refuse Well Locations
- Bedrock Well Locations
- Inferred Direction of Ground Water Flow
- 293.5 Ground Water Elevation (masl)(October 2025)
- 0.5m Ground Water Contours

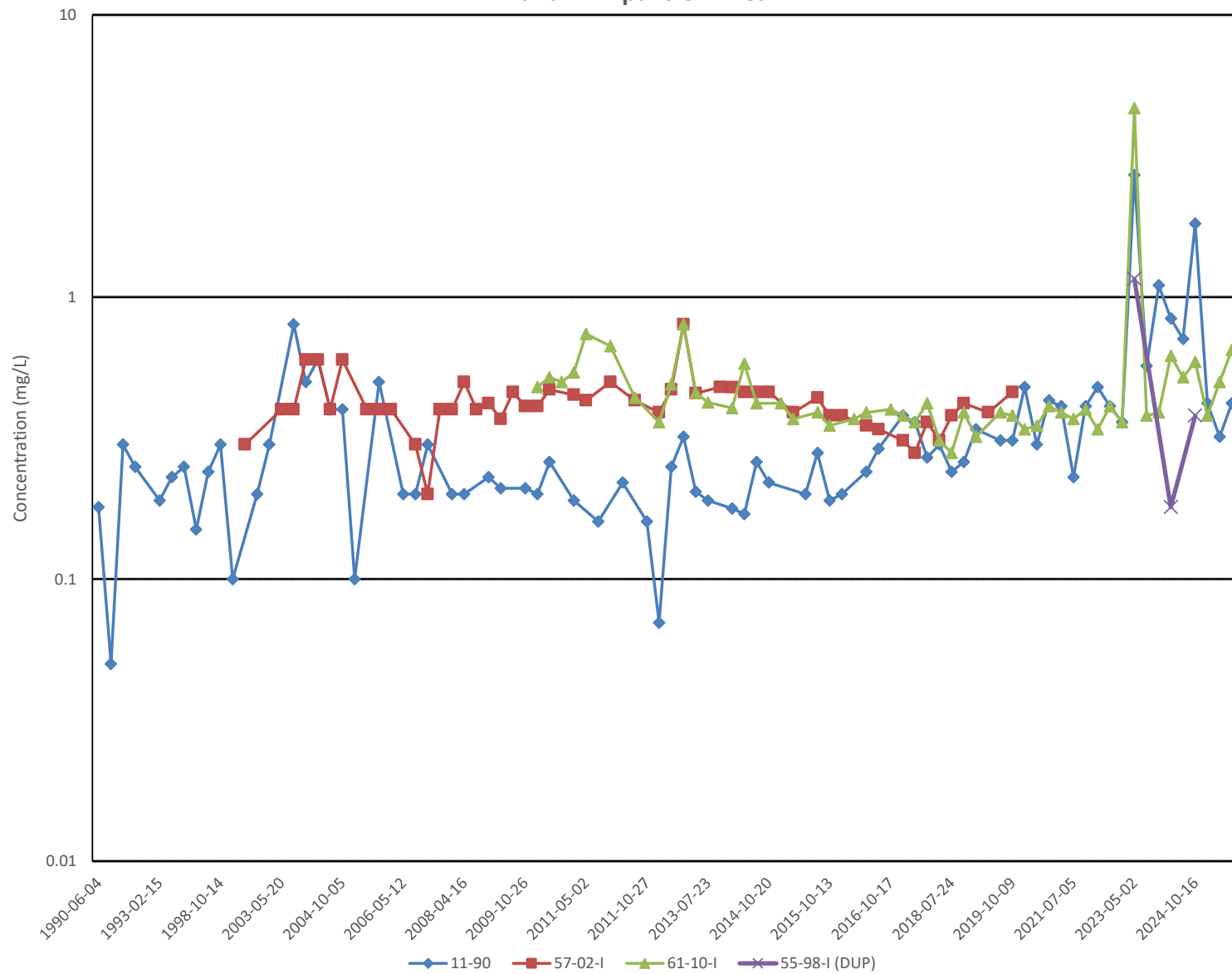


Bedrock Ground Water Elevations October 2025		
Lindsay OPS Landfill, Lindsay, ON		
DATE ISSUED:	March 2026	Figure No. 6
CREATED BY:	JLM	
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

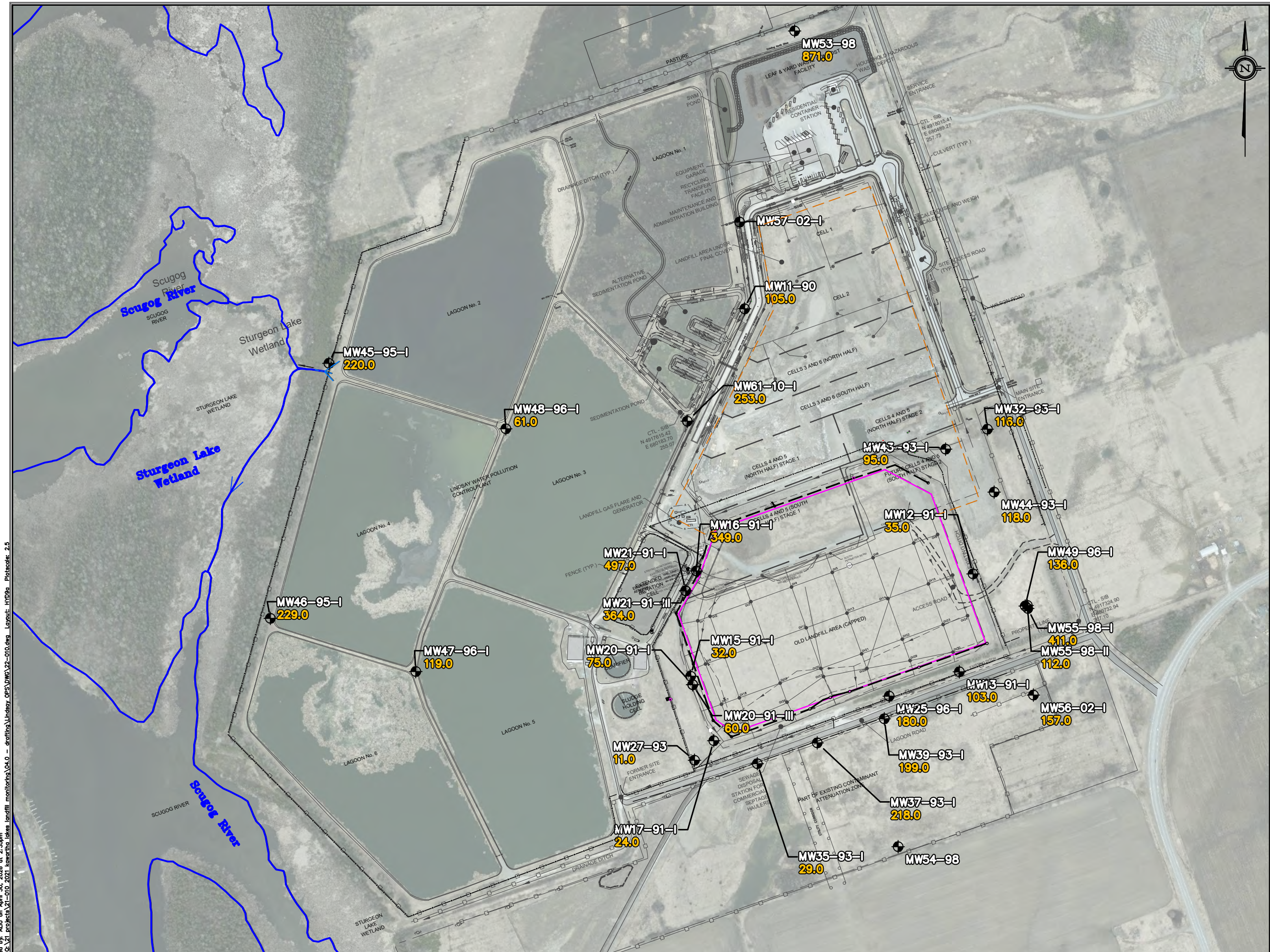
Figure 7 - Total Ammonia Concentrations at Upper Bedrock Aquifer Trigger Monitoring Wells - Old Landfill Area



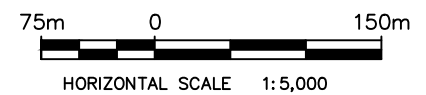
**Figure 8 - Total Ammonia Concentrations at Upper Bedrock Aquifer Trigger Monitoring Wells -
Landfill Expansion Area**



Plotted by: ALU on April 30, 2026 at 2:35pm
File: Q:\21 Projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: HYD9a Plotstyle: 2.5



- LEGEND:**
- Approx. Property Boundary
 - Limit of Old Landfill
 - Limit of Landfill Expansion Area
 - Leachate Collector
 - Fence
 - Bedrock Well Locations
 - 168 Max. Chloride Concentration (mg/L) (2025)



Upper Bedrock
Chloride Concentrations (2025)

Lindsay OPS Landfill,
Lindsay, ON

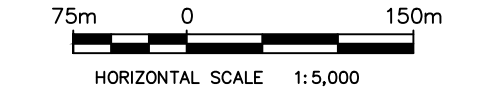
DATE ISSUED:	March 2026	Figure No.
CREATED BY:	JLM	9a
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

Plotted by: ALU on April 30, 2026 at 2:35pm
File: Q:\21 Projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: HYD9b Plotstyle: 2.5



LEGEND:

- Approx. Property Boundary
- Limit of Old Landfill
- Limit of Landfill Expansion Area
- Leachate Collector
- Fence
- Bedrock Well Locations
- 168 Max. Ammonia Concentration (mg/L)(2025)



AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Upper Bedrock
Total Ammonia Concentrations (2025)

Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2026	Figure No.
CREATED BY:	JLM	9b
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

Plotted by ALU on April 30, 2026 at 2:35pm
File: Q:\21 projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: HYD9c PlotScale: 2.5



LEGEND:

- Approx. Property Boundary
- Limit of Old Landfill
- Limit of Landfill Expansion Area
- Leachate Collector
- Fence
- Bedrock Well Locations
- Max. Phosphorous Concentration (mg/L) (2025)

75m 0 150m
HORIZONTAL SCALE 1:5,000

 **AZIMUTH ENVIRONMENTAL CONSULTING, INC.**

Upperd Bedrock
Phosphorous Concentrations (2025)

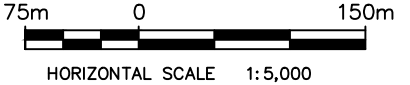
Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2025	Figure No.
CREATED BY:	JLM	9c
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

Plotted by: ALU on April 30, 2026 at 2:35pm
File: Q:\21 Projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: HYD9a PlotScale: 2.5



- LEGEND:**
- Approx. Property Boundary
 - Limit of Old Landfill
 - Limit of Landfill Expansion Area
 - Leachate Collector
 - Fence
 - Bedrock Well Locations
 - 168 Max. Toluene Concentration (µg/L)(2025)

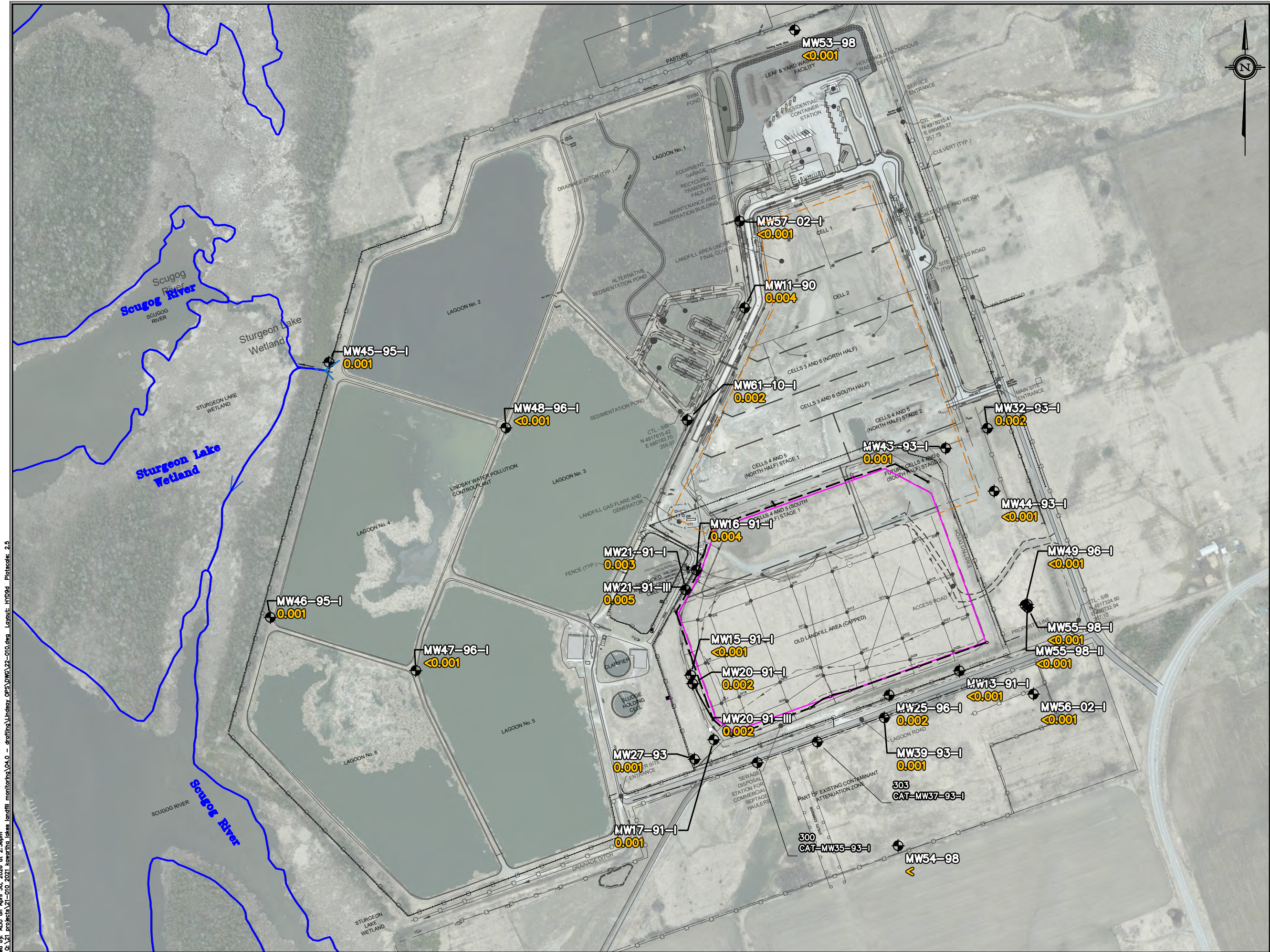


Upper Bedrock
Toluene Concentrations (2025)

Lindsay OPS Landfill,
Lindsay, ON

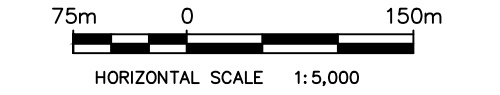
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CREATED BY:	JLM	
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

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File: Q:\21 Projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: HYD9d Plotstyle: 2.5



LEGEND:

- Approx. Property Boundary
- Limit of Old Landfill
- Limit of Landfill Expansion Area
- Leachate Collector
- Fence
- Bedrock Well Locations
- 168 Max. Phenols Concentration (mg/L)(2025)



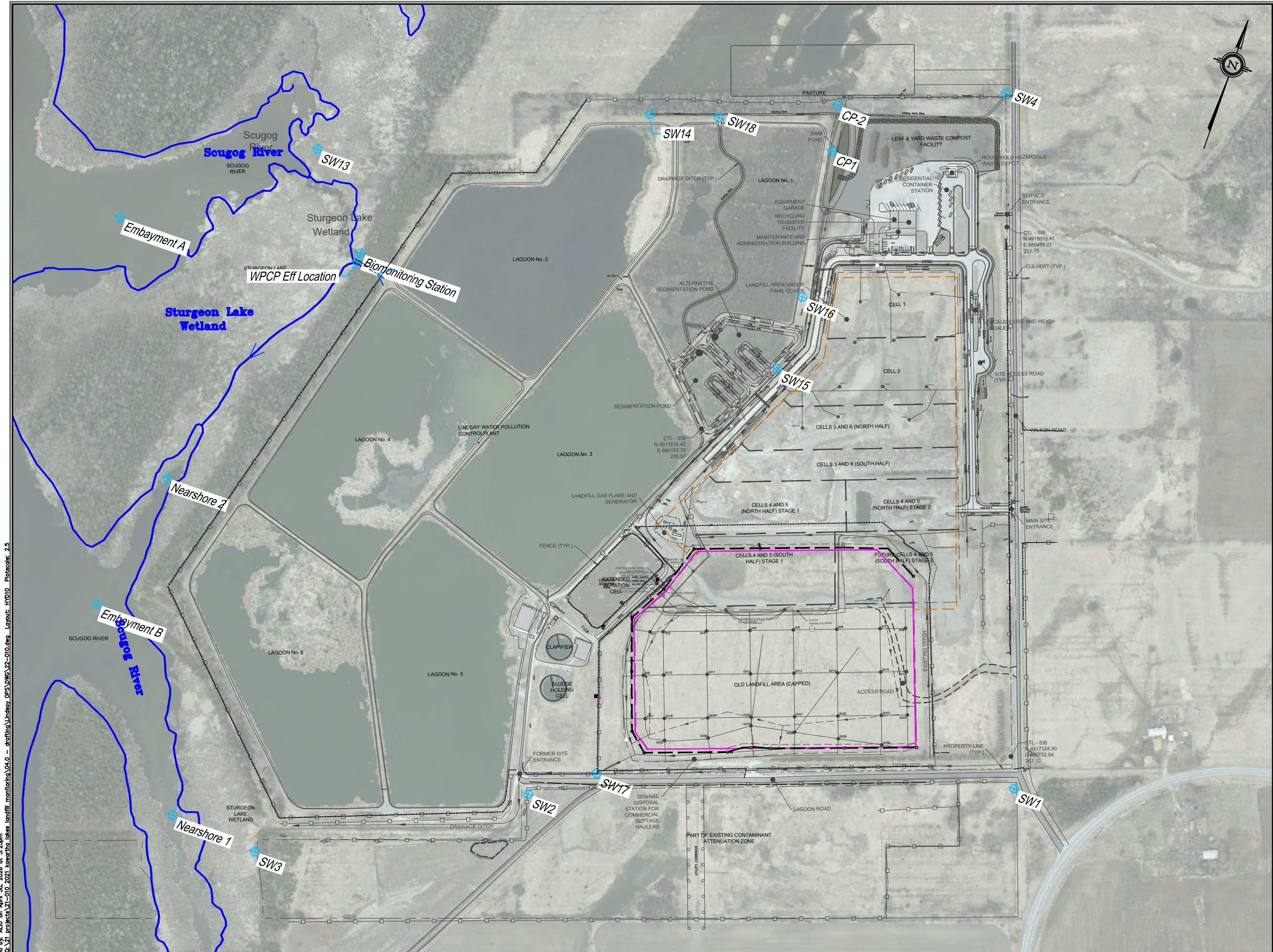
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Upper Bedrock
Phenols Concentrations (2025)

Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2026	Figure No.
CREATED BY:	JLM	9e
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

Plotted by ALU on April 30, 2026 at 3:25pm
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- LEGEND:**
- Approx. Property Boundary
 - Limit of Old Landfill
 - Limit of Landfill Expansion Area
 - Leachate Collector
 - Fence
 - Surface Water Monitoring Locations

75m 0 150m
HORIZONTAL SCALE 1:5,000

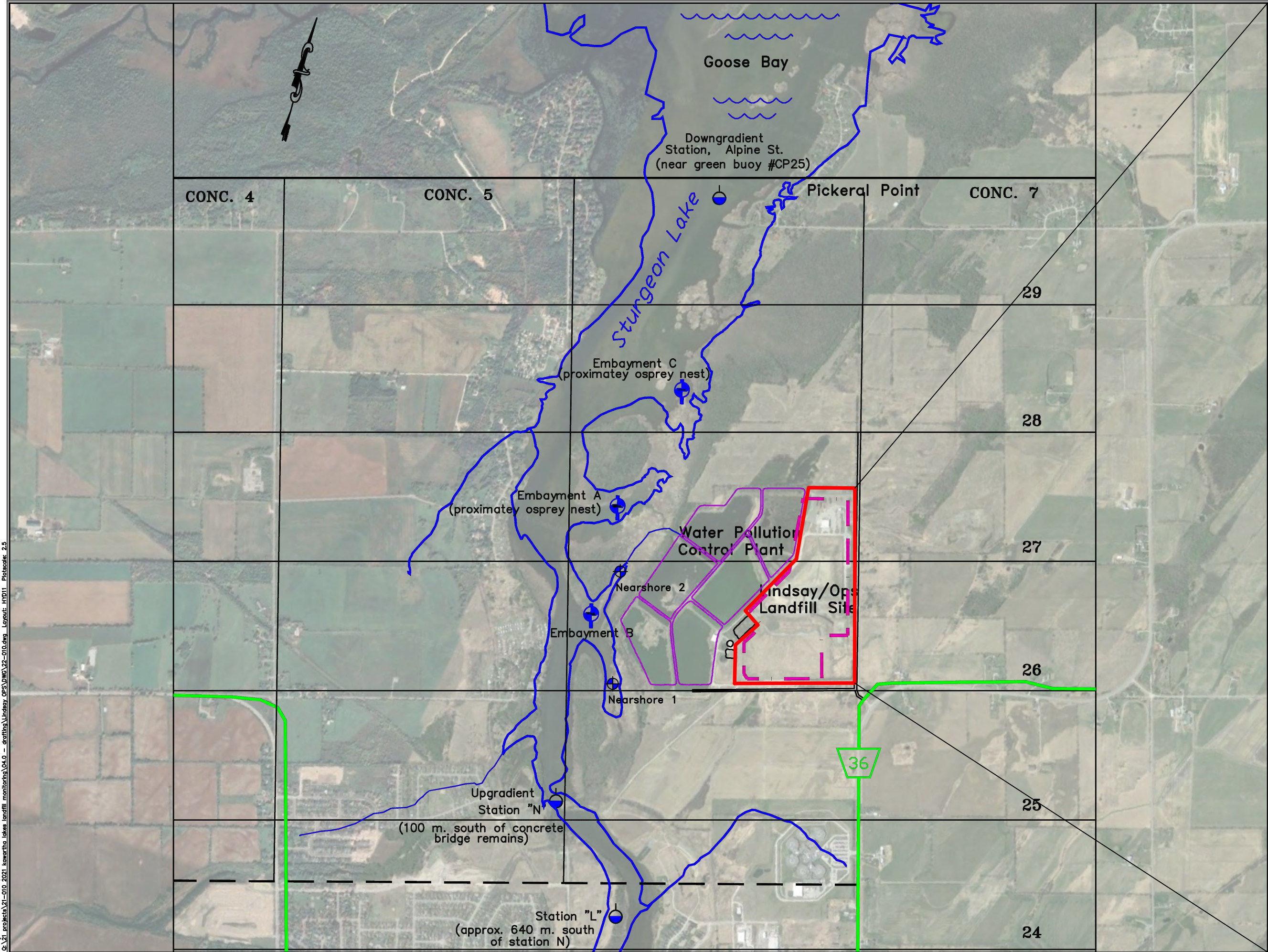


Surface Water Monitoring Network

Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2026	Figure No. 10
CREATED BY:	JLM	
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

Plotted by ALU on March 16, 2026 at 11:27am
File: Q:\21-projects\21-010_2021_Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: HYD11 Plotter: 2.5



- LEGEND:**
- Approx. Property Boundary
 - Surface Water Sampling Locations
 - ⊗ Embayment Sampling Locations

Not to Scale

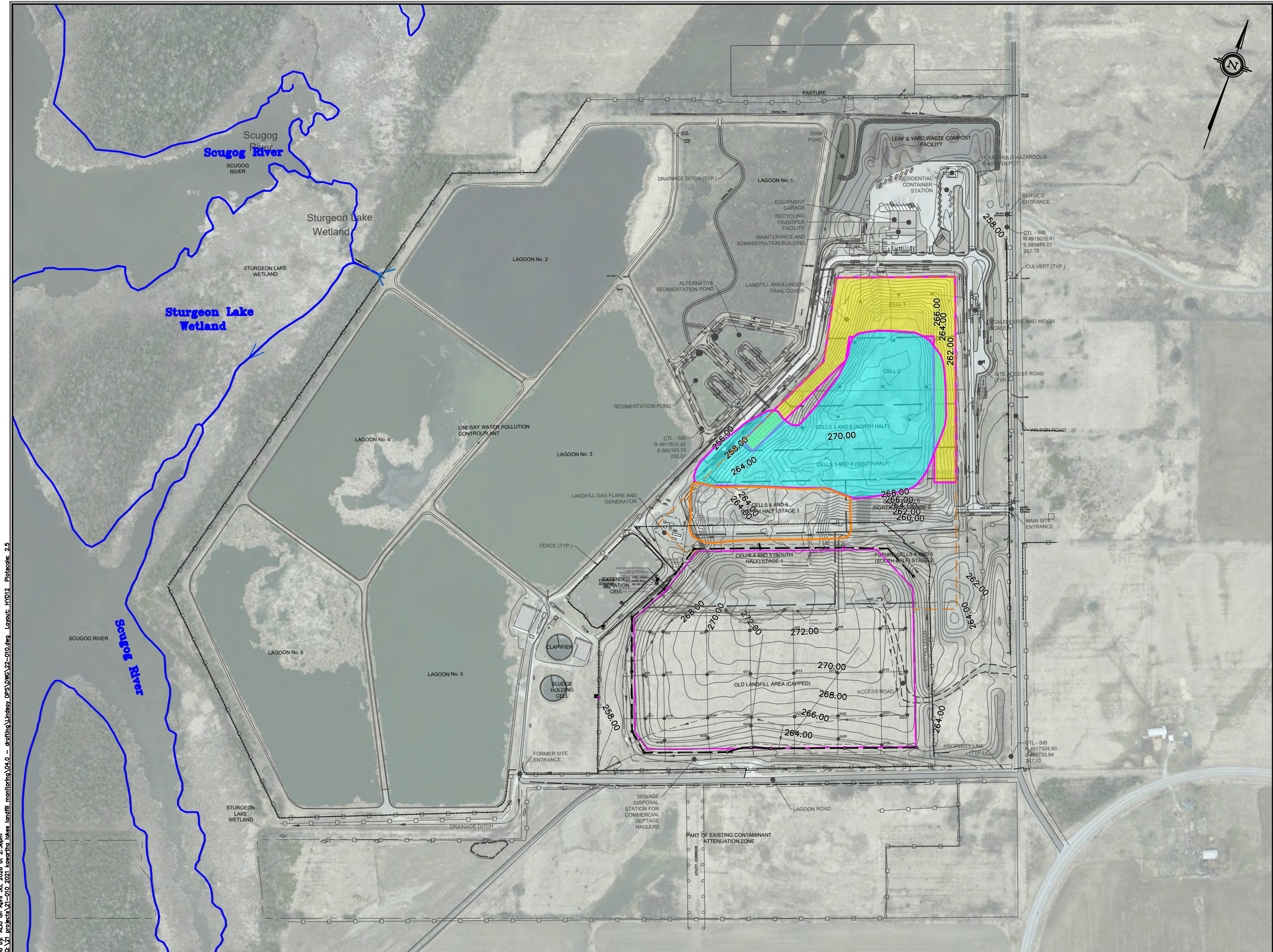


Scugog River Surface Water
Sampling Locations

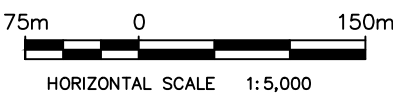
Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2026	Figure No.
CREATED BY:	JLM	11
PROJECT NO.:	26-010	
REFERENCE:	Kawartha Lakes	

Plotted by ALU on April 30, 2026 at 2:36pm
File: Q:\21 Projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: HYD12 PlotScale: 2.5



- LEGEND:**
- Approx. Property Boundary
 - Limit of Old Landfill
 - Limit of Landfill Expansion Area
 - 1.0m Contours (2025)
 - Leachate Collector
 - Fence
 - Approx. Area of Site where landfilling is complete (final contours have been reached and final cover placed) (December 2018)
 - Approx. Area where Interim Cover has been placed (2020)
 - 2025 Landfill Working Area

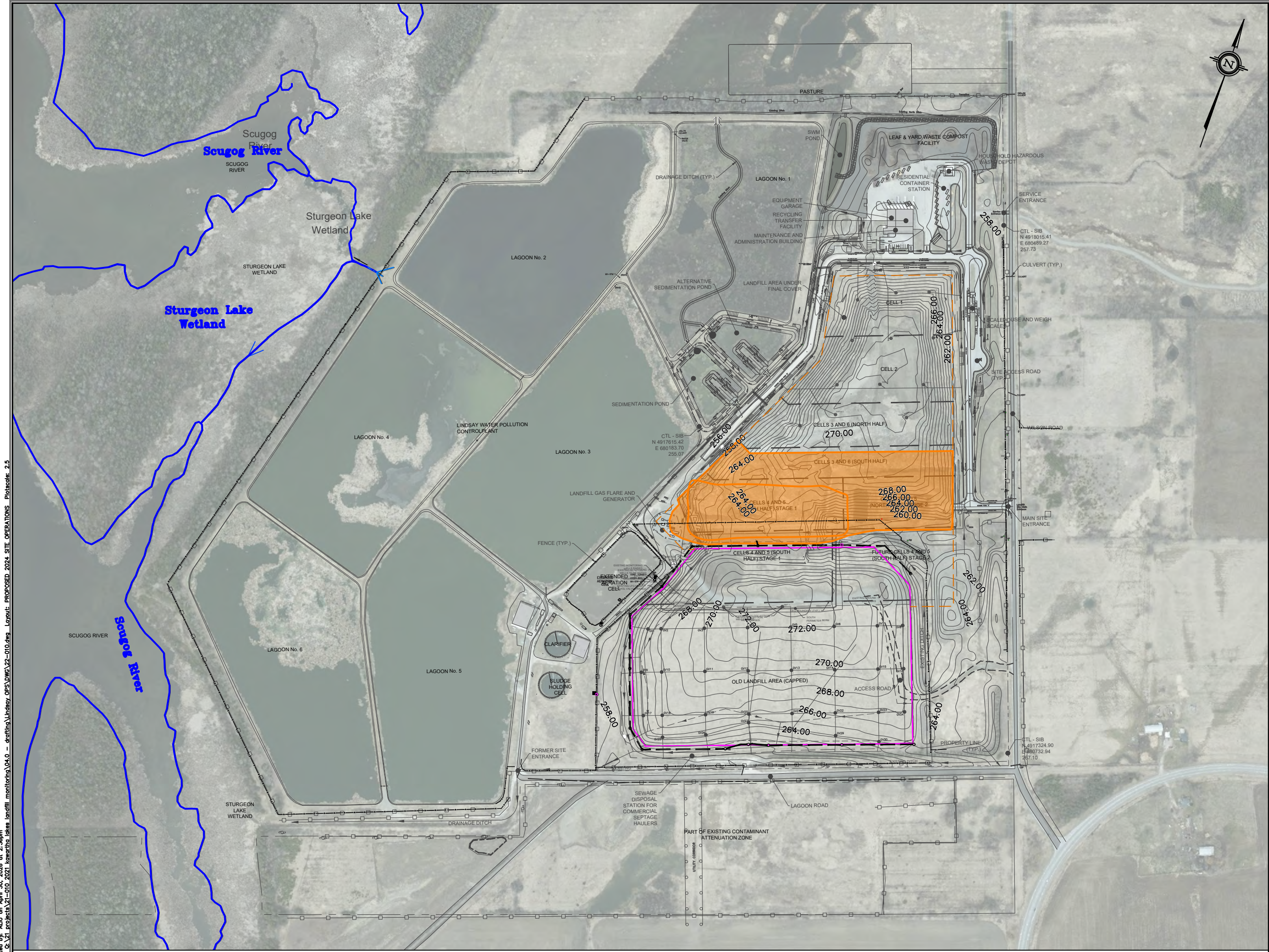


Site Operations and Cover Plan

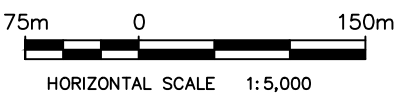
Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2026	Figure No. 12
CREATED BY:	JLM	
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	

Plotted by ALU on April 30, 2026 at 2:36pm
File: Q:\21 Projects\21-010 2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: PROPOSED 2024 SITE OPERATIONS PlotScale: 2.5



- LEGEND:**
- Approx. Property Boundary
 - Limit of Old Landfill
 - Limit of Landfill Expansion Area
 - 1.0m Contours (2025)
 - Leachate Collector
 - Fence
 - Proposed Waste Disposal Areas 2026



Proposed 2026 Site Operations

Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2026	Figure No. 13
CREATED BY:	JLM	
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	



APPENDICES

Appendix A	MECP ECA No.: A323504
Appendix B	Borehole Logs
Appendix C	Ground Water Level Data
Appendix D	Ground Water & Leachate Quality Summary Tables
Appendix E	Time Trend Chemistry Graphs
Appendix F	Old Landfill Perimeter Ground Water Quality Interpretation Tables
Appendix G	Ground Water Quality Summary Tables – PWQO Comparison
Appendix H	Laboratory Certificates of Analysis
Appendix I	Surface Water Photos
Appendix J	Surface Water Quality Summary Tables
Appendix K	Lindsay OPS Landfill Stormwater Management System - Annual Status Report 2025
Appendix L	2025 Toxicity Testing Laboratory Results
Appendix M	2025 Leachate Collection System Inspection Video Report
Appendix N	2025 Performance Report for the Lindsay WPCP
Appendix O	MECP Landfill Report Submission Form



APPENDIX A

MECP ECA No.: A323504

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER A321504

Issue Date: February 16, 2026

The Corporation of the City of Kawartha Lakes
322 Kent St W
Lindsay, Ontario
K9V 5R8

Site Location: Lindsay Ops Landfill
51 Wilson Road Rd
Lindsay, Ontario

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:

a waste disposal site with a 21.2 hectare Waste fill area within a total site area of 53.9 hectares including buffer area to used for the disposal, and processing and transfer of the following type of waste generated within the municipal boundary of the City of Kawartha Lakes:

- Solid non-hazardous Municipal Waste generated from residential, commercial, institutional and industrial sectors;
- Recyclable waste listed in Schedule 1 to 3 of Regulation 101/94 including construction and demolition waste and asbestos waste;
- Septage waste;
- Non-hazardous treated biosolids (processed organic waste) and dewatered sewage sludge from the Lindsay Water Pollution Control Plant (WPCP);
- Other municipal non-hazardous waste: non-recyclable material from parks, grit from pollution control plants, street sweepings/road waste;
- Non-hazardous Contaminated Soils;

- Municipal Hazardous and Special Waste (MHSW) as listed in O. Reg. 387/16;
- Source Separated Organics (SSO);
- Waste Electrical and Electronic Equipment (WEEE) as listed in Schedules 1 through 7 of Ontario Regulation 389/16, as amended; and
- Miscellaneous municipal solid non-hazardous waste: scrap metal, White Goods, textile and bulky plastics.

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

"Adverse Effect" means the same as the definition in the EPA;

"Approval" means this entire Environmental Compliance Approval (ECA), issued in accordance with Section 20.2 of the EPA, and includes any schedules to it, the application and the supporting documentation listed in schedule "A";

"Contaminated Soils" in the context of this Approval means soils which are non-hazardous and do not meet Table 3 chemical quality standards prescribed in "Soil, ground water and sediment standards for use under Part XV.1 of the Environmental Protection Act, dated April 15, 2011".

"Director" means any Ministry employee appointed in writing by the Minister pursuant to section 5 of the EPA as a Director for the purposes of Part V of the EPA;

"District Manager" means the District Manager of the local district office of the Ministry in which the Site is geographically located;

"EPA" means the Environmental Protection Act, R.S.O. 1990, c. E.19, as amended;

"excess soil" has the same meaning as in the O. Reg. 406/19, as amended;

"Major Works" are those works that have an engineering component;

"Ministry" means the Ontario Ministry of Environment, Conservation and Parks (MECP);

"Municipal Waste" is as defined in Reg. 347;

"Municipal Hazardous or Special Waste" and the acronym "MHSW" as defined in O. Reg. 387/16, as amended

"North expansion fill area" means the 13.24 hectare expansion waste disposal fill area, as shown on Map 2-1, Property Plan, Earth Tech Canada Inc., dated March 2001 (Item 35.m) in Schedule "A" attached to this Approval;

"NMA" means the Nutrient Management Act, 2002, S.O. 2002, c. 4, as amended;

"Design and Operations Report" means Design and Operations Report included as Item 110 in Schedule "A" of this Approval;

"Owner" means any person that is responsible for the establishment or operation of the site being approved by this Approval, and The Corporation of the City of Kawartha Lakes, its successors and assigns;;

"OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended;

"Partially Composted Leaf and Yard Waste" is leaf and yard waste which has not been composted in strict accordance with Sections 31 to 33 of Regulation 101/94, Part V- Leaf and Yard Waste Composting Sites and can not be defined as Compost;

"PA " means the Pesticides Act , R.S.O. 1990, c. P-11, as amended from time to time;

"PRC" means the Public Review Committee for this landfilling Site;

"Professional Engineer" means an engineer licensed to engage in the practice of professional engineering, as defined in the Professional Engineers Act, R.S.O. 1990, c. P-28, as amended;

"Provincial Officer" means any person designated in writing by the Minister as a provincial officer pursuant to Section 5 of the OWRA or Section 5 of the EPA or Section 17 of PA or Section 4 of NMA or Section 8 of SDWA;

"Reg. 232" means Ontario Regulation 232/98 or O. Reg. 232/98, Landfilling Sites, made under the EPA, as amended;

"Reg. 347" means Regulation 347 of Revised Regulations of Ontario, 1990 (General - Waste Management), made under the EPA, as amended;

"Regional Director" means the Regional Director of the local Regional Office of the Ministry in which the Site is located;

"SDWA" means the Safe Drinking Water Act, 2002, S.O. 2002, c. 32, as amended;

"Site" means the entire waste disposal site, including the waste fill area and all buffer lands, including lands used for contaminant attenuation, approved by this Approval and located at 51 Wilson Road, Lindsay, Ontario;

"Source Separated Organics or SSO" in the context of this Approval means organic material and food waste excluding leaf and yard waste that has been separated from non-compostable material at the point of generation;

"Waste fill area" means the area on the surface of the landfilling site beneath which or above which waste is disposed of by landfilling, including the existing and north expansion fill areas at this Site; and

"White goods" means White goods which contain, or may contain refrigerants, and which include, but are not restricted to, refrigerators, freezers and air-conditioning systems.

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

TERMS AND CONDITIONS

Compliance

- 1.1 The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Site is notified of the Approval and the conditions herein and shall take all reasonable measures to ensure the person complies with the same.
- 1.2 Any person authorized to carry out work on or operate any aspect of the Site shall comply with the conditions of this Approval .

In Accordance

- 1.3 Except as otherwise provided for in this Approval , the Site shall be designed, developed, constructed, operated and maintained in accordance with the applications for this Approval and the supporting documentation listed in Schedule "A".

Other Legal Obligations

- 1.4 The issuance of, and compliance with, this Approval does not:
 - a. relieve any person of any obligation to comply with any provision of the EPA or any other applicable statute, regulation or other legal requirement; or
 - b. limit in any way the authority of the Ministry to require certain steps be taken or to request that any further information related to compliance with this Approval be provided to the Ministry ;

unless a provision of this Approval specifically refers to the other requirement or authority and clearly states that the other requirement or authority is to be replaced or limited by this Approval .

Adverse Effect

- 1.5 The Owner shall remain responsible for any contravention of any other condition of this Approval or any applicable statute, regulation, or other legal requirement resulting from any act

or omission that caused the adverse effect or impairment of air and/or water quality.

Furnish Information

- 1.6 Any information requested by the Director or a Provincial Officer concerning the Site and its operation under this Approval , including but not limited to any records required to be kept by this Approval shall be provided in a timely manner.
- 1.7 The receipt of any information by the Ministry or the failure of the Ministry to prosecute any person or to require any person to take any action, under this Approval or under any statute, regulation or subordinate legal instrument, in relation to the information, shall not be construed as:
 - a. an approval, waiver, or justification by the Ministry of any act or omission of any person that contravenes any condition of this Approval or any statute, regulation or other subordinate legal requirement; or
 - b. acceptance by the Ministry of the information's completeness or accuracy.
- 1.8 Any information related to this Approval and contained in Ministry files may be made available to the public in accordance with the provisions of the Freedom of Information and Protection of Privacy Act, RSO 1990, CF-31.

Interpretation

- 1.9 This Approval revokes and replaces the previous Approval and all subsequent amendments.
- 1.10 Where there is a conflict between a provision of any document, including the application, referred to in this Approval, and the conditions of this Approval, the conditions in this Approval shall take precedence.
- 1.11 Where there is a conflict between the application and a provision in any documents listed in Schedule "A", the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the Ministry approved the amendment in writing.
- 1.12 Where there is a conflict between any two documents listed in Schedule "A", other than the application, the document bearing the most recent date shall take precedence.
- 1.13 The conditions of this Approval are severable. If any condition of this Approval, or the application of any condition of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

Certificate of Requirement

- 1.14 Pursuant to Section 197 of the EPA , no person having an interest in the Site shall deal with the Site in any way without first giving a copy of this Approval to each person acquiring an interest in the Site as a result of the dealing.
- 1.15 In the event any additional land is acquired for the Site, then two (2) copies of a completed Certificate of Requirement, containing a registerable description of the additional lands for the Site, shall be submitted to the Director for the Director's signature within sixty (60) calendar days of any amendment to this Approval that incorporates the land into the Approval.
- 1.16 In the event any additional land is acquired for the Site, then the Certificate of Requirement shall be registered in the appropriate land registry office on title to the Site and a duplicate registered copy shall be submitted to the Director within ten(10) calendar days of receiving the Certificate of Requirement signed by the Director .

Certificate of Withdrawal of Requirement

- 1.17 If the Owner wants to withdraw the Certificate of Requirement for the Site, the Owner shall:
- (a) submit to the Director, a completed Certificate of Withdrawal of Requirement; and its supporting documents, outlining the reasons for the Withdrawal of the Requirement.
 - (b) submit to the Director:
 - (i) a plan of survey of the area where waste was deposited sealed by an Ontario Land Surveyor and for the Site;
 - (ii) a letter signed by a member of the Law Society of Upper Canada or other qualified legal practitioner acceptable to the Director verifying the legal description of the Certificate of Withdrawal of Requirement,
 - (iii) the legal abstract of the property; and
 - (iv) completed Certificate of Withdrawal of Requirement containing a registerable description of the Site.
 - (c) within fifteen (15) calendar days of receiving a Certificate of Withdrawal of Requirement authorized by the Director, the Owner may:
 - (i) register the Certificate of Withdrawal of Requirement in the appropriate Land Registry Office on the title to the property; and
 - (ii) submit to the Director and District Manager, written verification that the Certificate

of Requirement has been registered on title.

No Transfer or Encumbrance

- 1.18 No portion of this Site shall be transferred or encumbered prior to or after closing of the Site unless the Director is notified in advance and is satisfied with the arrangements made to ensure that all conditions of this Approval will be carried out and that sufficient financial assurance is deposited with the Ministry to ensure that these conditions will be carried out.

Change of Owner

- 1.19 The Owner shall notify the Director , in writing, and forward a copy of the notification to the District Manager, within 30 days of the occurrence of any changes in the following information:
- a. the ownership of the Site ;
 - b. the address of the Owner;
 - d. the partners, where the Owner is or at any time becomes a partnership and a copy of the most recent declaration filed under the Business Names Act , R. S. O. 1990, c. B.17, shall be included in the notification;
 - e. the name of the corporation where the Owner is or at any time becomes a corporation, other than a municipal corporation, and a copy of the most current information filed under the Corporations Information Act , R. S. O. 1990, c. C.39, shall be included in the notification.
- 1.20 In the event of any change in the ownership of the Site, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval , and a copy of such notice shall be forward to the Director and District Manager .

Inspections

- 1.21 No person shall hinder or obstruct a Provincial Officer from carrying out any and all inspections authorized by the EPA or the PA or the NMA or the OWRA or the SDWA, of any place to which this Approval relates, and without limiting the foregoing:
- a. to enter upon the premises where the approved works are located, or the location where the records required by the conditions of this Approval are kept;
 - b. to have access to, inspect, and copy any records required to be kept by the conditions of this Approval ;
 - c. to inspect the Site, related equipment and appurtenances;
 - d. to inspect the practices, procedures, or operations required by the conditions of this

Approval ; and

- e. to sample and monitor for the purposes of assessing compliance with the terms and conditions of this Approval or the EPA or the PA or the NMA or the OWRA or the SDWA.

Design and Operations Report

1.22 The Owner shall maintain an up-to-date Design and Operations Report for the Site, which shall contain at a minimum the information required by the Ministry's "Guide to applying for an Environmental Compliance Approval" as it applies to the Site.

1.23 The Design and Operations Report shall be:

- a. kept up-to-date at all times so that it accurately reflects the ongoing Site activities as approved under this Approval;
- b. retained at the Site;
- c. available for inspection by a Provincial Officer upon request; and
- d. updated and submitted with all future ECA applications for the Site, including a revisions tracking log.

1.24. Changes to the Site's operations that do not require an amendment to this Approval under Section 27 of the EPA shall be recorded in a revisions tracking log in the Design and Operations Report and submitted to the District Manager for record keeping.

2.0 CONSTRUCTION, INSTALLATION AND PLANNING

Major Works

2.1 For the purposes of this Approval the following are considered Major Works:

- a. gas management system;
- b. leachate collection system;
- c. stormwater management system;
- d. final cover;
- e. liner system;

- f. Household Hazardous Waste Facility;
 - g. Re-use Centre; and
 - h. Leaf and Yard Waste Facility.
- 2.2 A final detailed design shall be prepared for each Major Work to be constructed at the Site consistent with the conceptual design of the Site as presented in the Supporting Documentation in Schedule "A".
- 2.3 The final detailed design of each Major Work shall include the following:
- a. design drawings and specifications;
 - b. a detailed quality assurance / quality control (QA/QC) program for construction of the major work, including necessary precautions to avoid disturbance to the underlying soils; and
 - c. details on the monitoring, maintenance, repair and replacement of the engineered components of the major work, if any.
- 2.4 Any design optimization or modification that is inconsistent with the conceptual design shall be clearly identified, along with an explanation of the reasons for the change.
- 2.5 The final detailed design of each Major Work shall be submitted to the Director for approval and copied to the District Manager.
- 2.6 Each major work shall be constructed in accordance with the approved final detailed design and the QA/QC procedures shall be implemented as proposed by the Owner. Any significant variances from the conceptual design for the Site shall be subject to approval by the Director.
- 2.7 As-built drawings for all Major Works shall be retained on site and made available to Ministry staff for inspection.

Compacted Soil Liner

- 2.8 The soil liner in the North expansion fill area (base and sideslopes, except common north slope of existing fill area) shall be placed and compacted to a minimum thickness of 750 mm, compacted in at least 5 lifts of no more than 0.15 metres in compacted thickness each, and to achieve a hydraulic conductivity of 1×10^{-7} cm/sec or less, in addition to the design recommendations in Section 4.3.3 in the Design Report, Item 28(b) in Schedule "A", as amended in Items 35 and 37 in Schedule "A" attached to this Approval.
- 2.9 During installation of the compacted soil liner, care shall be taken to:

- a. control soil properties and water content;
 - b. ensure the break-up of clods;
 - c. control lift thickness and compaction;
 - d. remove stones larger than 100 millimetres in diameter;
 - e. prevent desiccation of the compacted clayey liner;
 - f. prevent damage to the compacted clayey liner due to freezing;
 - g. prevent damage to the compacted clayey liner from vehicular traffic;
 - h. prevent damage to the compacted clayey liner due to rodents; and
 - i. prevent damage to the compacted clayey liner due to differential settlement.
- 2.10 As part of the liner construction protocol, the Owner shall ensure that a soils technician, under the direction of a suitably qualified geotechnical Professional Engineer shall be on the Site full-time during construction of the compacted soil liner. Responsibilities shall include maintaining the quality of the liner in terms of evaluating soil suitability, water content, compaction effort and density, and to verify that the liner is placed according to the technical specifications.
- 2.11 The report of a suitably qualified geotechnical Professional Engineer shall be included in each Site Preparation Report and must confirm that there is no evident cracking in the constructed liner or significant occurrence of clods, stones, branches or other material that could shorten the service life of the constructed liner or significantly increase the hydraulic conductivity of the liner.
- 2.12 In addition to the trial soil liner construction (Item 28(d)(iv) in Schedule "A"), additional test pits shall be excavated during the detailed design stage to estimate the quantity of suitable liner material available from the excavation of each cell and from the Owner-owned lands south of the existing fill area. Prior to the actual construction of the landfill base liner system in the north expansion fill area at this Site with a new source of liner material, the Owner shall submit a report prepared by a suitably qualified geotechnical Professional Engineer to the Director and District Manager which demonstrates and ensures that the materials and installation/construction procedures will produce a liner system that will meet the liner design specifications and performance objectives.
- 2.13 The Owner shall notify the District Manager in writing prior to placement of the compacted soil liner that a qualified geotechnical Professional Engineer has inspected and approved the native soil sub-grade for placement of the overlying compacted soil liner.
- 2.14 No later than seven (7) days after completion and inspection of the base excavation, the Owner

shall submit to the District Office an interim inspection report for the base excavation and preparation. The report shall be prepared by a qualified geotechnical Professional Engineer.

Geosynthetic Clay Liner

2.15 Prior to installation of the Geosynthetic Clay Liner (GCL) liner, the Owner shall provide to the Director construction and installation procedures including the following:

- a. procedures for hydrating the GCL in the field;
- b. details regarding visual inspection of the suitability of the subgrade;
- c. methods of protecting the GCL during shipping, storage and handling;
- d. deployment of the GCL at the construction site, a panel layout plan, seam preparation, seaming methods;
- e. methods to avoid opening of seams due to movement as overlying layers are placed.
- f. a description of the inspection, sampling and testing methods and frequencies to be employed to assure that the GCL meets the design requirements;
- g. a demonstration that adequate shear strength will be provided in the GCL and between the GCL and other components of the liner system so that slippage and sloughing does not occur on the slopes of the landfill.

Geomembrane Liner

- 2.16 (1) The geomembrane must be made of high density polyethylene (HDPE) and must have a thickness of at least 1.5 millimetres.
- (2) The geomembrane liner shall be installed in direct and uniform contact with a suitable foundation.
- (3) The geomembrane must be protected against puncturing and load induced damage at all times including during installation.
- (4) During installation, care must be taken to:
- a. remove wrinkles in the geomembrane;
 - b. minimize stress concentrations;
 - c. ensure high quality seams;

- d. minimize differential settlement;
- e. minimize exposure to ultraviolet light;
- f. prevent damage due to sliding;
- g. prevent damage due to installation in cold conditions, and
- h. prevent damage due to rodents.

Geosynthetic Clay Liner (GCL) and Geomembrane

2.17 To ensure that the geosynthetic products specified in the design have been supplied and installed in accordance with the design drawings and specifications, a qualified inspector(s) shall be on the Site during construction to sample, test and confirm installation in accordance with the recommendations of the manufacturers, design drawings and specifications, and QA/QC procedures.

Geotechnical Inspection and Assessment

2.18 Excavation within and preparation of the foundation soils underlying the Site and construction of the base liner of the leachate containment system in a new cell shall be inspected by a suitably qualified geotechnical Professional Engineer to ensure that preparation and construction proceeds in accordance with approved detailed design plans, technical specifications and QA/QC activities and procedures. The results of inspections shall be included in the Site Preparation Reports and subsequent inspection reports for the Site. No landfilling of wastes shall occur on any portion of the liner and leachate collection system until the Director and District Manager have received an inspection report from the engineer indicating that the portion of the base liner of the leachate containment system has been constructed as required by this Approval.

Inspections with respect to the base liner system shall include assessment of the following:

- a. The adequacy of extracted till material from the landfill excavation and/or clayey material from the clay borrow pit(s) for base liner construction and leachate/liner compatibility;
- b. The acceptability of foundation conditions to ensure adequate bearing capacity and slope stability, adequate provisions to prevent basal heave or blowout, absence of standing water, and absence of potential conduits for leachate and landfill gas migration; and
- c. Compliance with liner installation specifications and QA/QC procedures related to items such as grain size distribution and clay content of native and borrow materials, clod size limits, removal of stones, Atterberg limits, compaction moisture content, compaction effort, required Standard Proctor Density, lift thickness, scarification between lifts, permeability, and procedures to avoid desiccation of the clayey liner.

- 2.19 During excavation for landfill base preparation, any intersected granular lenses, interbedded layers, wells, boreholes, agricultural drains, or other possible groundwater conduits encountered in the excavation, shall be adequately mapped, and removed/over-excavated or sealed with appropriately engineered low permeability materials, as necessary, prior to liner construction and landfilling.

Pre-Loading of North Slope

- 2.20 The north slope of the existing fill area shall be pre-loaded with soil for a minimum of five (5) years to expedite the waste settling process prior to placement of the GCL, geomembrane and leachate collection system for the north expansion fill area on the common north slope, and in accordance with Section 4.3.4 in the Design Report and Section 3.2.4 in the Maintenance & Operations Report, Items 28(b) & 28(c) in Schedule "A", as revised in Items 31 to 37 in Schedule "A" attached to this Approval.

Site Preparation Report

- 2.21 The Owner shall not commence landfilling in a newly prepared cell in the south expansion fill area of Cell 4 & 5 (south half) until a written report has been submitted to the Director and District Manager documenting all construction, QA/QC activities and procedures, and confirming that the Site conditions and details of the construction of the fill area are in accordance with the approved design plans and specifications for the Site, and including sufficient baseline data from existing and new monitoring installations to support environmental monitoring programs for the Site.

3.0 APPROVED WORKS

Liner System Approval

- 3.1 (1) Approval is hereby granted for the detailed design for the Cells 1, 2, 3, 6, 4 & 5 (south half) base liner and leachate collection system, all in accordance with the following documentation, hereby added to Schedule "A" of this Approval .
- (2) The Owner shall construct the northern half of Cells 4 and 5, base liner and leachate collection system in accordance with the following Items 88 through 92 in Schedule "A" of this Approval.
- (3) Alterations to the base liner and collection system connections between Cells 4 and 5 (North Half) Stage 2 and Cells 3 and 6 are approved in accordance with Item 104 of Schedule "A":
- 4) The Owner shall construct the southern half of Cells 4 and 5, base liner and leachate collection system in accordance with Item 106 in Schedule "A" of this Approval.

Ancillary Features

- 3.2 Approval is hereby granted for the detailed design of ancillary facilities associated with landfill expansion, including new site entrance and roads, weigh scales and scale house, multi-use operations building (administration, vehicle maintenance, re-use depot and recycling depot), household hazardous waste (HHW) depot, leaf and yard waste composting facility, residential container station and SSO, all in accordance with the documentation in Schedule "A" in the Approval.

Landfill Gas Collection System

- 3.3 (1) The landfill gas collection and flaring system shall be constructed and operated in accordance with Items 57 through 59 and 103 in Schedule "A".
- (2) For the future phases of the landfill gas collection and flaring system, the Owner shall submit the final detailed design to the Director for approval, with copies to the District Manager prior to construction.
- 3.4 Prior to construction of extensions of the landfill gas collection and flaring system, the Owner shall have in place, and available for Ministry's review upon request, the following:
- a. An odour control plan to minimize odour impacts off-site during the construction phase;
 - b. A monitoring plan for odour and air emissions during the construction phase of the work and post-construction phase;
 - c. A sediment/erosion control plan to be implemented during the construction and post-construction for the installation of the landfill gas collection and flaring system.
 - d. A construction schedule for the installation of the landfill gas collection and flaring system;
- 3.5 Within ninety (90) days of commissioning of extensions to the landfill gas collection and flaring system, the Owner shall submit to the District Manager a construction report detailing the construction activities and any design changes made to the system during construction. This report shall include but not be limited to the following topics:
- a. "as-built" drawing(s) of the location of the landfill gas collection and flaring system;
 - b. a description of the various construction stages;
 - c. quality assurance/quality control plan for the construction; and
 - d. any changes to the design of the landfill gas collection and flaring system.
- 3.6 (1) In the event a gas well needs replacing due to damage or the well is deemed to be not

functioning properly, the Owner may replace the gas well.

- (2) The Owner shall notify the District Manager in writing that a well is being replaced, no later than fourteen (14) days prior to replacement of the well. The replacement well shall be located at the same location as the replaced well or in the immediate vicinity of the well it is replacing.
- (3) For any other major repairs, replacements and/or upsets of the landfill gas collection and flaring system, the Owner shall notify the District Manager in writing within thirty (30) days of the changes. Such changes shall also be included in the landfill annual report.

Leachate Collection and Disposal System

3.7 The Leachate Collection and Disposal System consists of the Leachate Pumping Station No. 1; Leachate Pumping Station No. 1; and Sewage Pumping Station, that are described as follows and in accordance with documentation listed in Schedule 'A':

- a. Leachate Pumping Station No. 1 consists of:

One (1) 1.8 m diameter x 6.4 m deep concrete pumping station equipped with two (2) stainless steel submersible pumps (one on standby) each rated at 7.0 L/s @ 17.3 m TDH, one (1) 1.8 m wide x 2.4 m long x 2.4 m deep valve chamber, receiving leachate from the existing landfill cells through a 150 mm diameter sewer and discharging through a 75 mm diameter forcemain and a 75 mm magnetic flow meter into the inlet works of the Lindsay WPCP.

- b. Leachate Pumping Station No. 2 consists of:

One (1) 1.8 m diameter x 7.3 m deep fibreglass package pumping station equipped with two (2) stainless steel submersible pumps (one on standby) each rated at 7.0 L/s @ 17.5 m TDH, one (1) 2.4 m wide x 3.0 m long x 2.7 m deep valve chamber equipped with 75 mm magnetic flow meter, receiving leachate from the new landfill cells through a 200 mm diameter PVC sewer and discharging through a 100 mm diameter forcemain into a Sewage Pumping Station described below or into the inlet works of the Lindsay WPCP when the need arises.

- c. Sewage Pumping Station consists of:

One (1) 3.6 m diameter x 6.7 m deep precast concrete pumping station equipped with three (3) stainless steel submersible pumps (two on duty in parallel and one on standby) each rated at 7.5 L/s @ 25.5 m TDH, receiving leachate from Leachate Pumping Station No. 2, septage from a septage dumping station through a 250 mm diameter sewer and sewage from site buildings through a 200 mm diameter sewer, and discharging through a 150 mm diameter forcemain and a 100 mm magnetic flow meter, into the inlet works of the Lindsay

WPCP; and

- d. Including all controls, alarms, and associated appurtenances.

4.0 GENERAL OPERATIONS

Proper Operation

4.1 A. Site Operations:

The Site shall be properly operated and maintained at all times. All waste shall be managed and disposed of in accordance with the EPA and Reg. 347 and the requirements of this Approval. At no time shall the discharge of a contaminant that causes or is likely to cause an Adverse Effect be permitted.

B. Leachate Collection and Disposal System (LCDS) Operations:

- a. The Owner shall exercise due diligence in ensuring that, at all times, the LCDS and the related equipment and appurtenances used to achieve compliance with this Approval; are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate staffing and training.
- b. The Owner shall ensure that the total maximum flow of leachate from Leachate Pumping Station No.1 and Leachate Pumping Station No.2 into the Lindsay Water Pollution Control Plant does not exceed the peak flow rate of 750 m³/day at any time.
- c. The Owner shall ensure that the total average daily flow of leachate from Leachate Pumping Station No. 1 and Leachate Pumping Station No. 2 into Lindsay Water Pollution Control Plant does not exceed 300 m³/day for any period of time greater than one (1) calendar year.
- d. Any diversion of sewage flow from any portion of the LCDS is prohibited, except:
 - i. where it is unavoidable in preventing loss of life, danger to public health, personal injury or severe property damage; or
 - ii. where it is necessary for the purpose of essential maintenance of the LCDS to assure their efficient operation, and the District Manager has given a prior written approval for the bypass.

Service Area

- 4.2 Only wastes generated from within the geographic boundaries of the City of Kawartha Lakes may be received for final disposal or processing and transfer at this Site. Wastes may be received from outside the geographic boundaries of the City of Kawartha Lakes if it is only for the purposes of

temporary storage and is sent off-site for final disposal, reuse or recycling.

Capacity

- 4.3 (1) The total waste disposal capacity of the Site expansion in the north expansion fill area, including waste, daily cover and interim cover, is 1,487,240 cubic metres. This volume does not include the composite liner, leachate collection system and final cover. The total waste disposal capacity of the Site (existing fill area and the north expansion fill area), including waste, daily cover and interim cover, is approximately 2.34 million cubic metres.
- (2) The amount of waste and daily and interim cover materials deposited at the Site shall not exceed the Site capacity as defined in Condition 4.3 (1) of this Approval.

Waste Fill Rate

- 4.4 The maximum rates at which the Waste fill area may receive waste are 240 tonnes per day and 58,200 tonnes per calendar year. Receipt of waste in excess of the daily maximum fill rate may only be allowed on a limited short-term basis, on no more than two consecutive operating days.

Waste Placement

- 4.5 No waste shall be landfilled outside of the limit of fill area for the existing and expansion waste disposal fill areas shown on Map 2-1, Property Plan, dated March 2001 (Item 35.m) in Schedule "A" attached to this Approval.
- 4.6 No waste shall be landfilled below the base contours shown on Map 4-5, Proposed Base Contours, dated March 2001 (Item 35.m) in Schedule "A" attached to this Approval.
- 4.7 No waste shall be landfilled at any time above the final contours shown on Figure 3.1 and 3.2 in Item 110 in Schedule "A" attached to this Approval. The maximum elevation of the north expansion fill area shall be 274 metres above sea level, including final cover.
- 4.8 No waste shall be landfilled in the contaminant attenuation zone described in Items 23, 24, 25 and 26 in Schedule "A" attached to this Approval.

Waste Inspection Procedures

- 4.9 The Owner shall develop and implement a program to inspect waste to ensure that the waste is of a type approved for acceptance under this Approval.
- 4.10 The Owner shall conduct appropriate inspections and ensure that appropriate controls are in place to prevent the acceptance of liquid industrial waste and hazardous waste and to prevent the acceptance of waste from outside the approved service area. Records of violations by haulers or waste generators shall be recorded in the daily records for the Site operations. The Owner shall forthwith notify the District Manager of any and all waste load refusals at the Site related to

requirements in this Approval, including service area and waste types.

Waste Inspection and Deposition

- 4.11 All loads of waste must be inspected by trained site personnel prior to acceptance at the Site and waste vehicles must be diverted to appropriate areas for waste disposal.

Cell Development

- 4.12 Waste landfilling operations shall generally move from north to south in the north expansion fill area to accommodate the pre-loading and to allow for settling of the north slope area of the existing fill area. Cell designation and initial development is shown on Map 4-2, Initial Cell Development Plan, dated March 2001 (Item 35.m) in Schedule "A" attached to this Approval, and shall proceed as follows: 1, 2, 3, 6, 4A, 4B, 5A, 5B.

Hours of Operation

- 4.13 The maximum operating hours for the Site for receipt of waste for disposal, Site preparation, Site maintenance and daily cover activities are from Monday through Saturday between the hours of 7:00 a.m. and 7:00 p.m.
- 4.14 With prior notification to the PRC and written approval of the District Manager, the time periods may be extended to accommodate seasonal or unusual quantities of waste.
- 4.15 The Owner may provide limited hours of operation provided that the hours are posted at the landfill gate and that suitable notice is provided to the public of any change in operating hours.
- 4.16 Upon reasonable notice to the District Manager, contingency actions may take place outside normal hours of operation. Emergency response may occur at any time as required.

Signage

- 4.17 Signs shall be placed at the landfill Site entrance/exit indicating, at a minimum, the following:
- a. Name of the landfill and name of the owner;
 - b. Ministry Approval Number;
 - c. Days and hours of operation and public use;
 - d. Telephone number/contact at the City of Kawartha Lakes;
 - e. Area served by the landfill;

- f. Types of waste accepted and prohibited;
 - g. Overview of landfill complaints procedure, including a phone number for registering a complaint;
 - h. Unauthorized entry is prohibited; and
 - i. A warning against dumping wastes outside the Site.
- 4.18 Signs shall also be posted along internal access roads controlling vehicle speed, turning movements and to direct vehicles to the working face and other designated areas and facilities on the Site, as appropriate. All landfill signs shall be kept legible, in good repair, and cleaned when required.

Site Supervision and Security

- 4.19 (1) No waste shall be received, landfilled or removed from the Site unless a Site supervisor or attendant is present and supervises the operations during operating hours. The Owner shall ensure that adequately trained persons are on duty at all times during the operation of the Site to provide proper supervision of all waste management activities. Incoming waste shall be inspected prior to acceptance at the Site to ensure that the Site is approved to accept that type of waste.
- (2) During non-operating hours, the Owner shall ensure that the Site entrance and exit gates shall be locked and the Site shall be secured against access by unauthorized persons.

On-Site Roads

- 4.20 On-Site roads shall be provided and maintained in a manner that vehicles hauling waste to and on the Site may travel readily and safely on any operating day. During winter months, when the Site is in operation, roads must be maintained to ensure safe access to the landfill working face. The Owner may establish and use temporary working roads for landfill operating and construction equipment, as needed.

Litter Control, Vermin, Scavenging, Dust, Litter, Odour, Noise, etc.

- 4.21 The Owner shall implement control measures for dust, odour, litter, noise, birds, vector and vermin in accordance with Section 7 of the Design and Operations Report. Effectiveness of the control measures shall be reviewed and monitored regularly and updated/revised, as required, based on operational experience and complaints.
- 4.22 Controlled removal of reusable material from the Site may only occur in a designated and supervised area of the Site.
- 4.23 (1) Litter from the Site shall be picked up on a daily basis along the Site's perimeter and access

roads.

- (2) Upon the consent of neighbouring residents, the Owner shall, at its own expense, remove landfill-related litter from neighbouring properties on a daily basis. Landfill-related litter on municipal or public roads within 500 metres of the Site shall be removed monthly by the Owner, upon the consent of the authorities having jurisdiction over such roads.

4.24 Visual screening shall be installed, inspected and maintained as required during the operating life of the landfill Site.

4.25 The Owner shall carry out a program to minimize dust, based on dust control measures outlined in Section 7.1 of the Design and Operations Report. Accurate records shall be kept of the use of any chemical dust suppressants, including date and location of application on the Site. Effectiveness of the dust suppression plan shall be reviewed and monitored regularly and updated/revised, as required, based on operational experience and complaints. Measures shall be taken to prevent mud-tracking off the Site.

Noise Control

4.26 Noise shall be controlled in accordance Section 7.4 of the Design and Operations Report. Noise from or related to the operation of the landfill shall be kept to a minimum and in any event, the Owner shall comply with the criteria set out in the Ministry's "Noise Guidelines for Landfill Sites":

- a. The limits for sound levels due to the landfilling Site operation at a point of reception are 45 dBA in any hour of the night, 7:00 p.m. - 7:00 a.m., and 55 dBA in any hour of the day, 7:00 a.m. - 7:00 p.m. These levels are expressed in terms of the One Hour Equivalent Sound Level (Leq).
- b. For impulsive sound, other than quasi-steady impulsive sound, from a pest control device employed to deter birds from the landfilling Site, the applicable sound level limit at a point of reception expressed in terms of the Logarithmic Mean Impulse Sound Level (LLM) is 70 dBAI.
- c. For quasi-steady impulsive sound, but not including other impulsive sound from a pest control device employed to deter birds from the landfilling Site, the applicable sound level limit at a point of reception expressed in terms of the One Hour Equivalent Sound Level (Leq) is 60 dBA.

Gull Control

4.27 The Owner shall implement and carry out the Gull Control Program (Habitat Management, Active and Lethal Control Measures, Contingency Exclusions Measures, Personnel and Training, Monitoring and Reporting) for the landfill Site, in accordance with Item 110 in Schedule "A", as soon as possible following issuance of this Approval, acquisition of required permits and specific

equipment, and staff training.

Other Controls

- 4.28 Bare soil surfaces on the landfill Site shall be minimized and vegetated, as necessary, to prevent loafing by gulls. Specifically, bare soil areas that will remain unused for extended periods of time (4 months or more) shall be seeded with a grass/weed seed mixture to establish tall vegetation (> 20 cm).
- 4.29 (1) The Owner shall empty the open-air garbage bins at the Residential Container Station at the Site when they are near capacity. No waste materials other than approved by this Approval shall be placed/stored outside of the bin.
- (2) In the event gulls become a nuisance at the station, the Owner shall implement the approved gull control measures as approved by this Approval.
- (3) In the event the approved gull control measures are unsuccessful in alleviating gull nuisances at the station, the Owner shall submit to the Director for approval, a plan that provides alternative methods (from those already approved) to minimize nuisance created by gulls at the station.
- 4.30 The Site shall be actively monitored to eliminate pools of standing water and reduce the attraction to gulls for loafing. Areas of standing water shall be regraded or filled with soil as soon as practically possible.
- 4.31 The stormwater management pond for this landfill Site shall be designed and constructed to discourage use of the pond by gulls as a loafing site during the day. Pond design shall consider high perimeter berms and dense planting of trees or tall shrubs on the berms.
- 4.32 Construction of berms on the Site using a mixture of soil and waste shall not use waste that contains food scraps.
- 4.33 Any long-term soil stockpiles on the Site shall be seeded with a grass/weed seed mixture to establish vegetation in order to minimize soil erosion, dust and attraction by gulls for loafing.
- 4.34 The Owner shall ensure that one full-time staff member at the landfill Site shall be designated as the Control Officer responsible for directing daily gull control program activities.
- 4.35 Prior to the implementation of the gull control program and on a regular basis thereafter, all staff directly responsible for daily operation of the landfill shall be trained on all aspects of the program in accordance with Section 7.5 in Item 110 in Schedule "A" of this Approval, as amended.
- 4.36 The Owner shall make its best efforts to communicate and cooperate with management staff of the Lindsay Airport regarding the effectiveness of the gull control program for the landfill Site.

The Annual Report (Condition 15) shall be made available to management staff of the Lindsay Airport.

Paved Roads and Parking Lots

- 4.37 Use of chloride-based de-icing salts on paved surfaces (on-site roads and parking areas) shall be minimized in order to limit the potential for groundwater contamination and interference with groundwater / leachate monitoring for the Site. Alternative de-icing products may be used to ensure safe vehicle operations during winter conditions. Accurate records of application of de-icing products (type, date, amount, location) shall be prepared and maintained.

Spills

- 4.38 All spills and upsets shall be immediately reported to the Ministry's Spills Action Centre (SAC) and shall be recorded in a log as to the nature of the spill or upset, and the action taken for clean-up, correction and prevention of future occurrences.

Subsurface Migration of Landfill Gas

- 4.39 The Owner shall ensure that all buildings and structures to be built on the Site shall be situated, constructed and monitored in a manner which minimizes the potential for explosive hazards due to landfill gas. Methane detection and alarm equipment, with active venting or with an effective passive venting system to relieve any possible landfill gas accumulation, shall be installed and maintained for all enclosed buildings on the Site which at times are occupied by people. Routine monitoring for explosive methane gas levels shall be conducted in all buildings on the Site, especially enclosed structures which at times are occupied by people.
- 4.40. The design of the Site and any plans, specifications and descriptions for the control of landfill gas must ensure that the subsurface migration of landfill gas meets the following limits from Section 14(2) of Reg. 232:
- a. The concentration of methane gas below the surface of the land at the boundary of the Site must be less than 2.5 per cent by volume;
 - b. The concentration of methane gas must be less than 1.0 per cent by volume in any on-Site building or enclosed structure, and in the area immediately outside the foundation or basement floor of the building or structure, if the building or structure is accessible to any person or contains electrical equipment or a potential source of ignition;
 - c. Sub-condition (b) does not apply to a leachate collection, storage or treatment facility or a landfill gas collection or treatment facility for which specific health and safety measures and procedures are in place relating to the risk of asphyxiation and the risk of explosion; and
 - d. The concentration of methane gas from the Site must be less than 0.05 per cent by volume

in any off-Site building or enclosed structure, and in the area immediately outside the foundation or basement floor of the building or structure, if the building or structure is accessible to any person or contains electrical equipment or a potential source of ignition.

- 4.41 The Owner shall follow the landfill gas trigger level and contingency response plan described in the Design and Operations Report. If the measured gas concentration at a gas probe exceeds the applicable Reg. 232 limit, the reading shall be re-measured immediately and daily for a period of up to 3 consecutive days. If these readings confirm the applicable limit has been exceeded, appropriate control measures shall be implemented as soon as possible thereafter.

Granular Leachate Collection Layer

- 4.42 (1) A thickness of at least five (5) metres of compacted waste and cover material shall be maintained between any landfilled sludge (solid non-hazardous as per Reg. 347) and the granular leachate collection layer.
- (2) The maximum path of that leachate may travel prior to intercepting a leachate collection pipe shall be not more than 50 metres in length.
- (3) Pipes must be bedded in a continuous layer of stones that extends completely across the base of the waste fill zone and that has a minimum thickness of 0.3 metres on the base side slopes and a minimum thickness of 0.5 metres elsewhere. The stones must have a D_{85} of not less than 37 millimetres, a D_{10} of not less than 19 millimetres, a uniformity coefficient (D_{60}/D_{10}) of less than 2.0 and, when measured by weight, not more than 1.0 per cent of the stones may pass the US #200 sieve.
- 4.43 Heavy equipment, such as the landfill compactor, shall not be allowed to pass over the composite liner and leachate collection system in the north expansion fill area until at least 1.5 metres of waste has been placed over the leachate collection system and liner.

Leachate Treatment

- 4.44 Leachate generated at this Site shall be collected and treated as long as necessary following closure of this Site for protection of the natural environment. Leachate collection and treatment may be discontinued following written approval by the Director, based on consultation with the PRC and an application by the Owner to the Director with supporting documentation to confirm that leachate collection and treatment is no longer necessary, including monitoring results which indicate that the levels of contamination in the leachate have decreased to acceptable levels with respect to groundwater and surface water impacts.

Seepages

- 4.45 The Owner shall thoroughly inspect the landfill Site, at least once per month, for evidence of leachate seepage or leachate springs. Incidences of leachate breakout are to be reported monthly to the PRC and District Manager, and annually to the Regional Director in the Annual Report,

together with a description of the remedial action taken.

Leachate Characterization

- 4.46 Upon commencement of landfilling in the north expansion fill area, the Owner shall conduct a leachate characterization study, based on representative samples of leachate obtained from the leachate collection systems, for the purposes of determining the current and projected leachate quality and quantity generated at this Site, and implementing an appropriate long-term leachate management plan for this Site. The results of the study shall be included in the Annual Report for this Site, as required by this Approval. Loadings to the Lindsay WPCP shall be closely monitored to determine the need for plant upgrades.

Leachate Disposal

- 4.47 Leachate from the leachate collection system shall be discharged to the Lindsay WPCP, unless prior approval of the Director is obtained for alternative leachate management and disposal.

Surface Water Management

- 4.48 Surface water and stormwater shall be managed in accordance with the stormwater management plan outlined in Section 5.1 of the Design and Operations Report. Prior to construction of the works, the Owner shall submit an application and obtain approval an Approval (sewage works) for surface water management works, including the stormwater management pond.
- 4.49 During the detailed design stage, trigger levels for the stormwater management pond discharge shall be established for closing the pond outlet valve, based on existing water quality monitoring data and the Scugog River background information.
- 4.50 Stormwater runoff generated from the active waste fill area shall be considered contaminated and treated as leachate. Operational methods shall ensure that any precipitation falling onto active waste fill areas, not under final cover, shall be directed to the leachate collection system. If necessary, granular sumps shall be dug into the waste to facilitate drainage of contaminated stormwater towards the leachate collection system.

Additional Construction Requirements

- 4.51 (1) Groundwater monitors and landfill gas monitors shall be protected from potential damage during construction of the ancillary facilities.
- (2) Erosion and sediment control measures, including silt fencing and flow check dams, shall be employed and function properly for the construction period. Installation of the erosion and sediment control measures shall be completed prior to commencement of construction. The measures shall be inspected regularly and maintained during construction and decommissioned once the site has been stabilized. Any problems that are found during inspections shall be rectified as soon as practicable. Accumulation of sediment in traps and

along silt fences shall be cleared as required.

ON-SITE METEOROLOGICAL STATION

4.52. The Owner shall install an on-site meteorological station to measure weather conditions during the operating life of the Site. Ambient temperature (minimum, mean, maximum), precipitation events, barometric pressure and wind speed and direction shall be recorded daily. Data shall be used to confirm estimates of infiltration and leachate generation, and to correlate with any nuisance complaints and landfill gas monitoring data.

5.0 SITE OPERATIONS

Waste Types

- 5.1 The Owner may only accept the following categories of waste to be landfilled and/or processed at the Site:
- Solid non-hazardous Municipal Waste generated from residential, commercial, institutional and industrial sectors;
 - Recyclable waste listed in Schedule 1 to 3 of Regulation 101/94 including construction and demolition waste and asbestos waste;
 - Septage waste;
 - Non-hazardous treated biosolids (processed organic waste) and dewatered sewage sludge from the Lindsay Water Pollution Control Plant (WPCP);
 - Other municipal non-hazardous waste: non-recyclable material from parks, grit from pollution control plants, street sweepings/road waste;
 - Non-hazardous Contaminated Soils;
 - Municipal Hazardous and Special Waste (MHSW) as listed in O. Reg. 387/16;
 - Source Separated Organics (SSO);
 - Waste Electrical and Electronic Equipment (WEEE) as listed in Schedules 1 through 7 of Ontario Regulation 389/16, as amended; and
 - Miscellaneous municipal solid non-hazardous waste: scrap metal, White Goods, textile and bulky plastics.

Landfill operations

- 5.2 (1) Except as otherwise provided for in this Approval, the Site shall be designed, developed,

built, operated and maintained in accordance with the supporting documentation in Schedule "A".

- (2) Non-hazardous Contaminated Soils and/or excess soil can only be landfilled at the Site if they meet Section 22 of O. Reg. 406/19, as amended, requirements.
- (3) Excess soil may be used at the Site for the purposes outlined in Section 22(2) of O. Reg. 406/19, as amended. Excess soil used at the Site for the purposes outlined in Section 22(2) of O. Reg. 406/19 shall not be landfilled and shall be stored within the approved fill limit in case of non-hazardous Contaminated Soils or at appropriate locations within the buffer lands in case excess soil is not Contaminated Soils.
- (4) Dewatered sewage sludge and treated biosolids shall be accepted and handled as per procedure outlined in Section 4.3.2 of Item 110 of Schedule "A".

Burning of Waste

5.3 Burning of waste is not permitted at the Site.

Waste Placement

- 5.4 Final slopes above grade at the time of Site closure within the waste fill area shall be within the range of 4H:1V (25%) and 20H:1V (5%).
- 5.5 Waste placement shall occur at a minimum 1 meter above the highest groundwater table elevation at the Site
- 5.6 The Owner shall deposit waste in a manner that minimizes exposure area at the landfill working face and all waste shall be compacted before cover is applied.

Asbestos Waste

- 5.7 Any waste that is considered asbestos waste shall be handled in accordance with Section 17 of O. Reg. 347 as amended from time to time.
- 5.8 A suitable sized excavation for the asbestos waste shall be made by the Owner in a location away from the active landfilling face.
- 5.9 All asbestos waste shall be inspected to ensure that the asbestos waste is properly bagged or contained and free from puncture, tears or leaks.
- 5.10 The asbestos waste shall be placed in the excavation to avoid damage to the containers and to prevent dust and spillage.
- 5.11 Upon completion of the unloading and deposition of the asbestos in the excavation, at least 125

centimetres of cover or waste material shall be placed over the asbestos.

- 5.12 All asbestos waste shall be deposited to a level no higher than 1.25 metres below the general elevation of the disposal area to ensure that daily cover material removal in the future does not encounter the asbestos waste.

Cover Material

- 5.13 Daily, interim and final cover material shall be applied in accordance with Section 3.1.5 of the Design and Operations Report and as follows:
- a. Daily Cover - By the end of each working day, the entire working face shall be compacted and covered with a minimum thickness of 150 mm of soil cover or an approved thickness of alternative cover material. Prior to placing waste at the start of the next operating day, the existing daily cover material shall be scarified or removed to ensure vertical hydraulic connection is maintained between layers of waste and to promote percolation of leachate downwards to the leachate collection system. The daily soil cover material shall be applied with appropriate wide-track or rubber tire equipment, not the waste compactor. Where weather conditions or operational problems prevent the daily application of cover material, the Owner shall immediately notify the District Manager and the PRC.
 - b. Interim Cover - In areas where landfilling has been temporarily discontinued for 3 months or more, a minimum thickness of 300 mm of soil cover or an approved thickness of alternative cover material shall be placed and vegetated, as required.
 - c. Final Cover - Shall be applied progressively as areas of the landfill reach final waste elevations within the existing fill area, subject to Response #66 in Item 37 in Schedule "A", and within the north expansion fill area. All areas of final cover shall be graded and vegetated as soon as practically possible. The final soil cap shall be regularly inspected and maintained following application and during the post-closure period. Without limiting the above, the Owner shall ensure for a minimum of five years after completion of the cap that the Site shall be inspected at least on a quarterly basis to ensure that there is positive drainage along the cap and that during the frost free period of the first two years following completion, such inspections shall be monthly. If any inspection indicates that there is an area of ponding or zero slope, the Owner shall take all steps necessary to provide positive drainage and rehabilitate the final cap as soon as practically possible.

Alternative Daily and Interim Cover Material

- 5.14 (1) Alternative materials to soil may be used as daily and interim cover material, based on an application with supporting information and applicable fee for a trial use or permanent use, submitted by the Owner to the Director, copied to the District Manager and the PRC, and as approved by the Director via an amendment to this Approval. The alternative material shall be non-hazardous according to Reg. 347 and will be expected to perform at least as well as

soil in relation to the following functions:

- a. Control of blowing litter, odours, dust, landfill gas, gulls, vectors, vermin and fires;
- b. Provision for an aesthetic condition of the landfill during the active life of the Site;
- c. Provision for vehicle access to the active tipping face; and
- d. Compatibility with the design of the Site for groundwater protection, leachate management and landfill gas management.

(2) The following materials are approved by the Director be used as Alternative Daily Cover (the material thickness with the exception of Item (f) and (i) must be 150 mm in thickness):

- a. Non-hazardous Contaminated Soil and uncontaminated soil;
- b. Foundry sand;
- c. Wood chips;
- d. Compost;
- e. Shingles;
- f. Flexible Membranes (tarps, Enviro Cover); and
- g. Blasting mats.
- h. Partially Composted leaf and yard waste from onsite composting
- i. Steel plates
- j. road sweeping, grit from catchbasin

(3) The Owner for Condition 5.14 (2) - Items (a), (b), (c) , (d) and (e) shall ensure that if material brought to the Site from outside the City of Kawartha Lake boundaries, no more than a 3 month supply of daily cover is stockpiled a the Site at any time. Any material from outside the boundaries of the Owner of Kawartha Lakes must be approved by the District Manager prior to receipt and reviewed by the PRC.

(4) The Owner shall ensure they have a supply of daily cover (soil) available should any of the alternative daily covers listed in Condition 5.14 (2) fail to meet required specifications outlined in this Approval.

(5) The Owner shall review with the PRC the effectiveness of the alternative daily cover every two

(2) years.

Leachate Monitoring

- 5.15 Regular monitoring of leachate quantity and quality collected and discharged from the Site shall be conducted to allow the potential impact to the local receiving sewage treatment plant to be closely monitored and any necessary corrective action taken.

Cleaning Leachate Collection System (LCS)

- 5.16 The leachate collection system piping for the existing fill area and constructed portions of the north expansion fill area shall be cleaned out at least once per year with a high pressure wash, and with video inspections conducted to confirm that the pipes are clean and to determine the need for more frequent cleaning. Assessment of the need to amend the cleaning frequency shall be based on regular inspections of the leachate collection system and monitoring results. Inspection and maintenance of the leachate collection pipes, pumping station and forcemain shall be carried out in accordance with Sections 5.22 and 5.23 in the Design and Operations Report, and Response #72 in Item 35 in Schedule "A" attached to this Approval.

6.0 OTHER WASTE MANAGEMENT FACILITIES

Recycling Depot

- 6.1 The Recycling Depot shall be operated in accordance with Regulation 101/94, Part III - Municipal Waste Recycling Depots, Section 19.
- 6.2 The Owner may establish outdoor storage in bins, bunkers or trailers for the temporary storage of the following:
- a. Construction and demolition waste in addition to waste listed in Schedule 3 - Recyclable Waste Other Than Blue Box Waste That Cannot be Comingled of Regulation 101/94;
 - b. Material destined for off-site reuse or recycling;
 - c. Textiles;
 - d. Mattresses;
 - e. Road sweepings, soils from ditch cleaning or catchbasin cleanouts.

Leaf and Yard Waste Composting Facility

- 6.3 (1) The relocated Leaf and Yard Composting Facility shall be constructed, maintained and monitored in accordance with the Report listed as item No.76 (Stantec Report January 2015) as amended by items No. 78, 79, 80, 81, 83, 84 and 85 of the Schedule A of this

Approval.

- (2) The relocated Leaf and Yard Composting Facility shall be operated in accordance with Regulation 101/94, Part V - Leaf and Yard Waste Composting Sites, Sections 31 to 33.
- (3) Notwithstanding any of the provisions in Section 31 to 33 of Part V of the Regulation 101/94, the Owner shall operate the relocated Leaf and Yard Composting Facility subject to the following Conditions;
 - a. The maximum amount of the Leaf and Yard waste at the relocated Leaf and Yard Waste Composting Facility (as shown on the drawing listed as item No. 77 of the Schedule A), at any time shall not be greater than 8000 tonnes.
 - b. Leaf and Yard waste segregated fine material may not be stored for more than four days before it is placed in windrows.
 - c. Leaf and Yard waste coarse material that is segregated for grinding shall be ground twice per year at a minimum unless agreed to by the District Manager.
 - d. The maximum quantity of the segregated coarse material at any time at the relocated Leaf and Yard Composting Facility shall not be greater than 750 tonnes.
 - e. On a trial basis, during three years, following the completion of the relocated leaf and yard composting facility construction, the temperature of each composting mass shall be measured and recorded weekly, at a minimum until the requirements in paragraphs 4 and 5 of Section 31 of Part V of the Regulation 101/94 have been satisfied. During the curing phase the temperature shall be measured and recorded weekly.
- (4) The Owner shall prepare and submit a Report to the District Manager within 3 years following the completion of the relocated leaf and yard composting facility construction , providing results of the monitoring of the relocated Leaf and Yard Composting Facility and compliance with Conditions 6.3(1), 6.3(2) and 6.3(3). The Report shall include at a minimum, the sampling analysis of the finished compost and document recommendations for continuation or amendment of Condition 6.3(3)(e).
- (5) Approval is hereby granted for the construction and operation of the Infiltration Pond and a Valve Chamber to collect and treat the unsegregated and impacted storm water run off from the relocated compost pad in accordance with Items 94, 95 and 105 of Schedule "A".
- (6) Water level in the Infiltration Pond shall be recorded on a weekly basis, at a minimum, using a staff gauge. Excess water from the Infiltration Pond shall be discharged via the Valve Chamber into Lagoon 1.
- (7) Discharge of water via the spillway shall be minimized by managing the water level with the Valve Chamber. If an overflow does occur from the Infiltration Pond via the spillway, then the

event shall be recorded and reported to the Ministry as part of the Annual Monitoring Report.

Septage Waste Drop Off Station

- 6.4. The manhole(s) for the septage waste drop-off station shall be covered at all times when not in use.

Household Hazardous Waste (HHW) Depot

- 6.5. (1) The HHW depot shall be built and operated in accordance with Items 52 and 53 of Schedule "A". Administrative amendments to Item 52 of Schedule "A" (i.e. HHW Depot Operations Manual) shall be submitted to the District Manager for approval.
- (2) The operation of the HHW Depot is limited to the receipt and transfer of household hazardous waste consisting of classes 112, 113, 114, 122, 123, 135, 145, 146, 147, 148, 212, 213, 221, 232, 241, 242, 252, 261, 263, 269, 312 and 331 as defined in the "New Ontario Waste Classes" dated January 1986 or as amended.
- (3) The HHW Depot may receive HHW during the maximum operating hours of 7:00 am. and 7:00 p.m. from Monday through Saturday.
- (4) The total amount of liquid waste stored at the HHW Depot, at any one time, shall not exceed 5,000 litres (5 cubic metres) or equivalent.
- (5) The total amount of solid waste stored at the HHW Depot, at any one time, shall not exceed 40 tonnes.
- (6) No HHW shall be stored at the HHW Depot for a period longer than three (3) months without approval of the District Manager.
- 6.6 (1) The HHW depot shall not receive any pathological waste (class 312) other than syringes, lancets and needles.
- (2) No radioactive wastes shall be accepted at the HHW depot.
- (3) No PCBs (class 243) shall be accepted at the HHW depot. Oil and oil-based paints which have been manufactured prior to 1972, or whose manufacturing date cannot be determined, may contain PCBs, and shall be handled in the following manner;
- a. Oil and oil-based paints shall not be mixed or bulked with other paints prior to testing. Paints which are lab-packed are not considered to be mixed under this Approval.
- b. The oil and oil-based paints shall be tested by a certified laboratory for PCB content. If the oil and oil-based paints are found to contain PCBs at or above levels identified

in subcondition 6.6(3)(c), it shall be forthwith reported to the District Manager and the PCB waste shall be managed in accordance with Regulation 362/92 and stored or removed from the HHW depot to an approved PCB storage site, in accordance with written instructions from the District Manager.

- c. The oil and oil-based paints shall not be distributed for reuse if they have any measurable PCB content. The oil and oil-based paint is considered to be a PCB waste, if measured levels are equal to or greater than 50 parts per million.

(4) Except as specified in subcondition 6.6(3)(c), paints collected at the HHW depot may be returned or sold to the general public for reuse provided all transactions are recorded by invoice. Information on the type and volume of paint returned to the public through this HHW depot shall be recorded in a log book kept at the HHW depot.

(5) The Owner shall maintain a log book at the HHW depot which shall record, on each day of operation:

- a. date of record;
- b. types, quantities and source of waste received;
- c. quantities of waste stored at the Depot;
- d. quantities and destination of waste shipped from the Depot;
- e. quantities of paints returned or sold to the general public;
- f. results of routine, visual inspection of the Depot; and
- g. any reporting of spills or upsets and actions taken to contain and manage.

6.7 (1) The HHW Depot shall only operate when under the supervision of staff trained in accordance with Item 52 of Schedule "A", the HHW Depot Operations Manual.

(2) Sufficient numbers of drums and lab-packed containers shall be available at the HHW depot such that all HHW, in quantities unanticipated or otherwise, can be safely stored.

(3) The Owner shall ensure that the waste are properly handled, packaged, contained or stored in a safe and secure manner so as not to pose any threat to the general public, site personnel and the natural environment, and that the operation of this HHW depot does not interfere with any other activities associated with this waste disposal Site.

(4) Emergency response in the event of a spill or upset shall be undertaken in accordance with Item 52 of Schedule "A", the HHW Depot Operations Manual. This Manual shall be kept at

the HHW depot at all times and made easily accessible to all staff.

- (5) The Owner shall ensure that all contingency and emergency response equipment and materials are immediately available at the HHW depot at all times, in a good state of repair and fully operational.
- (6) The Owner shall conduct routine, visual inspections of the entire HHW depot area to ensure its security and to minimize off-site impacts such as odour, dust, litter and other nuisance factors.

6.8 Within four (4) months of the scheduled closure of the HHW depot, the Owner shall submit a detailed Closure Plan for approval by the Director. The Plan shall include, as a minimum, description of the work required to close the HHW depot, schedule of works and decommissioning of the HHW area.

Source Separated Organics Facility

- 6.9 (1) The Source Separated Organics (SSO) Facility shall be constructed, maintained and monitored in accordance with the Report listed as item No.108 of Schedule "A" of this Approval.
- (2) The Owner shall operate Source Separated Organics Facility subject to the following Conditions;
- a. The maximum amount of SSO at any time shall not exceed 18 tonnes.
 - b. The amount of SSO received per day shall not exceed 18 tonnes.
 - b. SSO shall be transferred off-site to a licenced processing facility within 24 to 48 hours after its receipt.
 - c. SSO shall be transferred to sealed roll-off containers/bins which shall be covered all the time except when being loaded.
 - e. Daily inspection of the SSO Facility shall be conducted for potential odour concerns, bin conditions, pest control and water ponding and findings shall be noted in log book required in Condition 7.2.
- (3) Stormwater run-off (contact or non-contact) generated at SSO Facility shall be directed towards the North Stormwater Management Facility.

7.0 RECORD KEEPING

7.1 The Owner shall ensure that daily records of Site operations are made for each operating day during the operation of the Site, in accordance with Section 11 of the Design and Operations

Report, and that the records are retained at the Site for at least two years after they are made.

7.2 Daily records shall be maintained at the Site in a log book and shall include:

- a. the type, date and time of arrival, hauler, and quantity (tonnes) of all waste and cover material received at the Site, and of all waste refused by the Site;
- b. the area of the Site in which waste disposal operations are taking place;
- c. any complaints from the public received by the Owner concerning landfilling operations and a description of the action taken by the Owner in response;
- d. the amount of any leachate removed, or treated and discharged from the Site;
- e. a record of litter collection activities and the application of dust suppressants;
- f. a record of the inspections of any control, treatment, disposal or monitoring facilities; and
- g. a description of any out-of-service period of any control, treatment, disposal or monitoring facilities, the reasons for the loss of service, and action taken to restore and maintain service.

Record Retention

7.3 The Owner shall retain all documentation listed in Schedule “A” for as long as this Approval is valid.

7.4 The Owner shall retain employee training records as long as the employee is working at the Site.

7.5 The Owner shall make all of the above documents available for inspection upon request of Ministry staff.

8.0 COMPLAINTS PROCEDURE

8.1 The Owner shall establish a public complaints response procedure for the landfill Site in accordance with Section 11.1 of the Design and Operations Report. The Owner shall establish and publicise a day time and after hours telephone number for complaints about the operation and maintenance of the landfill Site. The Owner shall be responsible for responding to a complaint in accordance with the public complaints response procedure.

9.0 EMERGENCY SITUATIONS

9.1 In the event of a fire or discharge of a contaminant to the environment, Site staff shall contact the MECP Spills Action Centre (1-800-268-6060) and the District Office of the MECP.

- 9.2 The Owner shall submit to the District Manager a written report within three (3) days of the spill , outlining the nature of the incident, remedial measures taken and measures taken to prevent future occurrences at the Site.
- 9.3 The Owner shall have a Emergency Response Procedures Manual at the Site and shall be available for inspection by Ministry staff.
- 9.4 The Owner shall ensure that adequate fire extinguishers and contingency spill clean up equipment is available and that emergency response personnel are familiar with its use and location.

10.0 ENVIRONMENTAL MONITORING

Groundwater Wells/Monitors

- 10.1. The Owner shall ensure that all groundwater monitoring wells which form part of the monitoring program shall be properly capped, locked and protected from damage.
- 10.2. Where landfilling is to proceed around monitoring wells, suitable extensions shall be added to the wells, and the wells shall be properly re-secured and protected.
- 10.3. Any groundwater monitoring wells included in the ongoing monitoring program that are damaged shall be assessed, repaired, replaced or decommissioned by the Owner, as required.
- 10.4. The Owner shall repair or replace any monitoring well which is destroyed or in any way made to be inoperable for sampling, but still required as part of the monitoring program, such that no more than one regular sampling event is missed.
- 10.5. All monitoring wells which are no longer required as part of the groundwater monitoring program, and have been approved by the District Manager for abandonment, shall be decommissioned by the Owner, as required, in accordance with Ontario Regulation 903. A report on the decommissioning of the well shall be included in the Annual Report for the reporting period during which the well was decommissioned.

Environmental Monitoring Programs

- 10.6. The Owner shall carry out monitoring programs for waste, groundwater, leachate, surface water, and landfill gas, as described in the Design and Operations Report, as summarized in Schedules "B", "C", "D", "E" and "F" attached to this Approval, and in accordance with any related other Approval approvals issued for this Site. The Owner shall ensure that any proposed changes to the monitoring programs under this Approval shall be acceptable to the District Manager before applying for an amendment to the Director for Approval.
- 10.7 Leachate heads acting on the composite liner in the north expansion fill area shall be monitored three (3) times per year using vibrating wire piezometers (VWPs) installed on the liner surface at 5 locations shown on Figure 8.1, Monitoring Well and Gas Probe Locatin Plan, WSP Canada

Inc., dated December 2025 and revised on February 2026 (Item 110 in Schedule "A"). If failure of a vibrating wire piezometer is detected within the contaminating life span of the landfill, it shall be replaced with a slotted PVC standpipe installed through the waste, or another device or method acceptable to the Director.

- 10.8 Any off site exceedances of parameters for groundwater, surface water, or odour shall be reported to the District Manager within seven (7) days of receiving laboratory test results that indicate an exceedance. In addition, a statement detailing which results are out of compliance with the Ministry's guidelines and objectives shall be provided at the same time as the results.

Compliance Criteria

10.9 The Site shall be operated in such a way to ensure compliance with the following:

- a. Guideline B-7 Reasonable Use Concept at monitoring points along the property line that have the potential to be impacted by leachate from the Site;
- b. Provincial Water Quality Objectives (PWQO) for surface water impact; and
- c. Landfill gas standards prescribed in O. Reg. 232/98, as amended, and outlined in Condition 4.40.

Leachate Collection and Disposal System Monitoring and Recording

The Owner shall carry out the following monitoring program for the LCDS:

- 10.10 All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of leachate over the time period being monitored.
- 10.11 Samples shall be collected at sampling points, at the frequency specified, by means of the specified sample type and analyzed for each parameter listed in Tables 1 and 2 of Schedule G of this Approval and all results shall be recorded.
- 10.12 The methods and protocols for sampling leachate, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:
- a. The Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)", as amended from time to time by more recently published editions;
 - b. The Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions; and

- c. The publication “Standard Methods for the Examination of Water and Wastewater” (21st edition), as amended from time to time by more recently published editions.

10.13 The Owner shall install and maintain (a) flow measuring device(s), to measure the flow rate of leachate from the LCDS with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flow rate for the entire design range of the flow measuring device in order to measure and record:

- a. The quantity of leachate being conveyed through Leachate Pumping Station No.1;
- b. The quantity of leachate being conveyed through the Leachate Pumping Station No.2; and
- c. The quantity of sewage being conveyed through the Sewage Pumping Station.

10.14 The Owner shall retain for a minimum of three (3) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by Conditions 10.10 through 10.13 of this Approval.

Changes to the Monitoring Plan

10.15 The Owner may request to make changes to the monitoring program(s) to the District Manager in accordance with the recommendations of the Annual Report. The Owner shall make clear reference to the proposed changes in a separate letter that shall accompany the Annual Report.

10.16 Within fourteen (14) days of receiving the written correspondence from the District Manager confirming that the District Manager is in agreement with the proposed changes to the environmental monitoring program, the Owner shall forward a letter identifying the proposed changes and a copy of the correspondences from the District Manager and all other correspondences and responses related to the changes to the monitoring program, to the Director requesting the Approval be amended to approve the proposed changes to the environmental monitoring plan prior to implementation.

10.17 In the event any other changes to the environmental monitoring program are proposed outside of the recommendation of the Annual Report, the Owner shall follow current ministry procedures for seeking approval for amending the Approval.

11.0 TRIGGER MECHANISMS AND CONTINGENCY PLANS

11.1. In the event of a confirmed exceedance of a site-specific trigger level relating to leachate mounding or groundwater or surface water impacts due to leachate, the Owner shall immediately notify the District Manager, and an investigation into the cause and the need for implementation of remedial or contingency actions shall be carried out by the Owner in accordance with the approved trigger mechanisms and associated contingency plans described in Section 8 of the Design and Operations Report.

- 11.2. The Owner shall ensure that any proposed changes to the site-specific trigger levels for groundwater and surface water impacts due to leachate shall be approved in advance by the Director via an amendment to this Approval.
- 11.3 If monitoring results, investigative activities and implementation criteria indicate the need to implement contingency measures, the Owner shall ensure that the following steps are taken:
- a. The Director, District Manager and PRC shall be notified by the Owner as soon as possible of the need to implement contingency measures;
 - b. Detailed plans, specifications and descriptions for the design, operation and maintenance of the contingency measures shall be prepared and submitted by the Owner to the Director for approval; and
 - c. The contingency measures shall be implemented by the Owner upon approval by the Director.

12.0 ADDITIONAL STUDIES

Landfill Assessment and Wetland Impact Study

- 12.1 Study B in the Landfill Assessment and Wetland Impact Study, Item 21(b) in Schedule "A", shall be reviewed and updated by the Owner every 5 years, starting in 2003, and included with the Annual Report for the Site.
- 12.2 Commencing 2023, the Owner shall conduct aquatic lethality testing at SW13 and wastewater pollution control plant (WPCP) four times a year in addition to the implementation of existing surface water monitoring program. The changes in the frequency of aquatic lethality testing can be made after District Manager's approval.
- 12.3 A discharge estimate of the daily flow entering the Scugog River shall be made at SW3, SW13 and WPCP to determine loading using parameter concentration data obtained under Condition 10.6.
- 12.4 The technical data and its analysis collected under Conditions 12.2 and 12.3 shall be included in the annual monitoring report required under Condition 15.

13.0 PUBLIC REVIEW COMMITTEE (PRC)

- 13.1 The Owner shall forthwith take all reasonable steps to maintain and participate in a landfill Public Review Committee (PRC), which is to function within terms of reference for the PRC, as prepared in consultation with the interested members of the affected public, and as amended from time to time according to appropriate amending procedures. The PRC shall serve as a focal point for dissemination, consultation, review and exchange of information regarding the operation of the landfill Site, including environmental monitoring, maintenance, complaint resolution, and

new approvals or amendments to existing approvals related to the operation of this landfill Site.

- 13.2 The membership of the PRC shall include at least one member from the Owner and at least two members from interested parties.
- 13.3 Copies of all reports or other submissions required by the conditions of this Approval shall be made available to the PRC in accordance with the deadlines specified in the Conditions.
- 13.4 The Owner shall provide to members of the PRC and to any neighbouring residents reasonable notice and opportunities to make comments regarding any proposed amendment to this Approval. The Owner shall forward to the Director for consideration any written comments received by the Owner and advise the Director of the essence of any verbal comments received by the Owner regarding such proposed amendment.

14.0 SITE STAFF TRAINING PLAN

- 14.1 The Owner shall develop and maintain a training plan for current and new Site operations employees and shall ensure that all Site operations employees have been adequately trained and receive on-going training with respect to the following, as amended:
 - a. Terms, conditions and operating requirements of this Approval;
 - b. The operation, inspection, and maintenance of the Site with respect to the approved design and operations documents;
 - c. Relevant waste management legislation and regulations;
 - d. Environmental concerns related to waste management at the Site;
 - e. Occupational health and safety concerns related to waste management at the Site; and
 - f. Emergency procedures and contingency plans in cases of fire, spills, off-site impacts and any other emergency situations.

15.0 ANNUAL REPORT

- 15.1 The Owner shall prepare an Annual Report on the development, operations and monitoring of the Site. The report shall be submitted to the Regional Director, the District Manager and the PRC, by April 30 each year, and shall cover the preceding calendar year. The report shall include the following:
 - a. The results and an interpretive analysis of the results of all leachate, groundwater, surface water, landfill gas and biology monitoring, including an assessment of the need to amend the monitoring programs and trigger mechanisms or to implement contingency measures. This will include a discussion on the monitoring parameters and locations required by the

Approval and the deletion of any parameter or location. In addition, this will include a discussion on the analyse(s) and location(s) on any additional sampling parameter(s) and/or sampling location(s) in which the Owner completed that is not currently required by this Approval.

- b. Mapping of concentrations of chloride, ammonia-N, phosphorus, toluene and phenols in the upper bedrock aquifer and estimates of contaminant mass loadings to the Scugog River from the landfill via leachate migration and from the WPCP lagoons through the upper bedrock aquifer, for chloride, ammonia-N, phosphorus, toluene and phenols, based on Response #98 in Items 35 and 37 in Schedule "A";
- c. Review and assessment of the effectiveness of the gull control program, including the following information:
 - i. Implementation and status of habitat management activities;
 - ii. Implementation and effectiveness of active control measures;
 - iii. Summaries of gull activity at the landfill Site;
 - iv. Monthly summaries of the number and species of gulls shot for the lethal gull control program;
 - v. Documentation of complaint records and actions taken in response;
 - vi. Status of required permits; and
 - vii. Changes undertaken, or required, to improve the effectiveness of the gull control program.
- d. An assessment of the operation and performance of all engineered facilities, the need to amend the design or operation of the Site, and the adequacy of and need to implement the contingency plans;
- e. submission of the WPCP data as an appendix to the landfill annual report;
- f. an assessment of the discharge from SW3, SW13 and the WPCP on water quality in the Scugog River, particularly Embayment A using interpretive or modelling tools;
- g. Site plans showing the existing contours of the Site; areas of landfilling operation during the reporting period; areas of intended operation during the next reporting period; areas of excavation during the reporting period; the progress of final cover, vegetative cover, and any intermediate cover application; the progress of liner placement and leachate collection system placement; previously existing site facilities; facilities installed during the reporting period; and site preparations and facilities planned for installation during the next reporting

period;

- h. Calculations of the volume of waste, daily and intermediate cover, final cover, and liner and leachate collection system material deposited or placed at the Site during the reporting period and a calculation of the total volume of Site capacity used during the reporting period;
- i. A calculation of the remaining capacity of the Waste fill area and an estimate of the remaining waste disposal capacity;
- j. A summary of wastes accepted and transferred off site for recycling or reuse.
- k. A summary of the quantity of any leachate or pre-treated leachate removed from the Site or leachate treated and discharged from the Site during each operating week;
- l. Summaries of the monthly, maximum daily (as available), and total annual quantity (tonnes) of waste received at the Site;
- m. A summary of any public complaints received by the Owner and the responses made;
- n. A discussion of any operational problems encountered at the Site and corrective action taken;
- o. The status of compliance with all conditions of this Approval, including the inspection, monitoring and reporting requirements in the conditions of this Approval;
- p. Any other information with respect to the Site which the Regional Director or District Manager may require from time to time; and
- q. A discussion of any operational or performance issues related to the use of alternative daily cover at the Site.

16.0 SITE CLOSURE PLAN

- 16.1 The low permeability final cover system for the completed south area of the landfill shall be completed in accordance with Item 48 in Schedule "A".
- 16.2 At least two (2) years prior to the anticipated date of closure of this Site or the date 90 per cent of the total waste disposal volume is reached, whichever occurs first, the Owner shall submit to the Director for approval, with copies to the District Manager and the PRC, a detailed Site Closure Plan pertaining to the termination of landfilling operations at this Site, post-closure inspection, maintenance and monitoring, and end use, based on Section 12 of the Design and Operations Report. The plan shall include the following:

- a. A plan showing Site appearance after closure;
- b. A description of the proposed end use of the Site;
- c. Descriptions of the procedures for closure of the Site, including:
 - i. Advance notification of the public of the landfill closure;
 - ii. Posting of a sign at the Site entrance indicating the landfill is closed and identifying any alternative waste disposal arrangements;
 - iii. Completion, inspection and maintenance of the final cover and landscaping;
 - iv. Site security;
 - v. Removal of unnecessary landfill-related structures, buildings and facilities; and
 - vi. Final construction of any control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
- d. Descriptions of the procedures for post-closure care of the Site, including:
 - i. Operation, inspection and maintenance of the control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
 - ii. Record keeping and reporting; and
 - iii. Complaint contact and response procedures;
- e. An assessment of the adequacy of and need to implement the contingency plans for leachate and landfill gas; and
- f. An updated estimate of the contaminating life span of the Site, based on the results of the monitoring programs to date.

SCHEDULE "A"

This Schedule "A" forms part of this Approval. If there is a conflict between documents listed in Schedule "A", the document bearing the most recent date shall apply:

Selected Supporting Documentation - Interim Expansion

1. Hydrogeological Investigation and Design Plan of a Proposed Sanitary Landfill, Lot 26, Concession 6, Township of Ops, prepared by Hydrology Consultants Limited, dated August 1978.
2. Surface Water Quality Assessment Report, prepared by Senes Consultants Limited, dated March 1991.
3. Biological Assessment Report, prepared by Totten Sims Hubicki Associates, dated September 1991.
4. Survey attached to letter from W. R. Coe, William R. Coe Limited, to J. Tidball, Miller Thomson, dated December 2, 1991.
5. Supplementary Report [Hydrogeology], Town of Lindsay/Township of Ops Interim Landfill Expansion, prepared by Hydroterra Limited, dated May 1993.
6. Leachate Impact on Township of Ops Sewage Treatment Plant, prepared by Totten Sims Hubicki Associates, dated May 1993.

Conceptual Purge Well System (approved June 24, 1994)

7. Document entitled CONCEPTUAL PURGE-WELL SYSTEM, dated February 2, 1994, included as an attachment to the LINDSAY-OPS LANDFILL INTERIM EXPANSION HEARING Outline of Evidence of Leon Bryck and Bob Kearse, shown as Exhibit Number 33 at the Environmental Assessment Board hearing, including Figure entitled Town of Lindsay Lindsay-Ops Landfill Site Conceptual Bedrock Purge Well System, dated February 1994, shown as Exhibit Number 33(a) at the Environmental Assessment Board hearing.

Expansion of the Leachate Collection System (approved January 25, 1995)

8. Document entitled "Lindsay/Ops Landfill Site Leachate Collection System Expansion", dated September 1994 and prepared by Totten Sims Hubicki Associates.
9. Drawing No. G1 (Legend and Abbreviations), dated October 20, 1994 and prepared by Totten Sims Hubicki Associates.
10. Drawing No. P1 (Leachate Collector and Forcemain), dated October 20, 1994 and prepared by

Totten Sims Hubicki Associates.

11. Drawing No. P2 (Leachate Collector - Profile), dated October 20, 1994 and prepared by Totten Sims Hubicki Associates.
12. Drawing No. P3 (Leachate Collector - Profile), dated October 20, 1994 and prepared by Totten Sims Hubicki Associates.
13. Drawing No. D1 (Details), dated October 20, 1994 and prepared by Totten Sims Hubicki Associates.
14. Letter from I. Parrott, Ministry of Environment and Energy to S. Blakey, Totten Sims Hubicki Associates, dated December 5, 1994, re: Review Comments on Leachate Collection System.
15. Letter from S. Blakey, Totten Sims Hubicki Associates to I. Parrott, Ministry of Environment and Energy, dated December 6, 1994, re: Response to Ministry Review Comments of December 5, 1994.

Eastward Extension to Existing Shallow Leachate Collection System along South Side of Landfill Site (approved February 29, 1996)

16. Letter dated December 27, 1995, from S. J. Blakey of Totten Sims Hubicki Associates to D. Staseff of MOEE Approvals Branch, including:
 - a. Tender Documents dated December 1995.
 - b. Drawing No. G1 entitled "Leachate Collection System - Legend and Abbreviations", dated December 1995.
 - c. Drawing No. 1 entitled "Leachate Collector - Profile", dated December 1995.
 - d. Drawing No. 2 entitled "Leachate Collector - Profile", dated December 1995.
 - e. Application for Approval of a Waste Disposal Site, signed by P. Jeffrey Seaton, County Engineer, County of Victoria, dated December 19, 1995.
17. Letter dated January 4, 1996 from D. Staseff of MOEE Approvals Branch to S. J. Blakey of Totten Sims Hubicki Associates - comments on design.
18. Letter dated January 11, 1996 from S. J. Blakey of Totten Sims Hubicki Associates to D. Staseff of MOEE Approvals Branch - response to comments on design.
19. Letter dated January 30, 1996 from S. J. Blakey of Totten Sims Hubicki Associates to D. Staseff of MOEE Approvals Branch, including revised Tender Document, Section 11200, Page 3.

20. Letter dated February 2, 1996 from S. J. Blakey of Totten Sims Hubicki Associates to D. Staseff of MOEE Approvals Branch, including revised Drawing No. D1 entitled "Details".

Landfill Assessment and Wetland Impact Study (February 1996)

21. Report entitled "Landfill Assessment and Wetland Impact Study, Lindsay/Ops Landfill", prepared by Golder Associates Limited, dated February 1996, including:
 - a. Study A - Hydrogeological Assessment of Lindsay/Ops Landfill.
 - b. Study B - Assessment of Impacts from Lindsay/Ops Landfill and Lindsay WPCP on Surgen Lake Wetland and Scugog River.

Contaminant Attenuation Zone (approved March 8, 1999)

22. Property description and legal survey Plan 57R-7810, dated June 19, 1997, attached to letter dated February 23, 1999, from W. Abbott, P. Eng., County of Victoria, to D. Staseff, P. Eng., Ministry of the Environment.
23. Letter dated September 30, 1998, from W. Abbott, P. Eng., County of Victoria, to A. Dominski, Ministry of the Environment.
24. Application for Approval of a Waste Disposal Site, signed by W. Abbott, P. Eng., Waste Management Engineer, County of Victoria, dated September 30, 1998.
25. Letter dated September 22, 1998, from S. Richardson, Clerk-Treasurer, Corporation of the Township of Ops, to W. Abbott, County of Victoria.
26. Letter dated February 23, 1999, from W. Abbott, P. Eng., County of Victoria, to D. Staseff, P. Eng., Ministry of the Environment.

Approval under the *Environmental Assessment Act*

27. Order in Council dated May 31, 2000, and *Environmental Assessment Act*, Section 9, Notice of Approval to Proceed with the Undertaking, Re: An Environmental Assessment for the Provision of Long Term Waste Disposal Capacity for the County of Victoria - specifically with respect to those matters that are subject to Part V of the *Environmental Protection Act* and for the purposes of Section 12.2(2) in the *Environmental Assessment Act*.

Application under Part V *Environmental Protection Act* for Continued Use & North Expansion

28. Letter and Application for a Certificate of Approval under Part V of the *Environmental Protection Act* for the Continued Use and North Expansion of the Lindsay-Ops Landfill (MOE Ref. #3722-4NPK9T), signed by David Moy, Corporation of the County of Victoria, dated August 25, 2000, including the following supporting documentation dated July 2000 (except

were noted otherwise):

- a. EPA Summary Report, prepared by Earth Tech Canada Inc.
- b. Design Report, prepared by Earth Tech Canada Inc.
- c. Maintenance & Operations Report, prepared by Earth Tech Canada Inc.
- d. Hydrogeological / Geotechnical Assessment Reports:
 - i. Preliminary Modelling for Lindsay/Ops Landfill Expansion - Golder Associates Ltd., June 16, 1998.
 - ii. Evaluation of Native Till as Potential Landfill Liner Material, Lindsay/Ops Landfill - Golder Associates Ltd., July 1998.
 - iii. Estimation of Ammonia-N Loadings Due to Leakage from the Sewage Lagoon System, Lindsay/Ops Landfill Site - Golder Associates Ltd., December 1998.
 - iv. Trial Soil Liner Construction, Lindsay/Ops Landfill Expansion Study - Golder Associates Ltd., July 21, 1999.
 - v. Letter report dated November 19, 1999 from Frank Barone, Golder Associates Limited, to Julie Preslie, County of Victoria, Re: Revised "Trigger Mechanism", Lindsay/Ops Landfill.
 - vi. Geotechnical Assessment of the Proposed Cover System for the Existing Lindsay/Ops Landfill - Golder Associates Ltd., February 18, 2000.
 - vii. Leachate Generation Rates, Proposed Lindsay/Ops Landfill Expansion - Golder Associates Ltd., February 22, 2000.
 - viii. Estimated Quantity and Quality of Groundwater Collected from the Proposed Contingency Groundwater Purge Well System, Lindsay/Ops Landfill - Golder Associates Ltd., March 17, 2000.
 - iv. Hydrogeological Conditions and Assessment of Ammonia-N Loadings, Proposed Lindsay/Ops Landfill Expansion - Golder Associates Ltd., June 2000, including Appendix A - Site Specific Analysis of Leachate Collection System Service Life [200 years].
- e. Agricultural Study, prepared by Stovel and Associates Inc.
- f. Air Quality Impact Assessment, prepared by Earth Tech Canada Inc.

- g. Archaeology Assessment, prepared by Heritage Quest Inc. (revised July 13, 2000).
- h. Bird Hazard Assessment, prepared by Jacques Whitford Environment Limited.
- i. Leachate Disposal Study, prepared by Earth Tech Canada Inc.
- j. Natural Environment Assessment, prepared by Earth Tech Canada Inc.
- k. Noise Impact Assessment, prepared by Aeroustics Engineering Limited (revised July 25, 2000).
- l. Surface Water Assessment / Stormwater Management Plan, prepared by Earth Tech Canada Inc.
- m. Traffic Assessment, prepared by Earth Tech Canada Inc.
- n. Visual Impact Assessment, prepared by Earth Tech Canada Inc.

Gull Control

- 29. Letter dated September 26, 2000, from Greg Taras, Greg Taras Planning Consultants Ltd., to David Staseff, Ministry of the Environment, Re: **Wildlife Control Program** for the Continued Use and North Expansion of the Existing Lindsay-Ops Landfill, including:
 - a. Attachment "A" - Letter dated September 19, 2000, from Ron Huizer, Jacques Whitford Environment Limited, to David Moy, County of Victoria, Re: Lindsay-Ops Landfill Wildlife Control Program - Work Plan.
 - b. Attachment "B" - Letter dated September 15, 2000, from David Moy, County of Victoria, to Anne Mehnart, Lindsay Airport Authority, Re: Wildlife Awareness & Control Program for Lindsay Airport.
- 30. Final Report, Owner of Kawartha Lakes, Continued Use & North Expansion of the Lindsay-Ops Landfill, **Gull Control Program**, prepared by Jacques Whitford Environment Limited, dated September 2001.

Slope Modifications

- 31. Letter dated February 9, 2001, from Joe Ovcjak, Earth Tech Canada Inc., to Dave Staseff, Ministry of the Environment (response to letter dated February 1, 2001, from Dave Staseff, Ministry of the Environment, to Greg Taras, Greg Taras Planning Consultants Ltd.), including:
 - a. Drawing No. A1-99252-G1, entitled "Revised Final Contour Plan (2001), Existing Lindsay-Ops Landfill", dated February 2001.

- b. Drawing No. A1-99252-G2, entitled "Cross Section A-A' and B-B' Plan, Existing Lindsay-Ops Landfill", dated February 2001.
- 32. Letter dated March 15, 2001, from J. J. Ovcjak, Earth Tech Canada Inc., to D. Staseff, Ministry of the Environment, Re: Proposed Slope Modifications, Lindsay-Ops Landfill Site (response to letter dated March 2, 2001, from Dave Staseff, Ministry of the Environment, to Joe Ovcjak, Earth Tech Canada Inc.), including attached letter dated March 9, 2001, from Frank S. Barone, Golder Associates Limited, to Joe Ovcjak, Earth Tech Canada Inc., Re: Proposed Slope Modifications, Lindsay-Ops Landfill Site.
- 33. Letters dated April 2 & 17, 2001, from Julie Preslie, Owner of Kawartha Lakes, to Dave Staseff, Ministry of the Environment, Re: Proposed Slope Modifications, Lindsay-Ops Landfill Site, including attachments re: public consultation pursuant to Condition 7 in Certificate of Approval No. A321504 (dated June 24, 1994).

Name Change - Owner of Kawartha Lakes

- 34. Letter dated March 6, 2001, from Julie Preslie, Owner of Kawartha Lakes, to Dave Staseff, Ministry of the Environment, Re: Confirmation of Amalgamation and Name Change (County of Victoria to Owner of Kawartha Lakes), including attachment (copy of May 6, 2000 edition of Ontario Gazette - Order of the Commission made under the *Municipal Act*, R.S.O. 1990, c. M. 45 re: County of Victoria).

EPA Application - Responses to MOE Comments

- 35. Letter dated May 2, 2001, from P. Jeffrey Seaton, Owner of Kawartha Lakes, to Dave Staseff, Ministry of the Environment, Re: Response to MOE Comments [January 19, 2001, February 1, 2001, and March 19, 2001] re: Part V EPA Application for Continued Use & North Expansion of the Lindsay-Ops Landfill, Owner of Kawartha Lakes, including binder with Responses to MOE Comments (pages 1 to 78) and the following attachments:
 - a. Attachment A - Existing Lindsay-Ops Landfill Perimeter Leachate Collection System Design Drawings.
 - b. Attachment B - Estimated Service Life of the Existing Perimeter Leachate Collection System for the Existing Lindsay-Ops Landfill, Golder Associates Ltd., April 17, 2001.
 - c. Attachment C - Legal Survey of Properties (5) Purchased by the Owner of Kawartha Lakes & Compiled Plan of Landfill Property.
 - d. Attachment D - Settlement Calculations for North Slope, Golder Associates Ltd., April 17, 2001.
 - e. Attachment E - Inclinator Locations and Settlement Monitoring for Common North Slope, Golder Associates Ltd. - Figure E-1: Location of Settlement Plates over the North

Slope of the Existing Landfill (March 2001), Figure E-2: Installation Detail for Settlement Plates on the North Slope of the Landfill (March 2001), Figure E-3: Typical Schematic of Inclinator Installation along North Slope (February 2001).

- f. Attachment F - Owner of Kawartha Lakes Council Resolution No. CW2001-123 Identifying Contaminant Attenuation Zone.
- g. Attachment G - Figure G-1: Conceptual Design of a Contingency Leachate Purge Well for the Expansion Area of the Landfill, Golder Associates Ltd., February 2001.
- h. Attachment H - Conceptual Design Calculations for Leachate Purge Wells in the Landfill, Golder Associates Ltd., April 17, 2001.
- i. Attachment I - Figure 2: Regional Cross-Section A-A', Ops Township, Victoria County, Golder Associates Ltd., February 2000.
- j. Attachment J - Figure J-1: Variation in Ammonia-N Source Concentration With Time - Landfill Expansion Area, Golder Associates Ltd., April 2001.
- k. Attachment K - Groundwater Flow Direction and Monitoring Locations - Figure K-1: Overburden Groundwater Flow Direction (October 1999), Figure K-2: Upper Bedrock Groundwater Flow Direction (October 1999), Golder Associates Ltd., April 2000.
- l. Attachment L - Impacts of Projected Leachate Loadings on the Lindsay Water Pollution Control Plant Aeration Requirements: Sample Calculations for Aerator Preference & Power Requirements for Mixing, Tables 4-1b.1 & 4-1b.2 (revised), "Projected Leachate Loadings - Impact on the WPCP", Earth Tech Canada Inc., March 2001.
- m. Attachment M - Revised Maps and Figures from the Part V EPA Application (August 2000) for the Continued Use and Northerly Expansion of the Existing Lindsay-Ops Landfill Site, Earth Tech Canada Inc., March 2001:

Design Report

Map 1-1: Site Location Plan; Map 1-2: Surrounding Land Use; Map 2-1: Property Plan; Map 2-2: Existing Site Conditions (November 2000); Map 4-1: Features of the Proposal; Map 4-2: Initial Cell Development Plan; Map 4-3: Cell 2 Development Plan; Map 4-4: Cell 4 Development Plan; Map 4-5: Proposed Base Contours; Map 4-6: Proposed Final Contours; Figure 4-1: Typical Cross Sections of Fill Area; Figure 4-2: Cross Sections and Anchor Trench Details; Map 6-1: Existing Stormwater Ditches and Catchment Areas; Map 6-2: Final Stormwater Ditches, Catchment Areas and Surface Water Monitoring Locations; Map 6-3: Proposed Stormwater Facility Conceptual Design; Map 7-1: Existing Leachate Management System; Map 7-2: Proposed Leachate Management System; Figure 7-1: Leachate Underdrain Pipe and Landfill Base Details; Figure 7-2: Leachate Manhole and Sidewall Detail; Map 9-1: Landfill Gas Management and Monitoring System; Figure 9-1: Typical Gas Vent Trench and Gas Monitoring Probe; Map 11-1: Existing and Proposed Groundwater Monitoring Well

Locations Adjacent to the Landfill Expansion Area (Monitoring Plan for Landfill Expansion Area) - Golder Associates Ltd.

Maintenance & Operations Report

Map 7-4 Scugog River Surface Water Sampling Locations

36. Letter dated May 9, 2001, from Julie Preslie, Owner of Kawartha Lakes, to Dave Staseff, Ministry of the Environment, Re: Response to MOE Comments re: Part V EPA Application for Continued Use & North Expansion of the Lindsay-Ops Landfill (corrected page 31).
37. Letter dated September 17, 2001, from Stan Irwin, Owner of Kawartha Lakes, to Dave Staseff, Ministry of the Environment, Re: Response to Additional MOE Comments [August 27, 2001] on The Owner of Kawartha Lakes Application for a Certificate of Approval Under Part V of the Environmental Protection Act for the Continued Use and Expansion of the Lindsay-Ops Landfill, including responses to MOE comments (pages 1 to 9) and the following attachments:
 - a. Revised Map 7-2: Proposed Leachate Monitoring Locations, Golder Associates Ltd., September 2001.
 - b. Manhole Penetration Detail 'A', Urban & Environmental Management Inc., September 2001.
38. Report entitled, *“Detailed Design for Cell 1 Base Liner and Leachate Collection System and Overview of Future Design Submissions - Lindsay-Ops Landfill Expansion”*, prepared by Gartner Lee Ltd., in association with Golder Associates and TSH, dated August 2002, including:

Detailed Design Drawings

1. Existing Conditions - Rev. 1 - Aug 07/02
2. Facility Layout - Rev. 1 - Aug 07/02
3. Site Preparation - Rev. 1 - Aug 07/02
4. Grading Plan - Cell 1 - Base Excavation - Rev. 1 - Aug 07/02
5. Grading Plan - Cell 1 - Top of Clay Liner - Rev. 1 - Aug 07/02
6. Grading Plan - Cell 1 - Leachate Collection System Layout - Rev. 1 - Aug 07/02
7. Grading Plan - Cell 1 - Top of Leachate Collection Granular Blanket - Rev. 1 - Aug 07/02
8. Typical Sections and Details - Rev. 1 - Aug 07/02

9. Typical Sections and Details - Rev. 2 - Aug 22/02
10. Typical Sections and Details - Rev. 1 - Aug 07/02
11. Manhole 1 and 2 Details - Rev. 1 - Aug 07/02

Appendices

- A. *Report on Geotechnical and Hydrogeological Data/Analyses for the Detailed Design of the Lindsay/Ops Landfill Expansion [Cell 1]* , prepared by Golder Associates Ltd., dated August 2002.
 - B. *Cell 1 Base Liner and Leachate Collection System Construction Specifications* , prepared by Gartner Lee Ltd., dated August 8, 2002.
39. Letter dated September 27, 2002 from Mark Sungaila, P. Eng., Gartner Lee Ltd., to Dave Staseff, P. Eng., Ministry of the Environment, Re: Response to MOE Comments [September 25, 2002] on Detailed Design of Cell 1, Lindsay-Ops Landfill Site, Certificate of Approval No. A321504.
 40. Letter dated September 27, 2002 from Frank Barone, P. Eng., Golder Associates Ltd., to Dave Staseff, P. Eng., Ministry of the Environment, Re: Responses to MOE Comments on Detailed Design for Lindsay/Ops Landfill Expansion (MOE Letter dated September 25, 2002).
 41. Letter dated October 1, 2002 from Frank Barone, P. Eng., Golder Associates Ltd., to Dave Staseff, P. Eng., Ministry of the Environment, Re: Responses to MOE Comments [September 27, 2002] on Construction Specifications for Cell 1 - Base Liner and Leachate Collection System, Lindsay/Ops Landfill - North Expansion.
 42. Letter dated October 2, 2002 from Mark Sungaila, P. Eng., Gartner Lee Ltd., to Dave Staseff, P. Eng., Ministry of the Environment, Re: Response to MOE Comments [dated September 27, 2002 on Construction Specifications] on Detailed Design of Cell 1, Lindsay-Ops Landfill Site, Certificate of Approval No. A321504, including:
 - a. Construction Specifications (Section 13) for Geosynthetic Clay Liner (GCL), dated September 3, 2002.
 43. Letter dated March 24, 2003 from Mark Sungaila, P. Eng., Gartner Lee Limited, to Dave Staseff, P. Eng., Ministry of the Environment, Re: Detailed Design of Site Infrastructure for Lindsay-Ops Landfill Expansion (C of A No. A321504).
 44. Report entitled “Detailed Design of Site Infrastructure for Lindsay-Ops Landfill Expansion (C of A No. A321504)”, prepared by Gartner Lee Limited, in association with TSH and Golder Associates, dated March 2003, including design brief and the following drawings:

Detailed Design Drawings

1. GA1 - General Facility Layout - Rev. 2 - March 12, 2003
2. R1 - Access Road 'A' - Sta. 0+000 to Sta. 0+083.378 - Rev. 2 - March 12, 2003
3. R2 - Access Road 'B' - Sta. 0+000 to Sta. 0+300 - Rev. 2 - March 12, 2003
4. R3 - Access Road 'B' - Sta. 0+300 to Sta. 0+600 - Rev. 2 - March 12, 2003
5. R4 - Access Road 'B' - Sta. 0+600 to Sta. 0+870 - Rev. 2 - March 12, 2003
6. R5 - Scale House and Scale By-Pass Area - Rev. 2 - March 12, 2003
7. R6 - Typical Sections and Details - Rev. 2 - March 12, 2003
8. CF1 - Leaf and Yard Compost Facility - Facility Layout - Rev. 2 - March 12, 2003
9. CF2 - Leaf and Yard Compost Facility - Detailed Facility Layout - Rev. 2 - March 12, 2003
10. CF3 - Leaf and Yard Compost Facility - Typical Sections and Details - Rev. 2 - March 12, 2003
11. CF4 - Leaf and Yard Compost Facility - Details - Rev. 2 - March 12, 2003
12. SG-1 - Site Grading Plan - Buildings - Rev. 2 - March 12, 2003
13. M01 - Scale House & Hazardous Waste Depot - Plan S - Rev. 2 - March 12, 2003
45. Report entitled "Detailed Design for Cell 2 Base Liner and Leachate Collection System - Lindsay-Ops Landfill Site" prepared for the Owner of Kawartha Lakes by Gartner Lee Limited, in association with Golder Associates and TSH, dated June 2004.

Detailed Design Drawings

1. Existing Conditions - Issued for MOE Approval June 30, 2004;
2. Facility Layout/Site Preparation - Issued for MOE Approval June 30, 2004;
3. Grading Plan - Cell 2 Base Excavation - Issued for MOE Approval June 30, 2004;
4. Grading Plan - Cell 2 Top of Soil Liner - Issued for MOE Approval June 30, 2004;
5. Grading Plan - Cell 2 Leachate Collection System Layout - Issued for MOE Approval June

30, 2004;

6. Grading Plan - Cell 2 Top of Leachate Collection Granular Blanket - Issued for MOE Approval June 30, 2004;
7. Typical Sections and Details - Issued for MOE Approval June 30, 2004;
8. Typical Sections and Details - Issued for MOE Approval June 30, 2004;
9. Typical Sections and Details - Issued for MOE Approval June 30, 2004; and
10. Manhole 3 and 4 Details - Issued for MOE Approval June 30, 2004.

Appendices

- A. Geotechnical and Hydrogeological Data/Analyses for the Detailed Design of the Lindsay/Ops Landfill Expansion (Cell 2), prepared by Golder Associates Ltd., dated June 2004.
 - B. Cell 2 Base Liner and Leachate Collection System Construction Specifications, prepared by Gartner Lee Limited and Golder Associated, dated June 30, 2004 and June 15, 2004, respectively.
46. Letter dated July 29, 2004 from Mark Sungaila, P.Eng. Gartner Lee Limited to Dale Gable, P.Eng. Ministry of the Environment, Re: 40-504 - Responses to Review Comments - Owner of Kawartha Lakes, Detailed Design of Lindsay-Ops Landfill Site - Cell 2, MOE Reference Number 8240-62LQ9T.
 47. Report letter entitled "Monitoring Plan for Compost Pad Facility Lindsay/Ops Landfill" and supporting documentation to Mr. Ian Parrott, Ministry of the Environment from Mr. Frank Barone, Golder Associates Ltd. dated February 9, 2005.
 48. Letter and supporting documentation dated June 12, 2006 addressed to Mr. Dale Gable, Ministry of the Environment from Mr. Frank Barone, Golder Associates Ltd. submitted to satisfy Condition No. 22. The supporting documentation includes the following:
 - i. Report entitled "*Detailed Design Brief - Low Permeability Final Cover System for Completed South area of Lindsay-Ops Landfill* " prepared for the Owner of Kawartha Lakes by Golder Associated Ltd dated June 2006;
 - ii. Construction Specifications - Low Permeability Final Cover System for Completed South Area of Lindsay-Ops Landfill prepared by Golder Associated Ltd. dated June 2006;
 - iii. Dwg. No. 1 - Title Page - Low Permeability Final Cover Construction Lindsay-Ops Landfill

prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;

- iv. Dwg. No. 2 - Existing Conditions - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
 - v. Dwg. No. 3 - Cut and fill Depths for Landfill Surface Regrading - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
 - vi. Dwg. No. 4 - Regrading Surface Prior to Geomembrane Placement - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
 - vii. Dwg. No. 5 - Cross Sections - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
 - viii. Dwg. No. 6 - Landfill Gas Venting System Layout - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
 - ix. Dwg. No. 7 - Geocomposite Outlet Tubing Layout - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
 - x. Dwg. No. 8 - Top of Final Cover Surface - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
 - xi. Dwg. No. 9 - Details - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006;
 - xii. Dwg. No. 10 - Details - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006; and
 - xiii. Dwg. No. 11 - Details - Low Permeability Final Cover Construction Lindsay-Ops Landfill prepared by Golder Associated (Project No. 05-1113-162) dated June 8. 2006.
49. Letter to the Ministry of the Environment from Golder Associates Ltd., dated January 29, 2008 which describes the proposed development of the northern half of Cells 3 and 6, which differs from the original plan and explains the operational benefits of this change.
50. Construction Specifications Report prepared by Golder Associates Ltd., dated January 2008 and associated Drawings Nos. 1 to 12, Project No. 07-1113-0326.

51. Geotechnical and Hydrogeological Data/Analyses for the Detailed Design of the Cells 3 and 6 (Northern Half) Lindsay/Ops Landfill Expansion, prepared by Golder Associates Ltd., dated January 2008.
52. Application for a Provisional Certificate of Approval for a Waste Disposal Site dated January 16, 2009 and signed by Andrew Boyd, Supervisor, Solid Waste Services including the Owner of Kawartha Lakes Household Hazardous Waste (HHW) Depot Operations Manual dated January 2009.
53. E-mail dated August 21, 2009 (4:08 PM) from Heather Van Bruinessen, Regulatory Compliance Officer to B. Wilkinson, MOE re: storage of batteries (on shelving unit with roof) & oil bins (double-lined walls).
54. E-mail dated September 8, 2009 (10:22 AM) from Heather Van Bruinessen, Regulatory Compliance Officer to B. Wilkinson, MOE re: maximum solid waste.
52. Application for a Provisional Certificate of Approval for a Waste Disposal Site signed by Andrew Boyd, Supervisor, Solid Waste Division, The Corporation of the Owner of Kawartha Lakes, including all attached supporting information.
53. E-mail dated October 1, 2009, from Andrew Boyd, Supervisor, Solid Waste Division, The Corporation of the Owner of Kawartha Lakes, to Cathy Curlew, Senior Environmental Officer, Ministry of the Environment. Re: Use of Rancor Materials for Landfill Cover.
54. E-mail dated October 2, 2009, from Andrew Boyd, Supervisor, Solid Waste Division, The Corporation of the Owner of Kawartha Lakes, to David Lee, Senior Review Engineer, Ministry of the Environment. Re: Application for a Provisional CofA - Use of Rancor Fines as ADC.
55. E-mail dated October 13, 2009, from Heather Van Bruinessen, Regulatory Compliance Officer, The Corporation of the Owner of Kawartha Lakes to David Lee, Senior Review Engineer, Ministry of the Environment. Re: Use of Rancor Fines as ADC.
56. E-mail dated October 14, 2009, from Andrew Boyd, Supervisor, Solid Waste Division, The Corporation of the Owner of Kawartha Lakes, to David Lee, Senior Review Engineer, Ministry of the Environment. Re: Application for a Provisional CofA - Use of Rancor Fines as ADC.
57. Report entitled "Ontario Regulation 347 Design Report Lindsay/OPS Landfill Site Lindsay, Ontario" dated June 26, 2009 prepared by Comcor Environmental Limited.
58. Letter dated January 15, 2010 addressed to Rick Li, Ministry of the Environment from Denise Burgess, Comcor Environmental Limited providing a response to the MOE comments on the design report (Item 57).
59. Letter dated February 25, 2010 addressed to Rick Li, Ministry of the Environment from Denise Burgess, Comcor Environmental Limited providing a response to the MOE comments on the

header pipe trench and liner penetration detail.

60. Report entitled "Geotechnical and Hydrogeological Data/Analyses for the Detailed Design of Cells 3 and 6 (Southern Half), Lindsay-Ops Landfill, Lindsay, Ontario" prepared by Golder Associated (Project Number 11-1111-0146) and dated March 2012.
61. Report entitled "Construction Specifications Cells 3 and 6 (Southern Half), Lindsay-Ops Landfill, Owner of Kawartha Lakes, Lindsay, Ontario" prepared by Golder Associated (Project Number 11-1111-0146) and dated March 2012.
62. Detailed design drawing set entitled "Owner of Kawartha Lakes - Cells 3 and 6 (South Half) Construction - Lindsay-Ops Landfill" prepared by Golder Associates (Project Number 11-1111-1146). The set includes the following drawings:
 - i. Drawing No. 1 entitled "Title Page" dated March 12, 2012;
 - ii. Drawing No. 2 entitled "Site Boundaries and Existing Facilities" dated March 12, 2012;
 - iii. Drawing No. 3 entitled "Proposed Base Grade Prior to Liner Installation" dated March 12, 2012;
 - iv. Drawing No. 4 entitled "Proposed Base Grade Cross-Sections A-A' and B-B'" dated March 12, 2012;
 - v. Drawing No. 5 entitled "Proposed Top of Soil Liner Contours" dated March 12, 2012;
 - vi. Drawing No. 6 entitled "Proposed Leachate Collection System Pipe Layout" dated March 12, 2012;
 - vii. Drawing No. 7 entitled "Proposed Top of Leachate Collection Granular Blanket Contours" dated March 12, 2012;
 - viii. Drawing No. 8 entitled "Proposed Final Grade Contours Prior to Waste Placement" dated March 12, 2012;
 - ix. Drawing No. 9 entitled "Typical Details" dated March 12, 2012;
 - x. Drawing No. 10 entitled "Typical Details" dated March 12, 2012;
 - xi. Drawing No. 11 entitled "Typical Details" dated March 12, 2012; and
 - xii. Drawing No. 12 entitled "Leachate Collection System Maintenance Hole 7 and 8 Typical Details" dated March 12, 2012.
63. Letter dated April 10, 2012 addressed to Ms. Heather Dzurko, Supervisor Solid Waste Division

The Corporation of the Owner of Kawartha Lakes from Mr. Dale Gable, Ministry of the Environment requesting additional information pertaining to liner construction, specifications and leachate collection piping.

64. Letter dated May 18, 2012 addressed to Mr. Dale Gable, Ministry of the Environment from Mr. Frank Barone, Golder Associates providing clarification on construction specifications and construction methodology's.
65. Letter dated May 29, 2012 addressed to Mr. Dale Gable, Ministry of the Environment from Mr. Frank Barone, Golder Associates providing an additional detail on connecting the new liner to the existing liner.
66. Report entitled "Operating Instructions - Landfill Gas Collection and Flaring System - Lindsay/Ops Landfill Site" prepared for the Owner of Kawartha Lakes by Comcor Environmental Limited dated March 2012.
67. Appendix A of the letter dated October 31, 2012 addressed to Mr. Dale Gable, Ministry of the Environment from Ms. Roberta Purdue, Owner of Kawartha-Lakes regarding the specifications for an additional waste oil tank.
72. Application for Amendment of the Provisional Environmental Compliance Approval for a Waste Disposal Site dated November 21, 2014, and received on November 24, 2014, and signed by Mr. David Kerr, Manager, Solid Waste Services including the Owner of Kawartha Lakes, regarding change of hours, along with supporting documentation that includes the Report listed as item No. 70 of the Schedule A.
73. Application for Amendment of the Provisional Environmental Compliance Approval for a Waste Disposal Site dated March 3, 2014 and received on March 3, 2014, and signed by Mr. David Kerr, Manager, Solid Waste Services to modify conditions listed under Section 6 in the ECA, composting operations.
74. Application for Amendment of the Provisional Environmental Compliance Approval for a Waste Disposal Site dated February 20, 2014 and received on March 21, 2014, and signed by Mr. David Kerr, Manager, Solid Waste Services for including the monitoring wells "lagoon Wells" in Schedule B.
75. Application for Amendment of the Provisional Environmental Compliance Approval for a Waste Disposal Site dated January 30, 2015 and received on February 4, 2015, and signed by Mr. David Kerr, Manager, Solid Waste Services for the relocation of an existing composting pad and associated stormwater pond to a future landfill disposal cell at the Lindsay-Ops Landfill Site
76. Report submitted in support of the Application listed as item No. 73, entitled "Supporting Documentation for ECA Amendment (A321504)-Relocation of Existing Leaf and Yard Waste Composting Operations, Lindsay-Ops Landfill Site, Owner of Kawartha Lakes, dated January

2015, prepared by Stantec Consulting Ltd.

77. Drawing No. C-100 included in the Report listed as item No. 74 of the Schedule A, showing the proposed Leaf and Yard Composting Facility, monitoring locations and stormwater management works, dated January 30, 2015, prepared by Stantec Consulting Ltd.
78. Letter from Ms. Angela Porteous, Owner of Kawartha Lakes, dated July 6, 2015, addressed to Ms. Cathy Curlew, Ministry of the Environment and Climate Change, providing additional information supplementing the Report listed as item No. 74 of the Schedule A.
79. Letter from Ms. Angela Porteous, Owner of Kawartha Lakes, dated July 6, 2015, addressed to Mr. Khalid Hussain, Ministry of the Environment and Climate Change, providing additional information supplementing the Report listed as item No. 74 of the Schedule A.
80. Letter from Mr. Jim Archibald, Stantec Consulting Inc., dated July 10, 2015, addressed to Mr. Khalid Hussain, Ministry of the Environment and Climate Change, providing additional information supplementing the Report listed as item No. 74 of the Schedule A.
81. Letter from Mr. Jim Archibald, Stantec Consulting Inc., dated September 2, 2015, addressed to Mr. Khalid Hussain, Ministry of the Environment and Climate Change, providing additional information supplementing the Report listed as item No. 74 of the Schedule A.
82. Consolidated Maintenance and Operations Report, Lindsay-Ops Landfill, Lindsay, Ontario" prepared by UEM - Urban and Environmental Management Inc., dated December 2012.
83. Email and attachments from Ms. Angela Porteous, S.C., Owner of Kawartha Lakes addressed to Mr. Khalid Hussain, Ministry of Environment and Climate Change, dated September 10, 2015, providing the Owner's comments and other information.
84. Email and attachments from Ms. Angela Porteous, S.C., Owner of Kawartha Lakes addressed to Mr. Khalid Hussain, Ministry of Environment and Climate Change, dated September 17, 2015, providing the Owner's comments and map showing monitoring location SW18, and other information.
85. Email from Ms. Angela Porteous, Owner of Kawartha Lakes, dated September 28, 2015, addressed to Mr. Khalid Hussain, Ministry of the Environment and Climate Change, providing additional information regarding the landfill site monitoring program.
86. Email from Ms. Angela Porteous, Owner of Kawartha Lakes, dated October 2, 2015, addressed to Ms. Cathy Curlew, Ministry of the Environment and Climate Change, providing additional information regarding the proposed stormwater management pond for relocated Leaf and Yard Waste Composting Facility.
87. Revised Drawings No. C-100 and C-101, prepared by Stantec Consulting Ltd., included with Email dated October 1, 2015 from Ms. Angela Porteous, Owner of Kawartha Lakes, dated

October 1, 2015, addressed to Mr. Khalid Hussain and others, providing these drawings and other information.

88. Application for approval dated November 30, 2015 and received on December 1, 2015 and supporting documents
89. Report - Construction Specifications Cells 4 and 5 (Northern Half) Lindsay/OPS Landfill, Owner of Kawartha Lakes, Lindsay, Ontario (Report Number 1524542) - November 2015
90. Report - Geotechnical and Hydrogeological Data/Analysis for the Detailed Design of Cells 4 and 5 (north half) Lindsay/OPS Landfill, Lindsay, Ontario (Report Number 1524542) - November 2015
91. Detailed Design Drawings - Issued for MOE Approval - Lindsay OPS Landfill, Cells 4 and 5 (Northern half) - (Project Number 1524542) - Stamped November 30, 2015 - F. S. Barone
92. Correspondence with Frank Barone (see memo to file) regarding clarification of size of waste fill area
93. Application for Amendment of the Provisional Environmental Compliance Approval for a Waste Disposal Site dated December 6 2016 and received on December 8, 2016 and signed by Mr. David Kerr, Manager, Solid Waste Services including the Owner of Kawartha Lakes, regarding changes to the Cover Materials and Monitoring Requirements.
94. Letter dated May 16, 2017 regarding the relocation of composting pad and leachate collection pond prepared by Golder Associates.
95. Email dated 19th June 2017 from Angela Porteous, Regulatory Compliance Officer, Owner of Kawartha Lakes regarding the Solids and Odour management from the Infiltration Pond.

Previous Works Approved on November 15, 2002:

96. Application for Approval of Municipal and Private Sewage Works submitted by the Owner of Kawartha Lakes dated August 28, 2002 and design specifications and drawings prepared by Totten Sims Hubicki Associates (1997) Limited, Whitby, Ontario.
97. "Lindsay/Ops Landfill Continuing Use and North Landfill Expansion - Leachate/Sewage Pumping Stations Design Report" August 2002, prepared by Totten Sims Hubicki.
98. "Lindsay/Ops Landfill Continuing Use and North Landfill Expansion - Leachate/Sewage Pumping Stations, TSH Project No. 52-27395" August 2002, prepared by Totten Sims Hubicki.
99. "Continued Use & North Expansion of Existing Lindsay-Ops Landfill - Leachate Disposal Study" July 2000, prepared by Earth Tech Canada Inc.

100. "Provisional Certificate of Approval Waste Disposal Site Number A321504 - Lindsay-Ops Landfill Site" issued May 11, 2001.

Previous Works Approved on June 18, 2003:

101. Application for approval submitted by the Owner of Kawartha Lakes dated March 3, 2003 and drawings and design specifications prepared by Gartner Lee Limited, Markham, Ontario.

Previous Works Approved on October 10, 2008:

102. Application for approval submitted by the Owner of Kawartha Lakes dated April 25, 2008 and drawings and design specifications prepared by Golder Associates Ltd., Mississauga, Ontario.

Previous Works Approved on November 14, 2008

103. Document entitled "2018 Landfill Gas Collection System Detailed Design Report, Lindsay-Ops Landfill Site, Kawartha Lakes, Ontario Amended Compliance Approval Number A321504", dated June 13, 2018 and prepared by Comcor Environmental Limited on behalf of the Owner of Kawartha Lakes.

Previous Works Approved on September 3, 2019:

104. Application to amend Environmental Compliance Approval A321504, submitted by the Owner of Kawartha Lakes, dated August 16, 2019 re: Change to Cells 4 and 5 (North Half), Stage 2 Design, WSP Project No. 171-1-835-02.

Valve Chamber for Compost Infiltration Pond

105. Application to amend Environmental Compliance Approval A321504, submitted by the Owner of Kawartha Lakes, dated June 12, 2020 re: Valve Chamber for Compost Pad Infiltration Pond.
106. Application to amend Environmental Compliance Approval A321504, submitted by the Owner of Kawartha Lakes, dated December 24, 2021, including technical supporting documents prepared by WSP dated December 14, 2021, re: Lindsay Ops Landfill Cells 4 and 5 (South Half), Design, Environmental Compliance Approval No.A321504.
107. Application to amend Environmental Compliance Approval A321504, dated May 31, 2022, including technical supporting documents.
108. Environmental Compliance Approval Application dated September 22, 2025, including technical supporting documents "Interim Source Separated Organics Design and Operations Report, WSP Canada Inc., dated September 2025.
109. Environmental Compliance Approval Application dated December 19, 2025.

110. Design and Operations Report, Version 1.0, dated February 2026, WSP Canada Inc.

SCHEDULE "B"

This Schedule "B.1" forms part of this Approval-

GROUNDWATER MONITORING PROGRAM - EXISTING FILL AREA

1. Landfill Monitors: 6-90-R1 and 7-90-R1

Parameters: alkalinity, conductivity, pH, BOD, COD, DOC, barium, chloride, fluoride, iron, manganese, hardness, calcium, magnesium, potassium, sodium, TKN, nitrate, nitrite, ammonia, phenols, phosphorus, sulphate, benzene, toluene, xylene, aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, thallium, vanadium, zinc, antimony, arsenic, selenium.

Frequency: Two times per year (May and October)

Parameters: Volatile Organic Compounds, Halogenated and Non-Halogenated

Frequency: Once per year (May)

2. Overburden Monitors:

North - 32-93-1/2/3
East - 12-91-1/2, 49-96-2/3
West - 15-91-1/2, 16-91-1/2, 17-91-1/2, 19-91
South - 13-91-1/2, 14-07, 18-91, 23-07, 25-91, 29-93, 35-93-1/2, 36-93, 37-93-1/2, 38-93, 39-93-1/2, 61-10-2

Parameters: alkalinity, conductivity, pH, COD, DOC, barium, chloride, fluoride, iron, manganese, hardness, calcium, magnesium, potassium, sodium, nitrate, nitrite, ammonia, phenols, phosphorus, sulphate, benzene, toluene, xylene, aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, vanadium, zinc.

Frequency: twice per year (May and October)

3. Bedrock Monitors:

20-91-1/2/3, 21-91-1/2/3, 25-96, 27-93, 28-93, 49-96-1, 55-98-1/2, 61-10-1

Parameters: alkalinity, conductivity, pH, COD, DOC, barium, chloride, fluoride, iron, manganese, hardness, calcium, magnesium, potassium, sodium, nitrate, nitrite, ammonia, phenols, phosphorus, sulphate, benzene, toluene, xylene, aluminum, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, vanadium, zinc.

Frequency: twice per year (May and October)

4. Water Levels:

All monitors (excludes Residential Wells, lagoon well and office well) - 4 times per year (February, May, July, October)

5. Lagoon Wells:

- (i) Overburden: 30-93, 31-93, 45-95-2, 46-95-2, 47-96-2, 48-96-2, 59-05, 60-05
- (ii) Bedrock: 45-95-1, 46-95-1, 47-96-1, 48-96-1

Parameters: alkalinity, conductivity, pH, COD, DOC, barium, chloride, fluoride, iron, manganese, hardness, calcium, magnesium, potassium, sodium, nitrate, nitrite, ammonia, phenols, phosphorus, sulphate, benzene, toluene, xylene, aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, vanadium, zinc.

Frequency: twice per year (May and October)

SCHEDULE "B.2"

This Schedule "B.2" forms part of this Approval.

GROUNDWATER MONITORING PROGRAM - LANDFILL EXPANSION

Well Identification	Hydrogeologic Unit Monitored	Sample Parameters (Schedule D)	Sampling Frequency (per year)
32-93-1	silty sand till	Indicator Comprehensive	2 x 1 x
32-93-2	silty sand till	Indicator Comprehensive	2 x 1 x
32-93-3	silty sand till	Indicator Comprehensive	2 x 1 x
43-93-1	overburden	Indicator Comprehensive	2 x 1 x
43-93-2	overburden	Indicator Comprehensive	2 x 1 x
44-93-1	sandy silt till	Indicator Comprehensive	2 x 1 x
44-93-2	sandy silt till	Indicator Comprehensive	2 x 1 x
45-93	silty sand to sandy silt till	Indicator Comprehensive	2 x 1 x
11-90	limestone bedrock	Indicator Comprehensive	2 x 1 x
53-98	limestone bedrock	Indicator Comprehensive	2 x 1 x
55-98-1/2	limestone bedrock	Indicator Comprehensive	2 x 1 x
58-02-1	Overburden	Indicator Comprehensive	2 x 1 x
57-02-2	Overburden	Indicator Comprehensive	2 x 1 x
61-10-1	Bedrock	Indicator Comprehensive	2 x 1 x
61-10-2	Overburden	Indicator Comprehensive	2 x 1 x
61-17-1	Bedrock	Indicator Comprehensive	2 x 1 x
62-17-1	Bedrock	Indicator Comprehensive	2 x 1 x
62-17-2	Bedrock	Indicator Comprehensive	2 x 1 x
62-17-3	Bedrock	Indicator Comprehensive	2 x 1 x

1. Water levels to be measured at the time of sampling at all monitoring locations.

SCHEDULE "C"

This Schedule "C" forms part of this Approval.

LEACHATE QUALITY AND QUANTITY MONITORING

Existing Fill Area:

Location	Parameters	Frequency
<i>Quality:</i>		
Existing Leachate Pumping Chamber	conductivity, chloride, nitrate, nitrite, ammonia, TKN, sulphate, barium, iron, lead, cadmium, chromium, BOD, COD, DOC, phenols, phosphorus, benzene, toluene, xylene	Monthly (unless samples collected in accordance with the Lindsay WPCP OWRA ECA of Approval are available as surrogates)
Existing Leachate Pumping Chamber	arsenic, boron, free cyanide, fluoride, mercury, NTA, pesticides, radionuclides, selenium, silver, trihalomethanes	Twice per year (May and October)
<i>Quantity:</i>		
Existing Leachate Pumping Chamber	flow volume	continuous

North Expansion Fill Area:

Location	Parameters	Frequency
<i>Quality:</i>		
North Expansion Leachate Pumping Chamber	Comprehensive List in Schedule "D"	Annual
North Expansion Leachate Pumping Chamber	Indicator List in Schedule "D"	Twice per year
<i>Quantity:</i>		
North Expansion Leachate Pumping Chamber	flow volume	continuous

Leachate heads acting on the composite liner in the north expansion fill area shall be monitored **three (3) times per year** using **vibrating wire piezometers (VWPs)** installed on the liner surface at eight locations shown on Map 7-2, Proposed Leachate Monitoring Locations, Golder Associates, September 2001 (Item 37(a) in Schedule "A").

SCHEDULE "D"

This Schedule "D" forms part of this Approval.

GROUNDWATER AND LEACHATE MONITORING PARAMETERS

Comprehensive List	Indicator List
<u>Inorganics</u> Alkalinity, Ammonia-N, Arsenic, Barium, Boron, Cadmium, Calcium, Chloride, Chromium, Conductivity (lab), Conductivity (field), Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nitrate, Nitrite, Total Kjeldahl Nitrogen (TKN), pH (lab), pH (field), Total Phosphorus, Potassium, Sodium, Suspended Solids (Leachate Only), Total Dissolved Solids (TDS), Sulphate, Zinc.	Alkalinity, Ammonia-N, Barium, Boron, Calcium, Chloride, Conductivity (lab), Conductivity (field), Iron, Magnesium, Nitrate, pH (lab), pH (field), Sodium, Suspended Solids (Leachate Only), Total Dissolved Solids (TDS), Sulphate
<u>Volatile Organics</u> Benzene, 1,4 Dichlorobenzene, Dichloromethane, Toluene, Vinyl Chloride	
<u>Other Organics</u> Biochemical Oxygen Demand (BOD ₅), Chemical Oxygen Demand (COD), Dissolved Organic Carbon (DOC), Phenols, PCBs	Biochemical Oxygen Demand (BOD ₅), Chemical Oxygen Demand (COD), Dissolved Organic Carbon (DOC)

SCHEDULE "E"

This Schedule "E" forms part of this Approval.

SURFACE WATER MONITORING PROGRAM

Stations	Parameters	Frequency
<i>Drainage Ditches :</i> SW1, SW2, SW3, SW4, SW14, SW15, SW16, SW18	conductivity, pH, alkalinity, hardness, COD, chloride, fluoride, nitrite, nitrate, total phosphorus, sulphate, calcium, sodium, potassium, iron, manganese, phenols, DOC, ammonia, in situ dissolved oxygen, in situ temperature, in situ conductivity, in situ pH, aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, thallium, vanadium, zinc, antimony, arsenic, selenium, suspended solids, turbidity	Four (4) times per year - samples shall be collected within 12 hours of the first rainfall greater than 15 mm, starting from February 1, May 15, August 1, and October 1
<i>Upgradient and Downgradient :</i> SW13, SW14, Scugog River (1 upgradient, 1 downgradient)	conductivity, pH, alkalinity, hardness, COD, chloride, fluoride, nitrite, nitrate, total phosphorus, sulphate, calcium, sodium, potassium, iron, manganese, phenols, DOC, ammonia, in situ dissolved oxygen, in situ temperature, in situ conductivity, in situ pH, aluminium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, silver, thallium, vanadium, zinc, antimony, arsenic, selenium, suspended solids, turbidity	Four (4) times per year - samples shall be collected within 12 hours of the first rainfall greater than 15 mm, starting from February 1, May 15, August 1, and October 1
SW3, SW13, SW14, SW18 Scugog River (1 upgradient, 1 downgradient)	Volatile Organic Compounds, Halogenated and Non-Halogenated (refer to Schedule E.1)	Biannual (every two years)
CP #1, CP#2	pH (field), Magnesium, Aluminum, pH (lab), Potassium, Boron, Temperature(field), Sodium, Cadmium, Conductivity (field), Dissolved Organic Carbon, Chromium, Conductivity (lab), Thallium, Cobalt, Total Alkalinity (as CaCO ₃), Chemical Oxygen Demand, Copper, Total Dissolved Solids, Ammonia, Iron, Strontium, Phosphorus (Total), Lead, Hardness, Total Kjeldahl Nitrogen, Manganese, Chloride, Phenols Nickel, Sulphate, Mercury, Vanadium, Nitrate, Arsenic, Zinc, Nitrite, Barium, Antimony,	Twice per year during the spring and late summer/early fall.

Calcium, Fluoride, Beryllium, Molybdenum, Selenium, Silver, Tannins and Lignins
--

1. All surface water monitoring locations, except for CP#1 and CP#2 appearing in Schedule E shall be sampled for total PCBs every three (3) years, with the exception of SW13 and SW3 which shall be sampled for total PCBs Four (4) times per year. Should concentrations of total PCBs at SW3 or SW13 exceed 0.001 mg/L then the Owner shall sample all stations in Schedule E for total PCBs for two (2) consecutive sampling events. Should the Owner find exceedances of 0.001 mg/L total PCB in any samples in the following sampling events the District Office should be notified.
2. For surface water sampling station locations, see Map 7-3, Final Stormwater Ditches, Catchment Areas and Surface Water Monitoring Locations, and Map 7-4, Scugog River Surface Water Sampling Stations (from Items 28(c) and 35(m) in Schedule "A")
3. Tannins and Lignins are to be included in the analytical parameters for SW14 and SW18.

Schedule E.1

This Schedule "E.1" forms part of this Approval.

Analytical Test Group Name	Parameters
Volatiles, Halogenated	1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethylene, 1,2-Dichlorobenzene, 1,2-Dichloroethane (Ethylene Dichloride), 1,2-Dichloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Bromoform, Bromomethane, Carbon tetrachloride, Chlorobenzene, Chloroform, Chloromethane, Cis-1,3-Dichloropropylene, Dibromochloromethane, Ethylene Dibromide, Methylene Chloride, Tetrachloroethylene (Perchloroethylene), Trans-1,2-Dichloroethylene, Trans-1,3-Dichloropropylene, Trichloroethylene, Trichlorofluoromethane, Vinyl chloride (Chloroethylene)
Volatiles, Non-Halogenated	Benzene, Styrene, Toluene, o-Xylene, m-Xylene and p-Xylene (Note 1)

Schedule E.1: Analytical Test Groups and Parameters

Note 1: m-Xylene and p-Xylene often co-elute in the analysis. A single combined result may be reported as m-Xylene.

SCHEDULE "F"

This Schedule "F" forms part of this Approval.

LANDFILL GAS MONITORING

Monitoring Probe (see Map 9-1, Landfill Gas Management and Monitoring System - Item 35(m) in Schedule "A")	Parameters	Frequency
<u>Existing:</u> 12-91, 13-91, 14-91, 16-91, 17-91, 6-90-R1, 7-90-R1, 33-93	methane concentration	monthly during frozen ground conditions and quarterly otherwise
<u>Proposed:</u> GP1, GP2, GP3, GP4, GP5, GP6, GP7, GP8, GP9, GP10	methane concentration	monthly during frozen ground conditions and quarterly otherwise

SCHEDULE "G"

This Schedule "G" forms part of this Approval.

LEACHATE COLLECTION AND DISPOSAL SYSTEM MONITORING

For the purposes of this monitoring program, the following definitions apply:

- (a) Monthly means once every month;
- (b) Quarterly means once every three months;
- (c) Semi-annually means once every six months; and
- (d) Annually means once every twelve months.

Table 1 - Leachate Monitoring			
Sampling Location: Leachate Pumping Station No. 1 Chamber			
Parameters	Frequency	Parameters	Frequency
(Ammonia + Ammonium) N	Monthly	Arsenic	Semi-annually
Barium	Monthly	Boron	Semi-annually
Benzene	Monthly	Cyanide (Free)	Semi-annually
CBOD ₅	Monthly	Fluoride	Semi-annually
Cadmium	Monthly	Mercury	Semi-annually
Chloride	Monthly	NTA	Semi-annually
Chromium	Monthly	Pesticides	Semi-annually
COD	Monthly	Radionuclides	Semi-annually
Conductivity	Monthly	Selenium	Semi-annually
DOC	Monthly	Silver	Semi-annually
Iron	Monthly	Trihalomethanes	Semi-annually
Lead	Monthly		
Nitrates as N	Monthly		
Nitrites as N	Monthly		
Phenols	Monthly		
Phosphorus	Monthly		
Sulphate	Monthly		
Toluene	Monthly		
Total Kjeldahl Nitrogen (TKN)	Monthly		
Xylene	Monthly		



Table 2 - Leachate Monitoring
Sampling Location: Leachate Pumping Station No. 2 Chamber

Parameters	Frequency	Parameters	Frequency
Arsenic	Annually	Alkalinity	Semi-annually
Cadmium	Annually	(Ammonia + Ammonium) N	Semi-annually
Chromium	Annually	Barium	Semi-annually
Copper	Annually	Boron	Semi-annually
Lead	Annually	Calcium	Semi-annually
Manganese	Annually	Chloride	Semi-annually
Mercury	Annually	Conductivity	Semi-annually
Nitrite	Annually	Iron	Semi-annually
Total Kjeldahl Nitrogen	Annually	Magnesium	Semi-annually
Total Phosphorus	Annually	Nitrate	Semi-annually
Potassium	Annually	pH (Lab)	Semi-annually
Zinc	Annually	pH (Field)	Semi-annually
Benzene	Annually	Sodium	Semi-annually
1,4 Dichlorobenzene	Annually	Suspended Solids	Semi-annually
Dichloromethane	Annually	Total Dissolved Solids	Semi-annually
Toluene	Annually	Sulphate	Semi-annually
Vinyl Chloride	Annually	Biochemical Oxygen Demand (CBOD5)	Semi-annually
Phenols	Annually	Chemical Oxygen Demand	Semi-annually
PCBs	Annually	Dissolved Organic Carbon	Semi-annually



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

The reason for Conditions 1.1 and 1.2 is to ensure that the Site is designed, operated, monitored and maintained in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider.

The reason for Conditions 1.3, 1.4, 1.5, 1.9, 1.10, 1.11, 1.12 and 1.13 is to clarify the legal rights and responsibilities of the Owner under this Approval of Approval.

Conditions 1.6 and 1.7 are included to ensure that the appropriate Ministry staff have ready access to information and the operations of the Site, which are approved under this Approval.

Condition 1.8 has been included in order to clarify what information may be subject to the Freedom of Information Act.

Conditions 1.14 to 1.17 inclusive are included, pursuant to subsection 197(1) of the EPA, The reason for Conditions 1(18) and 1(19) is that the Part II.1 Director is an individual with authority pursuant to Section 197 of the Environmental Protection Act to require withdrawal of registration on the title and provide any person with an interest in property before dealing with the property in any way to give a copy of the Approval to any person who will acquire an interest in the property as a result of the dealing.

The reasons for Condition 1.18 are to restrict potential transfer or encumbrance of the Site without the approval of the Director and to ensure that any transfer of encumbrance can be made only on the basis that it will not endanger compliance with this ECA of Approval.

The reasons for Conditions 1.19 and 1.20 are to ensure that the Site is operated under the corporate name which appears on the application form submitted for this approval and to ensure that the Director is informed of any changes.

The reason for Condition 1.21 is to ensure that appropriate Ministry staff have ready access to the Site for inspection of facilities, equipment, practices and operations required by the conditions in this ECA of Approval. This condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the EPA and OWRA.

The reasons for the conditions 1.22 to 1.24 are to ensure the Design and Operations Report is maintained, up-to-date and available at the Site at all times and to ensure that any changes to the Report are done with prior approval from the Ministry .

The reasons for Conditions 2.1 to 2.6 is to ensure that the Site is designed, constructed and operated in an environmentally acceptable manner, based on the conceptual design and operations for the Site.

The reason for Condition 2.7 is to ensure the availability of as-built drawings for inspection and information purposes.

The reasons for Conditions 2.8, 2.9, 2.10, 2.11, 2.12, 2.15, 2.16 and 2.17 are to ensure that the engineered facilities are properly installed and constructed to meet the design specifications and performance objectives.

The reasons for Conditions 2.13 and 2.14 are to ensure the Ministry is updated on construction progress and to ensure the long-term protection of the health and safety of the public and the environment;

The reasons for Conditions 2.18 and 2.19 are to ensure that preparation and construction within a new landfill cell proceeds in accordance with approved detailed design plans, technical specifications and QA/QC activities and procedures.

The reasons for Conditions 2.20 and 2.21 are to expedite and monitor the waste settling process prior to placement of the GCL, geomembrane and leachate collection system for the north expansion fill area on the common north slope.

The reasons for Conditions 3.1 and 3.2 is for approving the detailed design for Cell 1, Cell 2, Cell 3 and Cell 6 and the ancillary facilities associated with landfill expansion and to allow the Owner to develop and operate the landfill site expansion in accordance with the approved final detailed design.

The reason for Condition 3.3 is to ensure the gas collection and flaring system shall be built and operated as per the submission and supporting documentation.

The reasons for Condition 3.4 are to ensure the Owner has plans in place during the construction of the system to address potential off-site impacts and construction timing.

The reason for Condition 3.5 is to ensure the Owner documents the construction activities and provides this information in a report to the District Manager.

The reasons for Condition 3.6 are to ensure the proper maintenance of the gas collection system and the District Manager is informed of any changes to the gas wells.

The reason for Condition 3.7 is to approve the leachate collection and disposal system.

The reason for Conditions 4.1 is to ensure that waste disposal at the site is undertaken in accordance with applicable Ministry regulations, and the approved documents incorporated into this Approval. Compliance with these regulations and guidelines and an organized operation will ensure that the site does not cause and adverse effect on the environment.

The reason for Conditions 4.2, 4.3 and 4.4 is to specify the approved areas from which waste may be accepted at the Site and the types and amounts of waste that may be accepted for disposal at the Site,

based on the Owner's application and supporting documentation.

The reason for Conditions 4.5, 4.6, 4.7 and 4.8 is to specify restrictions on the extent of landfilling at this Site based on the Owner's application and supporting documentation. These limits define the approved volumetric capacity of the site.

The reason for Conditions 4.9 to 4.11 is to ensure only waste approved by this Approval is accepted at the Site.

The reasons for Condition 4.12 is to accommodate the pre-loading and to allow for settling of the north slope area of the existing fill area by landfilling in a north-south direction within the north expansion fill area.

The reasons for Conditions 4.13 to 4.16 are to specify the normal hours of operation for the landfill Site and a mechanism for amendment of the hours of operation.

The reasons for Conditions 4.17 and 4.19 are to ensure that users of the Site are fully aware of important information and restrictions related to Site operations under this ECA of Approval.

The reason for Conditions 4.2 to 4.26 are to ensure that the Site is operated in an environmentally acceptable manner for protection of the natural environment and public health and safety.

The reasons for Conditions 4.27, 4.28, 4.29, 4.30, 4.31, 4.32, 4.33, 4.34, 4.35 and 4.36 are to minimize and control the use of the landfill Site by gulls with the goal to prevent the potential for gull/aircraft interaction.

The reason for Condition 4.37 is to ensure de-icing operations at the site do not impact the environmental monitoring program.

The reason for Condition 4.38 is to ensure the Owner is aware of their responsibility for ensuring spillages at the Site.

The reason for Conditions 4.39 to 4.41 are to ensure that landfill gas generated at this Site is managed in an environmentally acceptable manner.

The reason for Condition 4.43 is to ensure protection of the composite liner and leachate collection system in the north expansion fill area.

The reasons for Condition 4.42 are to minimize the potential for clogging of the leachate drainage layer and to minimize temperature effects on the leachate collection system. Failure to maintain the specified minimum thickness of waste and cover material may result in a decrease in the service life of the drainage layer.

The reason for Condition 4.45 and 4.47 are to ensure that leachate generated at this Site is disposed

of in an environmentally acceptable manner.

The reason for Condition 4.44 is to ensure that noise from landfill operations are controlled to minimize any impacts to receptors.

The reason for Condition 4.49 is to determine the current and projected leachate quality and quantity generated at this Site and landfilling proceeds, and to implement an appropriate long-term leachate management plan for this Site.

The reason for Conditions 4.48, 4.49 and 4.50 is to ensure that surface water and stormwater is managed in an environmentally acceptable manner.

The reason for Condition 4.51 is to ensure procedures are in place to protect features of the landfill are protected during construction of the cells.

The reason for Condition 4.52 is to ensure the Owner can record weather conditions at the Site for the records and to assist in managing nuisances at the Site (Litter Control).

The reason for Condition 5.1 is to specify the waste type that may be accepted at the Site for disposal and processing and transfer, based on the Owner's application and supporting documentation.

The reason for Condition 5.2 is to ensure that waste disposal at the site is undertaken in accordance with applicable Ministry of the Environment regulations, and the approved documents incorporated into this Approval. Compliance with these regulations and guidelines and an organized operation will ensure that the site does not cause and adverse effect on the environment.

The reason for Conditions 5.3 is to ensure the Owner is fully aware the burning of waste at the Site is not permitted and that open burning of waste is unacceptable because of concerns with air emissions, smoke and other nuisance affects, and the potential fire hazard.

The reason for Condition 5.4, 5.5 and 5.6 are to specify restrictions on the extent of landfilling at this Site based on the Owner's application and supporting documentation. These limits define the approved volumetric capacity of the site. Approval to landfill beyond these limits would require an application with supporting documentation submitted to the Director.

The reasons Conditions 5.7, 5.8, 5.9, 5.10, 5.11, and 5.12 have been included are to ensure asbestos waste is handled and disposed of in accordance with O. Reg. 347 as amended from time to time. Proper handling and disposal of asbestos waste ensures that the asbestos waste does not cause an adverse impact on the environment and also does not affect human health.

The reason for Condition 5.13 is to specify the approval requirements for use of alternative cover material at the Site.

The reason for Condition 5.14 is to approved alternative daily covers for the Site.

The reason for Condition 5.15 is to ensure the Owner monitors leachate at the Site.

The reason for Conditions 5.16 is to ensure the leachate collections system operates in an environmental protection manner.

The reasons for Conditions 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8 and 6.9 are to ensure that these facilities are operated in an environmentally acceptable manner for the protection of the natural environment and public health and safety.

The reason for Conditions 7.1, 7.2, 7.3, 7.4 and 7.5, are to ensure that accurate waste records are maintained to ensure compliance with the conditions in this ECA of Approval (such as fill rate, site capacity, record keeping, annual reporting, and financial assurance requirements), the EPA and its regulations. Record keeping is necessary to determine compliance with this ECA of Approval, the EPA and its regulations.

The reason for Condition 8.1 is to establish a forum for the exchange of information and public dialogue on activities carried out at the landfill Site. Open communication with the public and local authorities is important in helping to maintain high standards for site operation and environmental protection.

The reasons for Conditions 9.1, 9.2, 9.3 and 9.4 are to ensure that the Ministry is informed of any spills or fires at the Site and to provide public health and safety and environmental protection.

The reasons for Conditions 10.1, 10.2, 10.3, 10.4 and 10.5 are to ensure protection of the natural environment and the integrity of the groundwater monitoring network.

The reason for Conditions 10.6, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12, 10.13 and 10.14 are to demonstrate that the landfill site is performing as designed and the impacts on the natural environment are acceptable. Regular monitoring allows for the analysis of trends over time and ensures that there is an early warning of potential problems so that any necessary remedial/contingency action can be taken.

Conditions 10.15 to 10.17 are included to streamline the approval of the changes to the monitoring plan.

The reason for Conditions 11.1, 11.2 and 11.3 are to ensure that the Owner follows a plan with an organized set of procedures for identifying and responding to unexpected but possible problems at the Site. A remedial action / contingency plan is necessary to ensure protection of the natural environment. A leachate contingency plan is a specific requirement of Reg. 232.

The reason for Conditions 12.1 through 12.4 are to ensure that monitoring and reporting mechanisms are in place so that the Scugog River wetland and ecosystem are not adversely affected by landfill leachate.

The reason for Conditions 13.1, 13.2, 13.3 and 13.4 are to establish and maintain a forum for the exchange of information and public dialogue on activities to be carried out at the landfill site. Open

communication with the public and local authorities is important in helping to maintain high standards for site operation and environmental protection.

The reason for Condition 14.1 is to ensure that the Site is operated by properly trained staff in a manner which does not result in a hazard or nuisance to the natural environment or any person.

The reasons for Condition 15.1 is to ensure that regular review of site development, operations and monitoring data is documented and any possible improvements to site design, operations or monitoring programs are identified. An annual report is an important tool used in reviewing site activities and for determining the effectiveness of site design.

The reasons for Conditions 16.1 is to ensure that final closure of the Site is completed in an aesthetically pleasing manner and to ensure the long-term protection of the natural environment.

The reason for Condition 16.2 is to ensure proper public consultation about the end use of the Site is undertaken and that the end use activities are consistent with those identified during the EA process.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). A321504 issued on October 27, 2025

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me and the Ontario Land 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 ("the Notice") 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:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500

The Director appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* **Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.oltb.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 16th day of February, 2026



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

AQ/

c: District Manager, MECP Peterborough
Ishrak Hasan, WSP Canada Inc.



Environmental Assessments & Approvals

May 12, 2025

AEC 25-010

City of Kawartha Lakes
Waste Management Department
322 Kent St. West
Lindsay, ON
K9V 4T7

Attention: Ms. Ms. Kayla Pantaleo
Regulatory Compliance Officer

Re: Lindsay Ops Waste Disposal Site – Spring Monitoring BTEX Parameters Omission

Dear Kayla:

We want to advise you that the requirement for analysis of BTEX parameters for the ground water monitoring wells at Lindsay OPS landfill was unable to be completed for the spring monitoring event as the laboratory did not provide the required bottles requested to allow for BTEX analysis. Given these bottles are zero headspace vials with specific preservative, no sub-sampling was able to be completed by the laboratory. This analysis is required to be completed during both the spring and fall at all ground water monitoring wells such that the analysis will be able to be completed in 2025 during the fall monitoring event, while VOC analysis will include BTEX parameters at select locations in close proximity to the waste area during the July monitoring event. It is noted that the BTEX parameters were able to be analyzed in the leachate from both the dedicated leachate monitors MW6-90, MW7-90-I & MW7-90-II, as well as both leachate pump chambers such that reference leachate data will be available.

Based on this omission, it would be our recommendation that resampling to include BTEX not be completed as data will be available from both the July and October monitoring events which can be used to complete the 2025 site evaluation. Finally, it is noted that this data has not historically provided any meaningful data for use in the site evaluation and has thus been recommended in previous annual monitoring reports for removal from the program.



Should you have any questions or require additional information please do not hesitate to contact the undersigned.

Regards,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.



Colin Ross, B.Sc., P.Geo.
Senior Hydrogeologist

c.c. Glenn Rutherford, MECP – Peterborough District Office



APPENDIX B

Borehole Logs

Log of Borehole MW6-90-II

Project No. MRK-00256269-A0

Drawing No. 13

Project: City of Kawartha Landfill Sites

Sheet No. 1 of 2

Location: Various Landfill Sites, Kawartha Lakes

Lindsay Ops Landfill

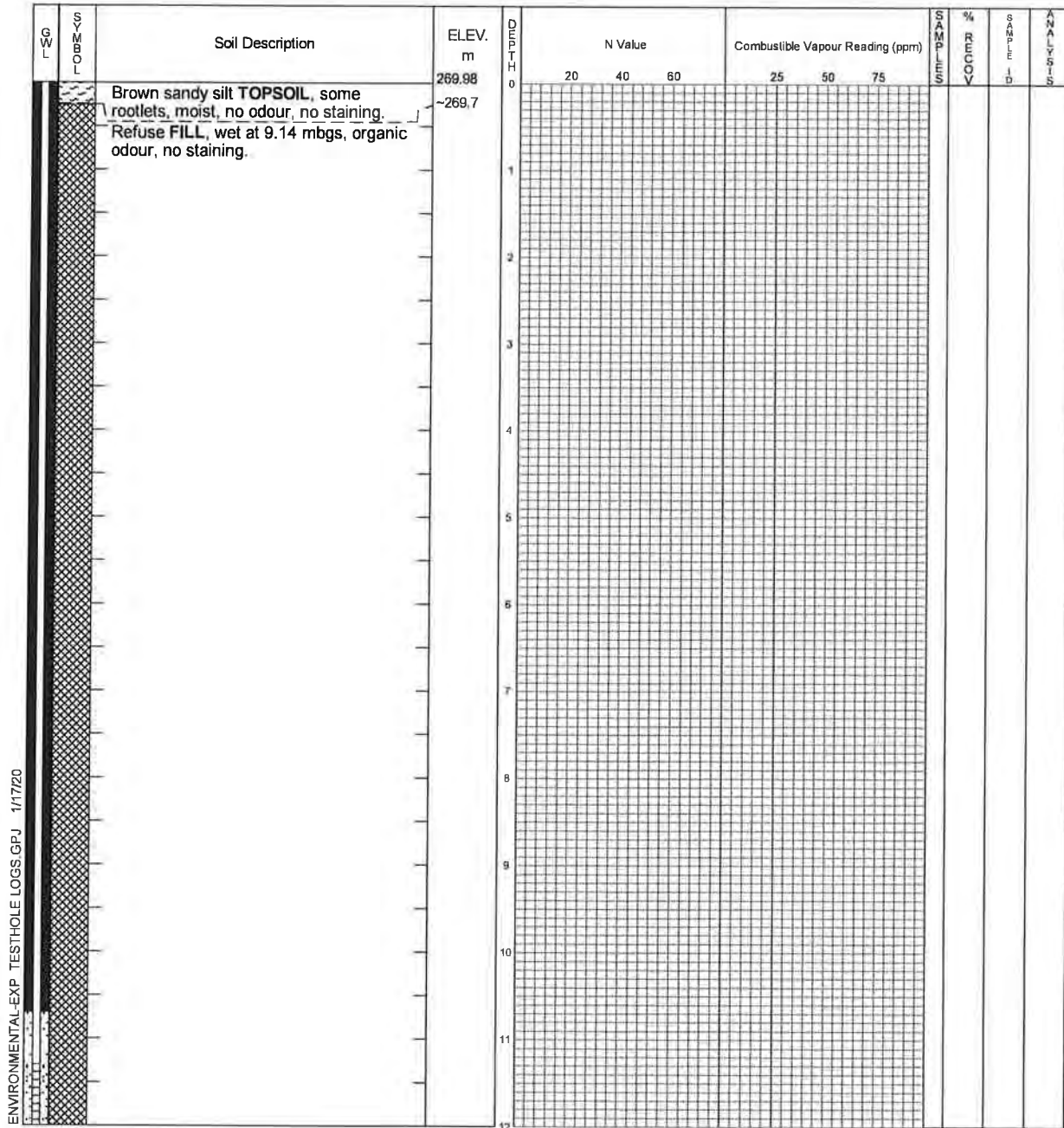
Date Drilled: October 24, 2019

Drill Type: CME-75 Track Mount

Datum: _____

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



Continued Next Page



exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)

Log of Borehole MW6-90-II

Project No. MRK-00256269-A0

Drawing No. 13

Project: City of Kawartha Landfill Sites

Sheet No. 2 of 2

LOG	SYMBOL	Soil Description	ELEV. m	DEPTH m	N Value			Combustible Vapour Reading (ppm)			SAMPLE ID	% CO ₂	SAMPLE ID	ANALYSIS
					20	40	60	25	50	75				
			257.98	12										
				13										
				14										
			-255.7	15										
				16										
				17										
				18										
				19										
				20										
				21										
				22										
				23										
				24										
				25										
				26										

End of Test hole at 14.3 mbgs.

ENVIRONMENTAL-EXP TESTHOLE LOGS.GPJ 11/7/20



exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)

Log of Borehole MW7-90

Project No. MRK-00256269-A0

Drawing No. 11

Project: City of Kawartha Landfill Sites

Sheet No. 1 of 2

Location: Various Landfill Sites, Kawartha Lakes

Lindsay Ops Landfill

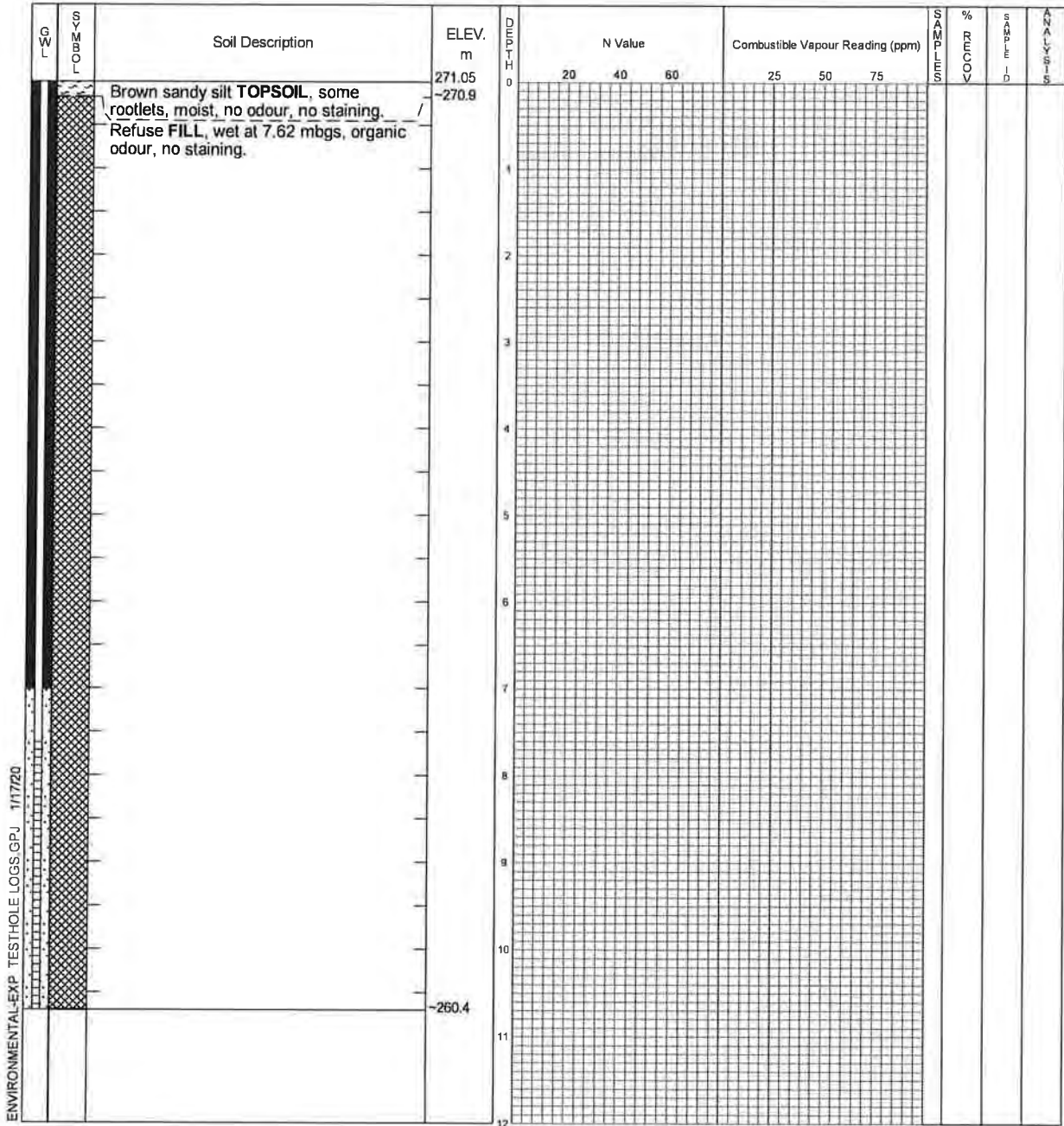
Date Drilled: October 24, 2019

Chemical Analysis

Drill Type: CME-75 Track Mount

Datum: _____

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



Continued Next Page



exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)

Log of Borehole MW7-90

Project No. MRK-00256269-A0

Drawing No. 11

Project: City of Kawartha Landfill Sites

Sheet No. 2 of 2

LOG L S O L	Soil Description	ELEV. m 259.05	D I P T H m	N Value			Combustible Vapour Reading (ppm)			S A M P L I N G	% C O M B U S T I B L E	S A M P L E I D	A N A L Y S I S
				20	40	60	25	50	75				
	End of Test hole at 10.7 mbgs.		12										
			13										
			14										
			15										
			16										
			17										
			18										
			19										
			20										
			21										
			22										
			23										
			24										
			25										
			26										

ENVIRONMENTAL-EXP TESTHOLE LOGS.GPJ 11/7/20



exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)

PROJECT NAME LINDSAY LANDFILL SITE

CLIENT HYDROTERRA LIMITED

BOREHOLE TYPE 108^{mm} I.D. HOLLOW STEM AUGERS

GROUND ELEVATION 265.76m a.s.l.

PROJECT NO. 90179.00
DATE May 25, 1990
FIELD SUPERVISOR FB
ENGINEER AGH

[illegible]

PROJECT NAME LINDSAY LANDFILL SITE

PROJECT NO. 90179.01

CLIENT HYDROTERRA LIMITED

DATE MAY 21 to 22, 1991

BOREHOLE TYPE 108 mm I.D. HOLLOW STEM AUGERS

FIELD SUPERVISOR FMB

GROUND ELEVATION 262.42 m a.s.l.

ENGINEER AGH

[illegible]

PROJECT NAME LINDSAY LANDFILL SITE

PROJECT NO. 90179.01

CLIENT HYDROTERRA LIMITED

DATE MAY 22 to 23, 1991

BOREHOLE TYPE 108 mm I.D. HOLLOW STEM AUGERS

FIELD SUPERVISOR J

GROUND ELEVATION 261.27 m a.s.l.

ENGINEER AGH

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %		REMARKS
				TYPE	N-VALUE	% WATER	% RECOVERY	ROD (%)	SPT	SHEAR STRENGTH	5 10 15		
									'N' VALUE 10 20 30		W P	W L	
±0.4	BLACK TO BROWN SILTY TOPSOIL		I III II										
	<u>SILTY SAND TILL</u> Dark mottled yellowish brown, silty sand till, some gravel, trace clay. Moist to wet. Compact.			SS1	16	18							Monitor II is in- stalled in a sep- arate borehole.
±1.5	<u>SILTY SAND TILL TO SILTY GRAVELLY SAND TILL</u> Yellowish brown, becoming grey at ±4.6 m, silty gravelly sand till to ±2.2 m. Becoming silty sand till, trace clay, variable gravel content, rusty stains, changing to silty gravelly sand till at ±3.6 m. Becomes silty sand till with fine sand lense ±2.5 cm thick at bottom, boulder at ±5.2 m. Wet becoming saturated at ±3.1 m. Very dense			SS2	13	12							- bouldery drill.
				SS3	60	6			60				Monitor I has a gas monitor in- stalled.
				SS4	66	8			66				- bouldery drill.
				SS5	80	11		80/152 mm					
					for 152 mm								
				SS6	50	6		50/76 mm					
					for 76 mm								
±5.3				SS7	94	9		94					SS7 Grain Size
				SS8	75	11		75/152 mm					Gravel 47%
					for 152 mm								Sand 33%
				SS9	60	10		60/152 mm					Silt 20%
					for 152 mm								-difficult
	<u>SANDY SILT TILL TO SILTY SAND TILL</u> Grey, fine sandy silt till, some gravel trace clay, becoming silty fine sand till some gravel with a sand lense ±1 cm thick at ±6.6 m, trace to some gravel and trace clay at ±7.6 m, trace gravel and clay at ±8.4 m. Becoming silty sand till, some gravel, trace clay at ±8.9 m, silty sand to sandy silt till, trace gravel and clay at bottom, fine to medium sand lense with black specks, trace silt becoming siltier with depth from ±8.5 to ±8.9 m. Moist to wet, becoming saturated at ±8.4 m. Very dense.			SS10	85	8		85/152 mm					
					for 152 mm								
				SS11	60	18		60/25 mm					
					for 25 mm								
				SS12	50	15		50/76 mm					
					for 76 mm								
				SS13	100	7		100/102 mm					
					for 102 mm								
				SS14	100	11		100/76 mm					
					for 76 mm								
±11.2				SS15	50	9		50/25 mm					
					for 25 mm								
±12.0				SS16	50	10		50/51 mm					-difficult drill.
					for 51 mm								
	<u>GRAVELLY SAND TILL</u> Grey gravelly sand till. Very dense.												
	Borehole terminated at ±12.0 m at auger refusal on assumed bedrock.												

PROJECT NAME LINDSAY LANDFILL SITE
CLIENT HYDROTERRA LIMITED
BOREHOLE TYPE 108 mm I.D. HOLLOW STEM AUGERS
GROUND ELEVATION 258.56 m a.s.l.

PROJECT NO. 90179.01
DATE MAY 23 to 24, 1991
FIELD SUPERVISOR FMB
ENGINEER AGH

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS		SAMPLE				CONE PENETRATION		WATER CONTENT %		REMARKS
					TYPE	% N VALUE	% WATER	% RECOVERY	ROD (%)	SPT	'N' VALUE	5 10 15	
										10 20 30			
			I	II									
±0.6	FILL: Yellowish brown silty fine sand to fine sand, some silt, trace clay, gravel and roots. Moist. Very dense.				SS1	55	6		55	152 mm			Monitor I has gas monitor 1 led.
	DARK MOTTLED BROWN CLAYEY SILT TOPSOIL												Heaving sands difficulties the installat Monitors I an
±1.1	SILTY SAND TILL TO SAND TILL Mottled yellowish brown and grey, fine sandy silt, with grey silt lenses <1 mm thick to ±1.4m. Becoming silty fine sand till to fine sand till with some silt and gravel, occasional rusty stains. Moist becoming wet at ±2.3 m. Dense to very dense.				SS2	41	8			41			
					SS3	50	9		50	51 mm			- boundary dr
					SS4	14	10						- bouldery dr
±3.7					SS5	50	7		50	76 mm			
±4.1	MEDIUM TO COARSE SAND: Brown medium to coarse sand, becoming finer with depth. Saturated.												
	SANDY SILT TILL TO SILT TILL Grey sandy silt till to silt till, trace to some sand and gravel. Becomes silt till with trace to some sand and some gravel at ±4.5 m, occasional fine sand lenses at ±1 cm thick. Wet. Very dense.				SS6	60	6		60	152 mm			
					SS7	75	11		75	152 mm			
±5.0													
	SILTY SAND TILL TO SAND TILL Grey silty sand till with some clay and gravel, occasional fine sand lenses ±1 cm thick to ±6.6 m. Becoming silty sand to sandy silt till with some gravel changing to silty sand till with some gravel to gravelly at ±7.3m. Becomes sand till with some silt and gravel at ±8.1 m, silty fine sand and gravel fragments at bottom. Moist becoming saturated at ±9.1 m. Very dense.				SS8	70	7		70	152 mm			SS8 Grain Siz Gravel 19 Sand 37 Silt 32 Clay 12
					SS9	75	8		75	152 mm			-bouldery dri for remainde hole.
					SS10	75	7		75	152 mm			
					SS11	95	7		95	152 mm			
					SS12	60	5		60	152 mm			
±9.1	Borehole terminated at ±9.1 m at auger refusal on assumed bedrock.				SS13	50	16		50	25 mm			

DRILL HOLE # reinstall 14-91 (2008)

Page 1 of 1

Date Drilled: Dec. 10, 2007
Rig: CME 55N
Contractor: Aardvark Drilling Inc.
Hammer Type: cathead

Location: Lindsay/Ops Landfill
Elevation:
Co-ord: 683575 E, 4806619 N

Project No. 07-0384-00
Project: Kawartha Lakes
Client: City of Kawartha Lakes

Depth (m)	Sample Type	Recovery Number	Blows/0.15 m	Symbols	SOIL DESCRIPTION	Well Installation	Moisture Content %		Pocket Penetrometer						
							Wp	Wi	kPa	SPT (N) Blows/ft					
							10	30	50	70	90	10	20	30	40
0					Ground Surface 0										
					TOPSOIL										
					FILL										
					sandy silt, some gravel										
					trace clay, cobbles										
1															
2															
3															
4															
					SILT										
					grey, trace sand										
					some sand seams										
5															
6															

Note: This borehole log has been prepared for geotechnical purposes and does not necessarily contain information suitable for an environmental assessment of the subsurface conditions.

Aardvark Drilling Inc.
25-C Lewis Road
Guelph, Ontario

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRAITGRAPHY	MONITOR DETAILS		SAMPLE				CONE PENETRATION		WATER CONTENT %		REMARKS	
					TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)	SPT				
										N' VALUE				
										10	40, 30			
								SHEAR STRENGTH		W P W L				
±1.1	DARK BROWN TO MOTTLED DARK BROWN SILTY TOPSOIL				SS1	75	9			75			Monitor II is stalled in a s arate borehole	
±2.2	<u>SILT TO SILT TILL</u> Mottled yellow brown and grey, becoming layers of yellow brown at ±1.5 m, weathered silt trace clay, grey and rusty stains, becoming layers of blocky fractured silt at ±1.5 m. Changing to silt to silty sand till at bottom. Moist to wet. Dense to very dense.				SS2	45	16			45			-bouldery dri	
					SS3	55	11			55				
					SS4	41	8			41				
±5.3					SS5	51	9			51			SS5 Grain Size Gravel 1% Sand 84% Silt 9% Clay 6%	
					SS6	34	19							
					SS7	35	18							
					SS8	34	15							
					SS9	74	10			74				
					SS10	35	9						SS10 Grain Si Gravel 24% Sand 40% Silt 25% Clay 11%	
					SS11	50	9			50/76 mm				
						for 76 mm								
					SS12	75	9			75/152 mm				
						for 152 mm								
					SS13	75	10			75/152 mm				
						for 152 mm								
±10.7					SS14	50	10			50/76 mm				
						for 76 mm								
					SS15	100	4			100/76 mm			-difficult dr	
						for /6 mm								
									</					



PROJECT NAME LINDSAY LANDFILL SITE
CLIENT HYDROTERRA LIMITED
BOREHOLE TYPE 108 mm I.D. HOLLOW STEM AUGERS
GROUND ELEVATION 256.93 m a.s.l.

PROJECT NO. 90179.01
DATE MAY 27 to 28, 1991
FIELD SUPERVISOR FMB
ENGINEER AGH

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS		SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS
					TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)	SPT N' VALUE 10 20 30	SHEAR STRENGTH	10 20 30			
												W	P	WL	
			I	II											
	<u>FILL</u> Mottled yellowish brown and grey, silty fine sand to fine sand with some silt with a trace to some gravel, trace roots and organic inclusions. Moist. Dense.				SS1	35	11								Monitor II is stalled in a s arate borehole
±1.1															
	<u>SILTY SAND TILL TO SANDY SILT TILL:</u> Grey to yellowish brown silty sand till, some gravel, rusty stains, becoming silty fine sand till to fine sandy silt till at ±1.5 m. Wet. Compact.				SS2	20	10								
±2.2															
	<u>VARIABLE SAND AND SILT LAYERS AND TILL:</u> Yellowish brown silt, becoming dark grey gravelly sand at ±2.4 m, becoming grey fine sand till trace to some silt with silt lenses <1 mm thick, at ±3.0 m. Becomes silt trace clay, with fine sand lense <2 mm thick at ±3.7 m. Moist to wet, becoming saturated at ±3.1 m. Very dense.				SS3	25	11								
±3.9															
	<u>SANDY SILT TILL TO SILTY SAND TILL:</u> Grey silt till trace to some sand, some gravel, trace clay, becoming sand till to silt till some gravel, trace clay, at ±4.5 m. Becomes a gravelly, silty sand till with some clay at ±5.3 m, changing to silty fine sand till with some gravel at ±6.6 m, gravelly fragments at bottom. Saturated. Compact becoming very dense below ±4.6 m.				SS4	41	22				41				SS4 Grain Size Gravel 24% Sand 65% Silt 6% Clay 5%
					SS5	45	16				45				
					SS6	16	10								
					SS7	66	9				66				-bouldery and difficult dri for remainder hole
					SS8	50	6				50/76 mm				
					SS9	110	4				110/152 mm				SS8 Grain Size Gravel 30% Sand 32% Silt 27% Clay 11%
					SS10	100	8				100/152 mm				
±7.7					SS11	50	11				50/25 mm				
	Borehole terminated at ±7.7 m at auger refusal on assumed bedrock.														

PROJECT NAME LINDSAY LANDFILL SITE
CLIENT HYDROTIERRA LIMITED
BOREHOLE TYPE 108 mm I.D. HOLLOW STEM AUGERS
GROUND ELEVATION 259.11 m a.s.l.

PROJECT NO. 90179.01
DATE MAY 28 to 29, 1991
FIELD SUPERVISOR MB
ENGINEER AGH

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION		WATER CONTENT %		REMARKS	
				TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)	SPT	SPT 'N' VALUE 10 20 30	5, 10, 15		
									SHEAR STRENGTH		W P W L		
±0.1	DARK BROWN SILTY TOPSOIL		I III II									Monitor II is stalled in a s arate borehole I M silica sand used as b fill. Monitor I has a monitor instal -bouldery drill -bouldery drill -bouldery drill -bouldery drill SS8 Grain Size Sand 85% Silt 11% Clay 4% -difficult dri for remainder hole.	
	SILTY SAND TILL Dark yellowish brown to mottled yellowish brown, becoming yellowish brown at ±1.5 m, becoming grey at ±4.0 m, silty sand till with some gravel, trace clay, becoming variable gravel at ±3.1 m. Rusty stains from ±0.1 to ±3.8 m. Moist becoming moist to wet at ±1.5 m, changing to wet at ±2.3 m, becoming sat- urated at ±4.6 m. Compact to dense, changing to compact at ±2.3 m, becoming very dense below ±3.8 m.			SS1	18	7							
				SS2	33	4							
				SS3	16	9							
				SS4	27	10							
				SS5	26	11							
				SS6	67	12			67				
±4.9				SS7	79	14			79				
±5.8	VARIABLE SILTY SAND AND SAND LAYERS: Yellowish brown strat- ified silty fine sands with silt lenses <±2 mm thick, becoming brown laminated fine sand with some silt at ±5.3 m. Becomes silty fine sands to fine sandy silt with grey silt lense ±2 cm thick at ±5.5 m, stratified silt at bottom. Saturated. Very dense.			SS8	75	13		75/152 mm for 152 mm					
				SS9	60	7		60/152 mm for 152 mm					
	SILTY SAND TILL TO SAND TILL Grey silt fine sand till with some gravel, becoming sand till trace to some silt, some gravel at ±7.6 m. Becomes gravelly sand till trace to some silt below ±8.2 m. Moist to wet, becoming wet to saturated at ±8.4 m, changing to moist below ±9.1 m. Very dense.			SS10	75	6		75/102 mm for 102 mm					
				SS11	50	7		50/76 mm for 76 mm					
				SS12	65	8		65/152 mm for 152 mm					
±9.7				SS13	75	5		75/102 mm for 102 mm					
	Borehole terminated at ±9.7 m at auger refusal on assumed bedrock												

PROJECT NAME LINDSAY LANDFILL SITE
CLIENT HYDROTERRA LIMITED
BOREHOLE TYPE 108 mm I.D. HOLLOW STEM AUGERS
GROUND ELEVATION 258.67 m a.s.l.

PROJECT NO. 90179.01
DATE MAY 29, 1991
FIELD SUPERVISOR FME
ENGINEER AGH

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION		WATER CONTENT %		REMARKS
				TYPE	% WATER	% RECOVERY	ROD (m)	SPT N VALUE	10/20/30	5.10/15	W P W L	
0.5	DARK BROWN SILTY TOPSOIL											Mixture of silt sand and holes were added to borehole as back material.
1.1	SILTY SAND TILL Yellowish brown silty sand till with some gravel, trace clay, rusty stains. Moist to wet. Compact.			SS1	70	10		70				
3.1	VARIABLE SAND AND SILT LAYERS Yellowish brown layers of clayey silt with some gravel and sand, fine sand lenses <1 cm thick. Bouldery drilling from ±3.1 m to ±3.7 m. Moist to wet. Dense.			SS3	31	10						-bouldery drill
4.1	SANDY SILT TILL TO SILTY SAND TILL: Yellowish brown, mottled yellowish brown and grey, becoming grey at ±6.1 m, fine sandy silt till with some gravel, trace clay. Becomes silty sand till with some gravel; at ±5.5 m, rusty stains at top, boulder at ±4.4 m. Wet. Very dense to compact.			SS4	75	7		5/127 mm				-bouldery drill
6.7	Borehole terminated at ±6.7 m in silty sand till.			SS5	25	9						-bouldery drill

PROJECT NAME LINDSAY LANDFILL SITE
CLIENT HYDROTERRA LIMITED
BOREHOLE TYPE 108 mm I.D. HOLLOW STEM AUGERS
GROUND ELEVATION 257.53 m a.s.l.

PROJECT NO. 90179.01
DATE MAY 29, 1991
FIELD SUPERVISOR FM
ENGINEER AGH

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS
				TYPE	N' VALUE	% WATER	% RECOVERY	ROD (%)	SPT 'N' VALUE		10 20 30			
									SHEAR STRENGTH		W P W L			
±0.2	DARK BROWN SILTY TOPSOIL													Mixture of 1H silica sand and holeplug were added to borehole as back- fill material.
	SILT TO CLAYEY SILT													
	Dark brown becoming mottled light and dark brown at ±0.8 m, silt, trace to some sand, trace clay, some roots to trace roots with depth. Becoming clayey silt at ±0.6 m. Wet. Compact.			SS1	15	23								
±1.1														
±1.5				SS8	20	6								
	SANDY SILT TILL: Dark yellowish brown, sandy silt till, some gravel, trace clay, rusty stains. Moist. Compact.			SS2	18	21								
	VARIABLE SAND AND SILT LAYERS													
	Dark brown fine to medium sand, trace gravel and silt, Yellowish brown layers of silty fine sand to fine sandy silt, trace gravel, <1 cm thick silt lenses, at ±2.2 m. Becoming fine sand trace to some silt, changing to fine sandy silt, light brown silt lenses <2 cm thick, at ±3.0 m. Becoming clayey silt with some sand and trace of gravel black specks, at ±3.6 m. Becoming grey at ±3.8 m, layers of silty fine sand to fine sandy silt to silt, trace clay and gravel at ±4.5 m. Saturated. Compact to dense.			SS3	33	19								
				SS4	38	19								
				SS5	16	22								
±5.2				SS6	23	8								
	FINE TO COARSE SAND													
±6.1	Grey fine to coarse sand, occ- asional silt seam. Becomes gravel and sand with some silt at ±5.6 m. Saturated. Very dense.			SS7	60	12								
	Borehole terminated at ±6.1 m in gravel and sand.													

SS5 Grain Size
Gravel 2%
Sand 12%
Silt 65%
Clay 21%

SS6 Grain Size
Gravel 41%
Sand 47%
Silt 12%

COUNTY OR DISTRICT Victoria		TOWNSHIP PARISH OR CITY TOWN VILLAGE Ops		CAN. RAILWAY TRACKS SHOPS ETC. can. 6		LOT 26	
OWNER (S) NAME FIRST: Tom of Lindsay		ADDRESS Lindsay, Ontario		DATE COMPLETED DAY 31 MO 05 YE 97			

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)					
GENERAL COLOUR	HOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Topsoil			0	1
Gray	Gravel	small boulder		1	4
Brown	Clay	Gravel	soft	4	16
Brown	Sand		dry	16	17
Gray	Clay	Gravel		17	20
Gray	Gravel		dry	20	22
Gray	Clay	Gravel		22	35
Gray	Limestone			35	43

WATER RECORD		
WATER FOUND AT - FEET	SIZE OF WATER	
38	☒ FRESH ☐ SALT	☐ SMALL POND ☐ MEDIUM SALS ☐ DRY
	☐ FRESH ☐ SALT	☐ SMALL POND ☐ MEDIUM SALS ☐ DRY
	☐ FRESH ☐ SALT	☐ SMALL POND ☐ MEDIUM SALS ☐ DRY
	☐ FRESH ☐ SALT	☐ SMALL POND ☐ MEDIUM SALS ☐ DRY
	☐ FRESH ☐ SALT	☐ SMALL POND ☐ MEDIUM SALS ☐ DRY

CASING & OPEN HOLE RECORD				
INCHES ODS SCHEDULES	MATERIAL	WELL ZONES AND LOG NO.	DEPTH - FEET	
			START	END
6 1/2	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC	-188	+ 3	35
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC			-

SCREEN	DATE & OF OPENING	DISCLOSED	LENGTH
	DOOR NO :		
	MATERIAL AND TYPE	DEPTH TO TOP OF DOOR	NO
			PAGE

PLUGGING & SEALING RECORD					
SOLVENT SET AT TEST		MATERIAL AND TYPE		(ESTIMATE GOOD)	
TEMP.	SIZ.			LEAK PRESSURE ETC.	
0	12	Benzene & Mud slurry			
		1			

PUMPING TEST	PUMPING TEST STATUS		PUMPING DATE		LOCATION OF PUMPING	
	☒ PUMP	☐ DRAIL	4		3	
	STATIC LEVEL		WATER LEVEL DURING		☒ PUMPING ☐ RECOVER	
	WATER LEVEL END OF PUMPING		IN MILES		OUT MILES	
	16.40	21.02	19.60	19.98	20.58	20.68
	PUMP STARTS AT		WATER AT END OF TEST			
	40		CLEAR		CLOUDY	
	RECORDED PUMP TYPE		RECORDED PUMP SETTING		RECORDED PUMP DATE	
	☐ SMALL ☒ DEEP					

FINAL STATUS OF WELL	☐ WATER SUPPLY ☒ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL	☐ ABANDONED INSUFFICIENT SUPPLY ☐ ABANDONED POOR QUALITY ☐ UNFINISHED ☐ OTHERS _____
WATER USE	☐ DOMESTIC ☐ STOCKS ☐ IRRIGATION ☐ INDUSTRIAL ☒ OTHER _____	☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☒ COOLING OR AIR CONDITIONING ☐ NOT USED
METHOD OF CONSTRUCTION	☒ CABLE TOOL ☐ DATARY (CONVENTIONAL) ☐ DATARY (DEVELOPER) ☐ DATARY (AIR) ☐ AIR PERCUSSION	☐ BORING ☐ DRILLING ☐ JETTING ☐ DRIPPING ☐ SINKING ☐ OTHER _____

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW

ROAD

LOT LINE

WELL

103432

CONTRACTOR	NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENSE NUMBER
	G. Hart & Sons Well Drilling Ltd.	2662
	ADDRESS	
	Box 850, R.R.#1, Fenelon Falls, Ontario	
	NAME OF WELL TECHNICIAN	WELL TECHNICIAN'S LICENSE NUMBER
	Dave MacDonald	
	SIGNATURE OF TECHNICIAN/CONTRACTOR	DATE
		Dec 1980

OFFICE USE ONLY			
	Borehole 20-91		

3 CHECKS ☒ CONTACT ARE WHEN APPLICABLE			
COUNTY OR DISTRICT	TOWNSHIP TOWNSHIP CITY, TOWN, VILLAGE	CON. OLDER PAGES SURVEY ETC	LOT
Victoria	Ops Bvhn., Lindsay Landfill	Con. 6	26
TOWNSHIP (TOWNSHIP NAME)	ADDRESS	DATE COMPLETED	
Town of Lindsay	Lindsay, Ontario	DAY 15 OF 02 OF 93	

[illegible]

WATER RECORD			
WATER TEMPERATURE AT - FEET	KIND OF WATER		
44	☐ FRESH	☒ SALT	☐ SALT POOR
	☐ SALT?	☐ SALT	☐ SALT POOR
61	☐ FRESH	☒ SALT	☐ SALT POOR
	☐ SALT?	☐ SALT	☐ SALT POOR
63	☐ FRESH	☒ SALT	☐ SALT POOR
	☐ SALT?	☐ SALT	☐ SALT POOR
	☐ FRESH	☐ SALT	☐ SALT POOR
	☐ SALT?	☐ SALT	☐ SALT POOR
	☐ FRESH	☐ SALT	☐ SALT POOR
	☐ SALT?	☐ SALT	☐ SALT POOR

CASING & OPEN HOLE RECORD				
HOLE NO. DATE	MATERIAL	HOLE NO. AND DATE	DEPTH - FEET	
			1	2
4	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☒ OPEN HOLE ☐ PLASTIC		43	65
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC			

SCREEN	DATE - 5 - 27 - 1974 PAGE NO : 1	PROJECT	LEADS
	REVIEWED AND FILE	REPORT TO BCP ON BEHALF	FILE

PLUGGING & SEALING RECORD			
DEPTH SET BY - DATE		MATERIAL AND TYPE	CEMENT AMOUNT LOAD PAGES ETC.
FOOT	IN		

PUMPING TEST	PUMPING TEST METHOD		PUMPING DATE		DURATION OF PUMPING	
	☒ PUMP	☐ GATE	4 GPM		2 HOURS 30 MIN	
	STATIC LEVEL	WATER LEVEL 100 OF PUMPING	WATER LEVEL DURING		☒ PUMPING ☐ RELEASE	
			15 @ 10 FEET	20 @ 10 FEET	25 @ 10 FEET	30 @ 10 FEET
	16 FEET	17 1/2 FEET	17 06 1/2	17 14 1/2	17 14 FEET	17 18 1/2
IF FLOODING DATE		PUMP INTAKE VALVE AT		WATER AT 100 OF TANK		
		GPM		41.50 FEET		
RECORDS OF PUMP TYPE		RECORDS OF PUMP		RECORDS OF PUMPING		
☐ SMALL GPM ☐ DEEP		METHOD		FEET		GAUG

FINAL STATUS OF WELL	☐ WATER SUPPLY ☒ OBSERVATION WELL ☐ TEST HOLE ☐ DECKHEAD WALL	☐ ABANDONED - INSUFFICIENT SUPPLY ☐ ABANDONED - POOR QUALITY ☐ UNFINISHED ☐ DRYTERMINO
WATER USE	☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☒ OTHER <u>Shower/Toilet</u>	☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ CABLEING OR AIR CONDITIONING ☐ NOT USED
METHOD OF CONSTRUCTION	☐ CABLE TOOL ☐ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☒ ROTARY (AIR) ☐ AIR PERCUSSION	☐ SINKING ☐ DRILLING ☐ JETTING ☐ DRIVING ☐ DRILLING ☐ OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW

WELL

6'

ROAD

LOT LINE

ARROW

117088

CONTRACTOR	NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENSE NUMBER
	C. Hart & Sons Well Drilling Ltd.	2667
	ADDRESS	
	Box 850, R.R.#1, Fenelon Falls, Ontario	
	CITY OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENSE NUMBER
	Charlie Duggan	
	SIGNATURE OF TECHNICIAN / CONTRACTOR	EXPIRATION DATE
		DAY MONTH YEAR

OFFICE USE ONLY			
	Borehole 20-91 (continued)		

OFFICE USE ONLY				
Borehole 21-91				

CITY OR DISTRICT		TOWNSHIP OR CANTON CITY TOWN VILLAGE (21-91)		CON. BLOCK TRACT SURVEY ETC.		LOT	
Victoria		Ops Twp., Lindsay Landfill		Con. 6		26	
OWNER (SURVIVOR FIRST)		ADDRESS		DATE COMPLETED			
Town of Lindsay		Lindsay, Ontario		MAY 15 1993			

[illegible][illegible]

CASING & OPEN HOLE RECORD				
WELL NO.	MATERIAL	D-41 DATE AND DD HOURS	DEPTH FEET	
			FROM	TO
4	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☒ OPEN HOLE ☐ PLASTIC		40	65
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC			

SCREEN	NAME OF THE PERSON COUNCIL OF :	RESIDENCE	ADDRESS
	NATIONALITY AND TYPE	DATE OF BIRTH OF RESIDENCE	DATE

PLUGGING & SEALING RECORD		
DATE SET AT	FEET	(CORRECT GROUND) LEAK PRESSURE ETC.
START	TO	

PUMPING TEST	PUMPING TEST DATES		PUMPING DATE		DURATION OF PUMPING	
	☒ PUMP ☐ BAILES		10 GPM		2 HOURS 30 GPM	
	STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING		☒ PUMPING ☐ RECOVERY	
			16 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
	10 FEET	12.88 FEET	12.04 FEET	12.38 FEET	12.38 FEET	12.88 FEET
IF FLOWING GIVE DATE		PUMP WINDS IN AT		WINDS AT END OF TEST		
		GPM		39.70 FEET		☒ CLEAR ☐ CLOUDY
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP		RECOMMENDED PUMPING RATE		GPM
☐ SHALLOW ☐ DEEP		STATION		FEET		

FINAL STATUS OF WELL	☐ WATER SUPPLY ☒ OBSERVATION WELL ☐ TEST HOLE ☐ DECADED WELL	☐ ABANDONED INSUFFICIENT SUPPLY ☐ ABANDONED POOR QUALITY ☐ UNFINISHED ☐ DETERIORATED
WATER USE	☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☒ OTHER <u>MINING</u>	☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED
METHOD OF CONSTRUCTION	☐ CABLE TOOL ☐ DRYLAY (CONVENTIONAL) ☐ DRYLAY (REVERSE) ☐ DRYLAY (LONG) ☐ AIR PERCUSSION	☐ BORING ☐ SHIMMER ☐ JETTING ☐ DRIVING ☐ DIGGING ☐ OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW

N
↑
NPS
176

WELL

11-4" 36

* Packer Test on 4" hole then
drilled down to 61"

117085

CONTRACTOR	NAME OF WELL CONTRACTOR		WELL CONTRACTOR'S LICENSE NUMBER	
	C. Hart & Sons Well Drilling Ltd.		2662	
	ADDRESS			
	Box 850, P. P. #1, Fensholt Falls, Ontario			
	NAME OF WELDRER/TECHNICIAN		WELDRER/TECHNICIAN'S LICENSE NUMBER	
	Charlie Dupont			
	SIGNATURE OF WELDRER/CONTRACTOR		EXPIRATION DATE	
	_____		DATE _____ MO _____ YE _____	

OFFICE USE ONLY			
	Borehole 21-91 (continued)		

OWNER'S COPY

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☐ CORRECT! BOX WHERE APPLICABLE

COUNTY OR DISTRICT Victoria		TOWNSHIP OR CANTON CITY TOWN VILLAGE Ops Twp., Lindsay Landfill		CON. BLOCKS TRACTS DOCKET ETC Con. 6		L.S.# 26	
CENSUS (1980) DATE FIRST Town of Lindsay		ADDRESS Lindsay, Ontario		DATE COMPLETED DAY 18 MO 02 YEAR 93			

[illegible][illegible]

PUMPING TEST	PUMPING TEST NO. <u>100</u>		PURCHASE DATE <u>5</u> <u>SEP</u>		LOCATION OF PUMPING <u>2</u> <u>CH</u> <u>30</u>	
	☒ PUMP	☐ DAMED			☒ PUMPING ☐ RECOVERY	
	STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVEL DURING			
			10 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
	<u>3.70</u> FEET	<u>10.04</u> FEET	<u>8.84</u> FEET	<u>9.78</u> FEET	<u>9.44</u> FEET	<u>9.68</u> FEET
IF FLOODING GIVE DATE		PUMP INTAKE DIA. AT		DIA. AT END OF TEST		
		<u>SPR</u>		<u>25.40</u> FEET		☐ CLEAR ☐ CLOUDY
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP		RECOMMENDED PUMPING		
☐ SHALLOW ☐ DEEP		METHOD		FEET DATE		
				SPR		

FINAL STATUS OF WELL	☐ WATER SUPPLY ☒ OBSERVATION WELL ☐ TEST HOLE ☐ DECREASE WELL	☐ ABANDONED - INSUFFICIENT SUPPLY ☐ ABANDONED - POOR QUALITY ☐ UNFINISHED ☐ OBSOLETE
WATER USE	☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☒ OTHER <u>other use</u>	☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COLDING AND CONDITIONING ☐ NOT USED
METHOD OF CONSTRUCTION	☐ CABLE TOOL ☐ DRAFT (CONVENTIONAL) ☐ DRAFT (INVERTED) ☒ DRAFT (AIR) ☐ AIR PERCUSSION	☐ OTHER ☐ DIAMOND ☐ JETTING ☐ SHOTCRETE ☐ DRIVING ☐ OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW

23 1/2'

10'

LANDFILL

10'

10'

* Packer Test on 4" hole
then pumped to 6 1/2'.

117090

CONTRACTOR	NAME OF WELL CONTRACTOR		WELL CONTRACTOR LICENCE NUMBER	
	C. Hart & Sons Well Drilling Ltd.		7662	
	ADDRESS			
	Box 850, R.R.#1, Fenelon Falls, Ontario			
	NAME OF WELL TECHNICIAN		WELL TECHNICIAN LICENCE NUMBER	
	Charlie Duggan			
	SIGNATURE OF TECHNICIAN/CONTRACTOR		DATE	
			DAY _____ MO _____ YE _____	

OFFICE USE ONLY			
	Borehole 22-91 (continued)		

BOREHOLE NO. 23-91

PROJECT NAME Lindsay Landfill
 CLIENT Hydroterra Limited
 BOREHOLE TYPE 108 mm Hollow Stem Augers
 GROUND ELEVATION 258.54 masl

PROJECT NO. 1080
 DATE Nov 18/19, 1991
 FIELD SUPERVISOR KF
 ENGINEER LGB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %		REMARKS
				TYPE	N VALUE	% WATER	% RECOVERY	ROD (N)	SPT 'N' VALUE		W P W L		
									SHEAR STRENGTH				
	<u>SILTY SAND TILL</u> Yellowish-brown, silty fine sand to sandy silt, occasional boulders; moist to wet; very dense												
1				1	50/75 mm								
2				2	63								
				3	31								
3				4	64								
4	<u>MEDIUM TO COARSE SAND</u> Brown, medium-coarse sand with some silt; saturated; dense to very dense			5	86								
	<u>SILTY SAND TILL</u> Grey, silty fine sand with some clay, gravel, occasional boulder; moist to wet; very dense			6	94								
5				7	50/100 mm								
				8	50/125 mm								
6				9	50/100 mm								
				10	50/100 mm								
7				11	50/100 mm								
				12	50/75 mm								
8	<u>MEDIUM TO COARSE SAND</u> Grey; very dense; saturated			13	50/75 mm								
9													

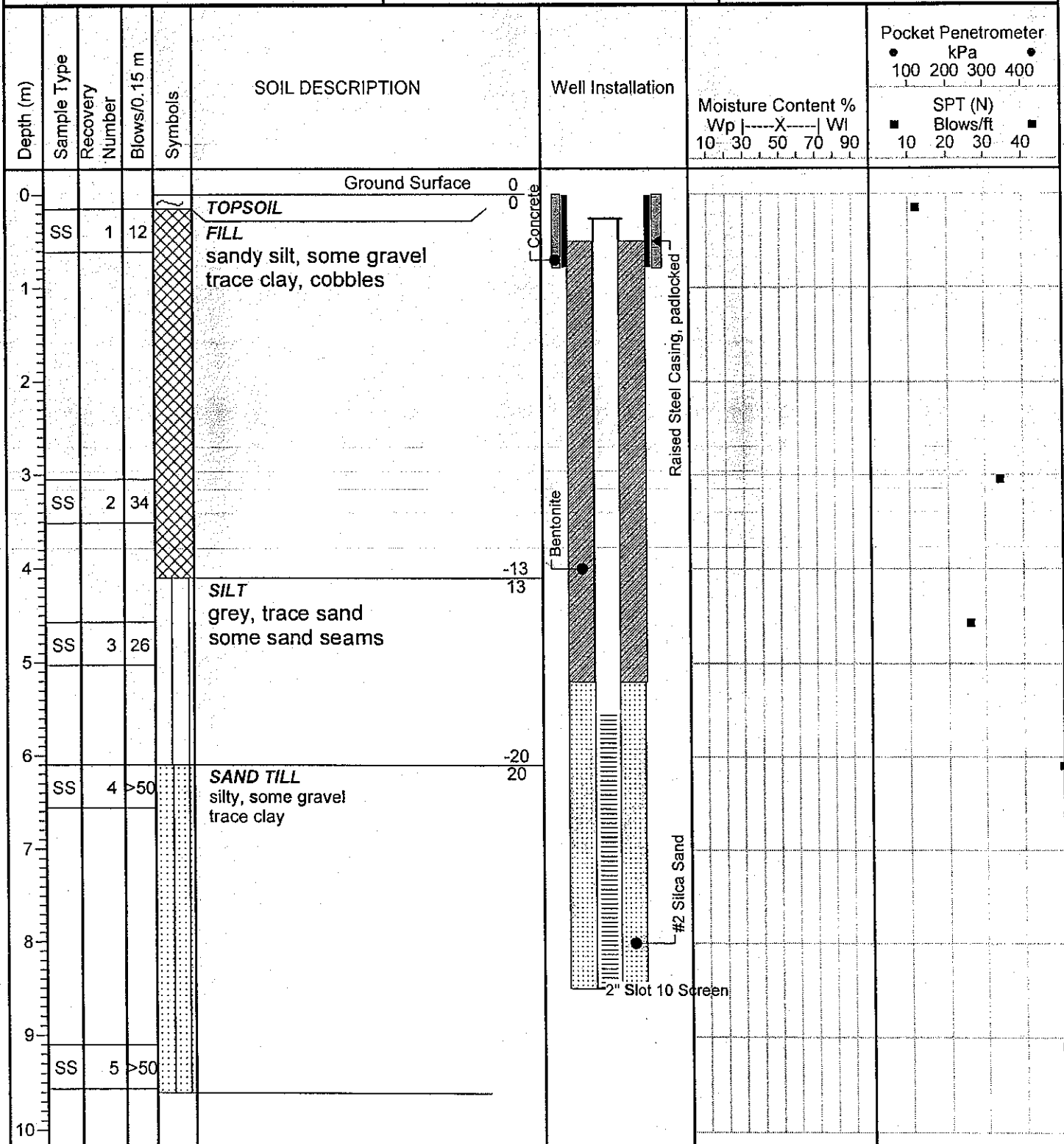
DRILL HOLE # reinstall 23-91 (2008)

• • Page 1 of 1

Date Drilled: Dec. 10, 2007
Rig: CME 55N
Contractor: Aardvark Drilling Inc.
Hammer Type: cathead

Location: Linsay/Ops Landfill
Elevation:
Co-ord: 683575 E, 4806619 N

Project No. 07-0384-00
Project: Kawartha Lakes
Client: City of Kawartha Lakes



Note: This borehole log has been prepared for geotechnical purposes and does not necessarily contain information suitable for an environmental assessment of the subsurface conditions.

Aardvark Drilling Inc.
25-C Lewis Road
Guelph, Ontario

BOREHOLE NO. 24-91

PROJECT NAME Lindsay Landfill
 CLIENT Hydroterra Limited
 BOREHOLE TYPE 108 mm Hollow Stem Augers
 GROUND ELEVATION 257.62 masl

PROJECT NO. 1080
 DATE Nov 25, 19
 FIELD SUPERVISOR KF
 ENGINEER LGB

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION		WATER CONTENT %			REMARKS	
				SS	N' VALUE	% WATER	% RECOVERY	MOD (N)	SPT 'N' VALUE		WATER CONTENT %				
									SHEAR STRENGTH		W P W L				
1	TOPSOIL SILTY SAND TILL Brown, dense to very dense silty sand; moist														
2	VARIABLE SAND AND SILTY LAYERS Brown, fine-medium sand at ± 2 metres; becoming fine sand and silt; dense to very dense; moist; wet at 2.4 metres			1	58										
3				2	57										
4	SANDY TO CLAYEY SILT Grey, dense to very dense; wet			3	31										
5				4	66										
6	SILTY CLAY Grey, dense with gravel sizes			5	35										
7				6	30										
8	SILTY SAND TILL Grey, silty sand with gravel; very dense; moist			7	50/125 mm										
9				8	90/100 mm										
10				9	100/100 mm										
11				10	100/150 mm										
12	COARSE SAND AND GRAVEL With trace silt, saturated			11	50/75 mm										
13		12	50/50 mm												

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-25-96-1

SHEET 1 OF 2

LOCATION: SEE PLAN

BORING DATE: MARCH 20&21/96

DATUM: GEODETIC

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm



DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV.	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT, PERCENT					
				DEPTH (m)				Cu, kPa	nat V - + Q - ● rem V - ⊕ U - ○	Wp — W — Wl							
0	TRACK MOUNTED CME 75 POWER AUGER 108mm I.D./203mm O.D. H.S.A.	GROUND SURFACE		258.96										CEMENT & CASING			
		Loose, dark brown, moist to wet silty topsoil, trace sand, trace clay. (FILL)		0.00	1	50 DO	8										
				258.50													
				0.46													
1		Compact to very dense, brown, moist sandy SILT/silty SAND, some gravel, some clay, occ. thin silty clay layers. (TILL)				2	50 DO	18									
2																	
3						3	50 DO	55									
					255.30												BENTONITE GROUT
4			3.66														
	Very dense, grey, moist to wet sandy SILT, trace to some gravel, trace to some sand, occ. sand seams, occ. wet sand and gravel layers. (TILL)				4	50 DO	60/.05										
5																	
6					5	50 DO	60/.13										
7																	
8																	
9																	

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: TM

CHECKED: PMM

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-25-96-1

SHEET 2 OF 2

LOCATION: SEE PLAN

DRILLING DATE: MARCH 21/96

DATUM: GEODETIC

INCLINATION: -90 AZIMUTH:

DRILL RIG: CME-75

DRILLING CONTRACTOR: ALL-TERRAIN DRILLING LTD.



DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	RUN No.	PENETRATION RATE (m/min.)	FLUSH % RETURN	FR-FRACTURE CL-CLEAVAGE SH-SHEAR VN-VEIN	F-FAULT J-JOINT P-POLISHED S-SLICKENSIDED	SM-SMOOTH R-ROUGH ST-STEPPED PL-PLANAR	FL-FLEXURED UE-UNEVEN W-WAVY C-CURVED	DIAMETRAL POINT LOAD INDEX (MPa)	NOTES WATER LEVELS INSTRUMENTATION
10		CONTINUED FROM PREVIOUS PAGE Continued from Borehole Log		248.89 10.07									
11		Fresh, medium to dark grey, fine to medium grained, thinly to medium bedded, nodular textured LIMESTONE and argillaceous to shaly LIMESTONE. (BEDROCK)			1	0.089							BENTONITE SEAL
12					2	0.079							
13					3	0.083							
13		END OF DRILLHOLE		245.82 13.14									SILICA SAND
14													
15													
16													
17													
18													
19													
20													

DATA INPUT: PS JUNE 18/96

DEPTH SCALE:

1 to 50

Golder Associates

LOGGED: TM

DATE: MARCH 22/96

CHECKED: PMM

ENGINEER LB[illegible]

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT ONE WHEN APPLICABLE

CITY OR DISTRICT		TOWNSHIP		COUNTY		CEN. BLK. TRACT SUPPLY ETC.		L.D.	
Victoria		Opea Twp., Lindsay Landfill		(1-93)		Com.6		26	
OWNER (SHOULD BE FIRST)		ADDRESS				DATE COMPLETED			
Town of Lindsay		Lindsay, Ontario				Oct 16		02 to 93	

[illegible]

WATER RECORD		
WATER FOUND AT FEET	KIND OF WATER	
37	☐ FRESH ☐ SALT	☒ SULPHUR ☒ MINERAL ☐ GAS
43	☐ FRESH ☐ SALT	☒ SULPHUR ☒ MINERAL ☐ GAS
	☐ FRESH ☐ SALT	☐ SULPHUR ☐ MINERAL ☐ GAS
	☐ FRESH ☐ SALT	☐ SULPHUR ☐ MINERAL ☐ GAS
	☐ FRESH ☐ SALT	☐ SULPHUR ☐ MINERAL ☐ GAS

CASING & OPEN HOLE RECORD				
INCHES DIA HOLE	MATERIAL	HOLE TIME CASES HOLE	DEPTH - FEET	
			DOWN	UP
6 $\frac{1}{2}$	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC	188	+ 4	36
6 $\frac{1}{2}$	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☒ OPEN HOLE ☐ PLASTIC		36	49' 4"
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC			

SCREEN	DATE: OF SPECIMEN + DATE OF :	DIMENSIONS	LENGTH
	MATERIAL AND TYPE	DEPTH TO TOP OF BEAMS	FEET

PLUGGING & SEALING RECORD				
DEPTH SET BY		MATERIAL AND TYPE		LEAKAGE GROUND
FEET	IN			LEAK PACKED ETC.
0	20	Benzene		

PUMPING TEST	PUMPING TEST STATUS		PUMPING DATE		DURATION OF PUMPING	
	☒ PUMP ☐ BAILED		3 LPH		3 HOURS _____ MIN.	
	STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING		☒ PUMPING ☐ RECOVERY	
			15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
	10.82 FEET	20.40 FEET	17.54 FEET	18.76 FEET	19.08 FEET	19.50 FEET
IF FLOODING DATE DATE		PUMP STATUS SET AT		WATER AT END OF TEST		
		GPH		49 FEET ☒ CLEAR ☐ CLOUDY		
RECOMMENDED PUMP TYPE		RECOMMENDED PUMP SETTING		RECOMMENDED PUMPING RATE		
☐ SMALL GW ☐ DEEP				FEET GPH LPH		

FINAL STATUS OF WELL	☐ WATER SUPPLY ☒ OBSERVATION WELL ☐ TEST HOLE ☐ DECHARGE WELL	☐ ABANDONED - INSUFFICIENT SUPPLY ☐ ABANDONED - POOR QUALITY ☐ UNFINISHED ☐ DEWATERING
WATER USE	☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☒ OTHER <u>HYDRO-ELECTRIC</u>	☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING AND AIR CONDITIONING ☐ NOT USED
METHOD OF CONSTRUCTION	☐ CABLE TOOL ☐ DRAFT (CONVENTIONAL) ☐ DRAFT (REVERSE) ☒ DRAFT (AIR) ☐ AIR PERCUSSION	☐ DODGE ☐ DODGE ☐ JETTING ☐ DOWING ☐ DODGING ☐ OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW

117087

CONTRACTOR	NAME OF WELL CONTRACTOR		WELL CONTRACTOR LICENCE NUMBER	
	G. Harr & Sons Well Drilling Ltd		2662	
	ADDRESS			
	Box 850, R.R.#1, Fenelon Falls, Ontario			
	NAME OF WELL TECHNICIAN		WELL TECHNICIAN'S LICENCE NUMBER	
	Charlie Duggan			
	SIGNATURE OF TECHNICIAN/CONTRACTOR		EXPIRATION DATE	
			DAY _____ MO _____ YR _____	

OFFICE USE ONLY			
	Borehole 27-93		

FORM NO. 0608 (11/84) FORM 8

PROJECT NAME Lindsay Landfill

PROJECT NO. 1080

CLIENT Hydroterra Limited

DATE _____

BOREHOLE TYPE 150 mm Rotary

FIELD SUPERVISOR LB

GROUND ELEVATION 258.64 masl

ENGINEER LB[illegible]

BOREHOLE NO. 29-93

PROJECT NAME Lindsay Landfill

PROJECT NO. 1080

CLIENT Hydroterra Limited

DATE April 12, 1995

BOREHOLE TYPE 108 mm Hollow Stem Augers

FIELD SUPERVISOR KF

GROUND ELEVATION 258.64 masl

ENGINEER LGB

[illegible]

PROJECT NAME Lindsay Landfill

PROJECT NO. 1080

CLIENT Hydroterra Limited

DATE June 8, 1993

BOREHOLE TYPE 108 mm Hollow Stem Augers

FIELD SUPERVISOR LB

GROUND ELEVATION 248.89 masl

ENGINEER _____ LB

[illegible]

BOREHOLE NO. 31-93

PROJECT NAME Lindsay Landfill

PROJECT NO. 1080

CLIENT Hydroterra Limited

DATE June 8, 1993

BOREHOLE TYPE 108 mm Hollow Stem Augers

FIELD SUPERVISOR LB

GROUND ELEVATION 249.21 masl

ENGINEER _____ LB

[illegible]

PROJECT NAME Lindsay Landfill
CLIENT Hydroterra Limited
BOREHOLE TYPE 108 mm Hollow Stem Augers
GROUND ELEVATION 261.57 masl

PROJECT NO. 1080
DATE June 9, 1993
FIELD SUPERVISOR LB
ENGINEER LB

[illegible]

EFS

Environmental Field Services

BOREHOLE LOG 35 - 93

PROJECT NAME: LINDSAY LANDFILL

PROJECT No.: _____

CLIENT: HYDROTERRA LIMITED

DATE: OCT 12, 1993

BOREHOLE TYPE: 200 mm O.D HOLLOW STEM AUGERS

GEOLOGIST: EJK

GROUND ELEVATION: +v 258.06 m A.S.L.

REVIEWER: LB

DEPTH m	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				N			% WATER			COMMENTS
			TYPE	% WATER	VALUE	% RECVRY	20	40	60	10	20	30	
0.2	TOPSOIL		1 SS	17	45								
	SANDY SILT TILL: LIGHT BROWN WITH STONES, MOIST TO WET.												
1.0			2 SS	8	30								
2.0			3 SS	7	24								
2.4													
	SANDY SILT: BROWN TO GREY FINE TO MEDIUM SAND, BROWN, SATURATED, TILL - LIKE.		4 SS	19	35								
3.0													
			5 SS	18	43								
3.8													
4.0	SILTY SAND TO SANDY SILT TILL: GREY, STONIER WITH DEPTH, MOIST, VERY DENSE.		6 SS	9	91								
			7 SS	7	86								
5.0													
6.0			8 SS	6	70 FOR 76 mm								
7.0													
8.0			9 SS	9	43								

CAVE FROM 3.3m
TO 5.9 mSTONIER AND
DENSER WITH
DEPTHMONITORS IN
SEPARATE
BOREHOLES

Environmental Field Services

BOREHOLE LOG 35 - 93 CONTD

PROJECT NAME: LINDSAY LANDFILL

PROJECT No.:

CLIENT: HYDROTERRA LIMITED

DATE: OCT 12, 1993

BOREHOLE TYPE: 200 mm HOLLOW STAEM AUGERS

GEOLOGIST: EJK

GROUND ELEVATION: +258.06 m A.S.L.

REVIEWER: LB

[illegible]

Environmental Field Services

BOREHOLE LOG 36 - 93

PROJECT NAME: LINDSAY LANDFILL

PROJECT No.:

CLIENT: HYDROTERRA LIMITED

DATE: OCT 12, 1993

BOREHOLE TYPE: 200 mm HOLLOW STAEM AUGERS

GEOLOGIST: EJK

GROUND ELEVATION: +1- 257.64 m A.S.L

REVIEWER: LB

[illegible]

EFS

Environmental Field Services

BOREHOLE LOG 37 - 93PROJECT NAME: LINDSAY LANDFILL

PROJECT No.: _____

CLIENT: HYDROTERRA LIMITEDDATE: OCT 13, 1993BOREHOLE TYPE: 200 mm HOLLOW STAE M AUGERSGEOLOGIST: EJKGROUND ELEVATION: +/- 257.96 m A.S.L.REVIEWER: LB

DEPTH m	STRATIGRAPHY	MONITOR DETAILS I II	SAMPLE				N			% WATER			COMMENTS
			#	%	N	%	VALUE						
			TYPE	WATER	VALUE	RECVRY	20	40	60	10	20	30	
0.1	TOPSOIL		1 SS	29	4								
1.0	SANDY SILT TILL: BROWN TO LIGHT BROWN, MOIST TO WET, MINOR AND RANDOM FRACTURING. GRAVELLY.		2 SS	26	12								
2.0			3 SS	8	10								
2.3			4 SS	17	44								
2.9	SILTY SAND: LIGHT BROWN TO GREY, SATURATED.												
3.0	SANDY SILT TO SILTY SAND TILL: GREY, BECOMING DENSER WITH DEPTH. SILTY GRAVELLY SAND LAYER 0.05m THICK AT 5.2 m, MOIST TO WET.		5 SS	17	39								
4.0			6 SS	9	58								
5.0			7 SS	11	31								
6.0	SILTY GRAVELLY SAND TRACE CLAY		8 SS	10	65 FOR 127 mm								
7.0													
8.0													

CAVE TO 2.8 m
INTERMITTENT
NATIVE SOILS
AND
BENTONITE
BACKFILL.

HARD DRILLING

AUGER REFUSAL
AT 8.2 m.
SLIT SPOON
REFUSAL.

Environmental Field Services

BOREHOLE LOG 37 - 93 CONT'D

PROJECT NAME: LINDSAY LANDFILL

PROJECT No.:

CLIENT: HYDROTERRA LIMITED

DATE: OCT 13, 1993

BOREHOLE TYPE: 200 mm HOLLOW STAEM AUGERS

GEOLOGIST: EJK

GROUND ELEVATION: +257.96 m A.S.L.

REVIEWER: LB

[illegible]

Environmental Field Services

BOREHOLE LOG 38 - 93

PROJECT NAME: LINDSAY LANDFILL

PROJECT No.:

CLIENT: HYDROTERRA LIMITED

DATE: OCT 13, 1993

BOREHOLE TYPE: 200 mm HOLLOW STAEM AUGERS

1. GEOLOGIST: EJK

GROUND ELEVATION: $\pm$ 258.60 m A.S.L.

REVIEWER: LB

[illegible]

EFS

Environmental Field Services

BOREHOLE LOG 39 - 93PROJECT NAME: LINDSAY LANDFILL

PROJECT No.: _____

CLIENT: HYDROTERRA LIMITEDDATE: OCT 13 1993BOREHOLE TYPE: 200 mm HOLLOW STAEM AUGERSGEOLOGIST: EJKGROUND ELEVATION: +259.08 m A.S.L.REVIEWER: LB

DEPTH m	STRATIGRAPHY	MONITOR DETAILS II	SAMPLE				H VALUE			% WATER			COMMENTS
			TYPE	% WATER	VALUE	RECVRY	20	40	60	10	20	30	
0.2	TOPSOIL												
	SILTY SAND TO SANDY SILT TILL: LIGHT BROWN, TRACE TO SOME CLAY, WET TO MOIST RUST COLOURED STAINING NUMEROUS STONES.		1 SS	38	8								
1.0			2 SS	19	19								
			3 SS	7	22								
2.0			4 SS	8	28								
3.0	SANDY SILT TO SAND TILL: GREY, STONY, MOIST. LAYERED DRILLING FROM TILL TO BOULDERS EVERY 100 TO 150 mm STARTING AT 6.1 m.		5 SS	7	32								
4.0			6 SS	4	60 FOR 100 mm								
			7 SS	6	75 FOR 150 mm								
5.0													
6.0			8 SS	10	85 FOR 150 mm								
7.0													
			9 SS	9	110 FOR 127 mm								
8.0													

HARD DRILLING

NATURAL CAVE
4.6 - 7.3 m.

BOREHOLE LOG 43 - 93

PROJECT NAME: LINDSAY LANDFILL

PROJECT No.:

CLIENT: HYDROTERRA LIMITED

DATE: OCT 18, 1993

BOREHOLE TYPE: 200 mm HOLLOW STAEM AUGERS

GEOLOGIST: EJK

GROUND ELEVATION: $\pm$ 260.95 m A.S.L.

REVIEWER: LB

[illegible]

EFS

Environmental Field Services

BOREHOLE LOG 43 - 93 CONT'DPROJECT NAME: LINDSAY LANDFILL

PROJECT No.: _____

CLIENT: HYDROTERRA LIMITEDDATE: OCT 18, 1993BOREHOLE TYPE: 200 mm HOLLOW STAEM AUGERSGEOLOGIST: EJKGROUND ELEVATION: +1 - 260.95 m A.S.L.REVIEWER: LB

DEPTH m	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				N			% WATER			COMMENTS	
			N TYPE	% WATER	N VALUE	% RECVRY	VALUE							
							20	40	60	10	20	30		
8.3	BOREHOLE TERMINATED AT 8.3 m ON ASSUMED BEDROCK												MONITORS IN SEPARATE BOREHOLES	

Environmental Field Services

BOREHOLE LOG 44 - 93

PROJECT NAME: LINDSAY LANDFILL

PROJECT No.:

CLIENT: HYDROTERRA LIMITED

DATE: OCT 19, 1993

BOREHOLE TYPE: 200 mm HOLLOW STEM AUGERS

GEOLOGIST: EJK

GROUND ELEVATION: $\pm$ 262.71 m A.S.L.

REVIEWER: LB

DEPTH m	STRATIGRAPHY	MONITOR DETAILS		SAMPLE			N VALUE	% WATER	COMMENTS	
		I	II	TYPE	% WATER	N VALUE				% RECVRY
	0.2	TOPSOIL								
	1.0	<u>SILTY SAND TILL:</u> LIGHT BROWN, GRAVELLY, NUMEROUS BOULDERS, RUST STAINING, MOIST TO WET. AT 2.3 m A 200 mm THICK FINE SAND, SATURATED.								
				1 SS	7	8				
				2 SS	8	18				
	2.0			3 SS	8	47				
				4 SS	7	91				
	3.0									
	3.1			5 SS	0.5	50 FOR 75 mm				
				6 SS	11	100 FOR 150 mm				
	4.0									
				7 SS	9	75 FOR 100 mm				
	5.0									
	6.0			8 SS	8	100 FOR 127 mm				
	7.0									
	7.02									

Environmental Field Services

PROJECT NAME: LINDSAY LANDFILL

PROJECT No.:

CLIENT: HYDROTERRA LIMITED

DATE: OCT 19 1993

BOREHOLE TYPE: 200 mm HOLLOW STAEM AUGERS

GEOLOGIST: EJK

GROUND ELEVATION: +\ - 262.71 m A.S.L

REVIEWER: LB

[illegible]

EFS

Environmental Field Services

BOREHOLE LOG 45 - 93PROJECT NAME: LINDSAY LANDFILL

PROJECT No.: _____

CLIENT: HYDROTERRA LIMITEDDATE: OCT 20, 1993BOREHOLE TYPE: 200 mm HOLLOW STAEM AUGERSGEOLOGIST: EJKGROUND ELEVATION: +/-266.12 m A.S.L.REVIEWER: LB

DEPTH m	STRATIGRAPHY	MONITOR DETAILS I	SAMPLE				N VALUE			% WATER			COMMENTS
			* TYPE	% WATER	N VALUE	% RECVRY	20	40	60	10	20	30	
0.6	TOPSOIL		1 SS	27	8								BOULDERY DRILLING FROM 1.4 m.
1.0	SILTY SAND TO SANDY SILT TILL: LIGHT BROWN, MOIST VERY DENSE, NUMEROUS STONES AND BOULDERS. SAND CONTENT INCREASING WITH DEPTH. RUST COLOURED STAINING.												
			2 SS	7	41								
2.0			3 SS	9	25								
			4 SS	12	61								
3.0													
			5 SS	8	90								
4.0			6 SS	6	93								
			7 SS	7	100 FOR 250 mm								
5.0													
5.2													
5.3	SILT TILL: GREY, DENSE, MOIST, MINOR RUST STAINING. BOREHOLE TERMINATED AT 5.3 m.		8 SS	7	117 FOR 250 mm								20 L OF WATER ADDED TO HYDRATE BENTONITE
6.0													
7.0													
8.0													

BOULDERY
DRILLING FROM
1.4 m.20 L OF WATER
ADDED TO
HYDRATE
BENTONITE



ENGINEER KF

[illegible]



HYDROTERRA LIMITED

15 Glanville Place, Thornhill, Ontario L3T 3G7

BOREHOLE NO. 46-95

PROJECT NAME Lindsay Lagoon Investigation

CLIENT Lindsay/Victoria

BOREHOLE TYPE 108 mm Hollow Stem; 75 mm Diamond Drill

GROUND ELEVATION 254.33 masl

PROJECT NO. 1080L

DATE April 6, 1995

FIELD SUPERVISOR KF

ENGINEER KF

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS		SAMPLE					CONE PENETRATION		WATER CONTENT %		REMARKS				
					TYPE	N VALUE	% WATER	% RECOVERY	ROD (m)	SPT	SHEAR STRENGTH	WATER						
										"N" VALUE		P	L					
			I	II	SS													
1	<u>FILL</u> Brown, sandy clay with trace gravel; very dense																	
2																		
3																		
4	<u>SILTY SAND TILL</u> Yellowish to light brown, with some gravel and trace clay; occasional sand seams; compact to dense; moist to wet																	
5																		
6																		
7	<u>SILTY SAND TILL</u> Grey, with some gravel and trace clay; occasional sand seams; compact; wet; sand/gravel layer at 10.0 metres																	
8																		
9																		
10																		

BOREHOLE NO. 46-95 (cont'd)

PROJECT NAME Lindsay Lagoon Investigation

CLIENT Lindsay/Victoria

BOREHOLE TYPE 108 mm Hollow Stem; 75 mm Diamond Drill

GROUND ELEVATION 254.33 masl

PROJECT NO. 1080L

DATE April 6, 1995

FIELD SUPERVISOR KF

ENGINEER _____ KF

[illegible]

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-47-96-1

SHEET 1 OF 2

LOCATION: SEE PLAN

BORING DATE: MARCH 22/96

DATUM: GEODETIC

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm



DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		HYDRAULIC CONDUCTIVITY, k, cm/s		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV.	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa	nat V - + Q - ● rem V - ⊕ U - ○			WATER CONTENT, PERCENT Wp — W — Wl 5 10 15 20
				DEPTH (m)								
0	TRACK MOUNTED CME 75 POWER AUGER 108mm I.D./203mm O.D. H.S.A.	GROUND SURFACE		254.38 0.00	1	50 DO	51				CEMENT & CASING Mar.23/96 	

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: TM

CHECKED: PMM

L1529471.BHS

DATA INPUT: PS JUNE 18/96

SOILM6

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-47-96-1

SHEET 2 OF 2

LOCATION: SEE PLAN

DRILLING DATE: MARCH 22/96

DATUM: GEODETIC

INCLINATION: -90

AZIMUTH:

DRILL RIG: CME-75

DRILLING CONTRACTOR: ALL-TERRAIN DRILLING LTD.



DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	RUN No.	PENETRATION RATE (mm/min)	FLUSH % RETURN	FR-FRACTURE				F-FAULT				SM-SMOOTH				FL-FLEXURED				DIAMETRAL POINT LOAD INDEX (MPa)	NOTES WATER LEVELS INSTRUMENTATION
								CL-CLEAVAGE				J-JOINT				R-ROUGH				UE-UNEVEN					
								SH-SHEAR				P-POLISHED				ST-STEPPED				W-WAVY					
								VN-VEIN				S-SLICKENSIDED				PL-PLANAR				C-CURVED					
								RECOVERY		R.Q.D.		FRACT. INDEX		DISCONTINUITY DATA				HYDRAULIC CONDUCTIVITY							
								TOTAL CORE %	SOLID CORE %	%		PER 3 m	DIP w.r.t. CORE AXIS		TYPE AND SURFACE DESCRIPTION		k, cm/sec								
								80 60 40 20	80 60 40 20	80 60 40 20		5 4 3 2 1	0 30 60 90												
7		CONTINUED FROM PREVIOUS PAGE																							
8		Continued from Borehole Log		245.95 8.43																					
9		Fresh, light to medium grey, medium grained, medium to thickly bedded, stylolitic LIMESTONE with occ. slightly fossiliferous horizons. (BEDROCK)			1	0.061												MF							
																		MF							
																		MF							
																		Broken Core							
10					2	0.075												FR,UE							
																		FR,UE							
																		FR,UE							
																		FR,UE,BC							
					3	0.069												MF							
																		FR,UE x2,BC							
11					4	0.074												FR,UE							
																		FR,UE							
																		FR,UE							
		END OF DRILLHOLE		242.84 11.54																					
12																									
13																									
14																									
15																									
16																									
17																									

DEPTH SCALE:

1 to 50

Golder Associates

LOGGED: TM

DATE: MARCH 22/96

CHECKED: PMM

DATA INPUT: PS JUNE 18/96

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-47-96-2

SHEET 1 OF 1

LOCATION: SEE PLAN

BORING DATE: MARCH 22/96

DATUM: GEODETIC

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm



DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa	nat V - + rem V - ⊕	Q - ● U - ○	WATER CONTENT, PERCENT Wp — W — Wi	W				
0		GROUND SURFACE	254.29 0.00												
1															
2															
3															
4															
5															
6															
7															
8															
8		END OF BOREHOLE	246.22 8.07												
9															
10															

No samples collected.
Refer to BH-47-96-1
for stratigraphy.CEMENT &
CASING

Mar.23/96

BENTONITE
GROUTBENTONITE
SEALSILICA
SANDWater level in
monitoring well
at elevation
253.58m on
March 23, 1996.

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: TM

CHECKED: PMM

Log of Borehole MW48-96-II

Project No. MRK-00256269-A0

Drawing No. 12

Project: City of Kawartha Landfill Sites

Sheet No. 1 of 1

Location: Various Landfill Sites, Kawartha Lakes

Lindsay Ops Landfill

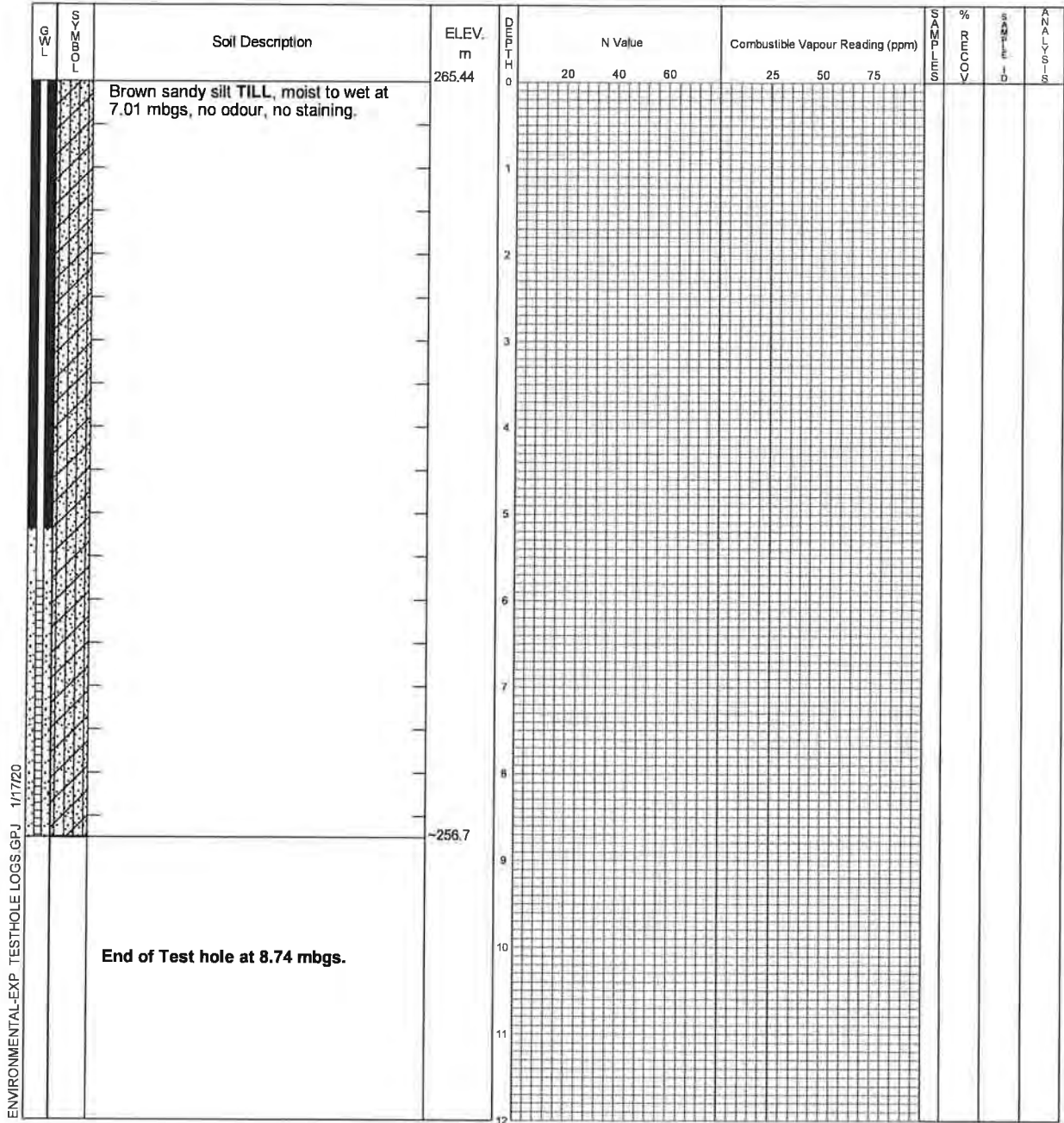
Date Drilled: October 23, 2019

Drill Type: CME-75 Track Mount

Datum: _____

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-49-96-1

SHEET 1 OF 3

LOCATION: SEE PLAN

BORING DATE: MARCH 19/96

DATUM: GEODETIC

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm



DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		HYDRAULIC CONDUCTIVITY, k, cm/s		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa	WATER CONTENT, PERCENT Wp W Wl			
0		GROUND SURFACE	265.31								
		Dark brown silty topsoil, some sand, trace clay, rootlets.	0.00								
			264.98	1	50	5					
			0.33		DO						
1				2	50	9					
					DO						
2		Loose to compact, brown, moist to wet sandy SILT/silty SAND, some gravel, some clay. (TILL)		3	50	13					
					DO						
				4	50	11					
					DO						
3				5	50	24/.10					
					DO						
			261.80								
			3.51	6	50	60/.15					
					DO						
4				7	50	60/.15					
					DO						
5				8	50	DO					
					DO						
6		Very dense, grey, moist to wet sandy SILT, trace to some gravel, trace to some clay, occ. thin lenses of silty fine sand. (TILL)		9	50	60/.15					
					DO						
7				10	50	60/.10					
					DO						
				11	50	50/.15					
					DO						
8				12	50	60/.15					
					DO						
9				13	50	60/.15					
					DO						
10				14	50	60/.09					
					DO						
		CONTINUED ON NEXT PAGE									

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: TM

CHECKED: PMM

L1529491 BHS
SOILM6
DATA INPUT: PS JUNE 18/96

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-49-96-1

SHEET 2 OF 3

LOCATION: SEE PLAN

BORING DATE: MARCH 19/96

DATUM: GEODETIC

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm



DEPTH SCALE METRES	TRACK MOUNTED CME 75 POWER AUGER BORING METHOD ID / 203mm O.D. H.S.A. 108mm	SOIL PROFILE		SAMPLES			DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		HYDRAULIC CONDUCTIVITY, k, cm/s		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH		WATER CONTENT, PERCENT			
								nat V - + Cu, kPa	Q - ● rem V - ⊕ U - ○	Wp			W
10		CONTINUED FROM PREVIOUS PAGE											
		Very dense, grey, moist to wet sandy SILT, trace to some gravel, trace to some clay, occ. thin lenses of silty fine sand. (TILL)		14	50 DO	60/ .08							
				15	50 DO	60/ .08							
11		Continued on Drillhole Log		254.47 10.84									
12													
13													
14													
15													
16													
17													
18													
19													
20		CONTINUED ON NEXT PAGE											

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: TM

CHECKED: PMM

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-49-96-1

SHEET 3 OF 3

LOCATION: SEE PLAN

DRILLING DATE: MARCH 19/96

DATUM: GEODETIC

INCLINATION: -90 AZIMUTH:

DRILL RIG: CME-75

DRILLING CONTRACTOR: ALL-TERRAIN DRILLING LTD.



DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	RUN No.	PENETRATION RATE (m/min)	FLUSH % RETURN	FR-FRACTURE CL-CLEAVAGE SH-SHEAR VN-VEIN				F-FAULT J-JOINT P-POLISHED S-SLICKENSIDED				SM-SMOOTH R-ROUGH ST-STEPPED PL-PLANAR				FL-FLEXURED UE-UNEVEN W-WAVY C-CURVED				DIAMETRAL POINT LOAD INDEX (MPa)	NOTES WATER LEVELS INSTRUMENTATION
								RECOVERY		R.Q.D. %	FRACT. INDEX PER 3 m	DISCONTINUITY DATA		HYDRAULIC CONDUCTIVITY k, cm/sec											
								TOTAL CORE %	SOLID CORE %			TYPE AND SURFACE DESCRIPTION													
								000000	000000			000000	000000		000000	000000									
10		CONTINUED FROM PREVIOUS PAGE																							
11		Continued from Borehole Log		254.43 10.88																					
12		Fresh, medium to dark grey, fine to medium grained, thinly to medium bedded nodular textured LIMESTONE and argillaceous to shaly LIMESTONE. (BEDROCK)			1	0.08																			
13					2	0.037																			
14					3	0.052																			
15		END OF DRILLHOLE		250.29 15.02																					
16																									
17																									
18																									
19																									
20																									

DEPTH SCALE:

1 to 50

Golder Associates

LOGGED: TM

DATE: MARCH 19/96

CHECKED: PMM

DATA INPUT: PS JUNE 18/96

Water level in monitoring well at elevation 262.96m on March 23, 1996.

GROUT

BENTONITE SEAL

SILICA SAND

L1529492 BHS
DATA INPUT: PS JUNE 18/96
SOIL M6

PROJECT: 961-1529A

LOCATION: SEE PLAN

SAMPLER HAMMER, 63.5kg; DROP, 760mm

RECORD OF BOREHOLE BH-49-96-2

BORING DATE: MARCH 20/96

SHEET 1 OF 2

DATUM: GEODETIC

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

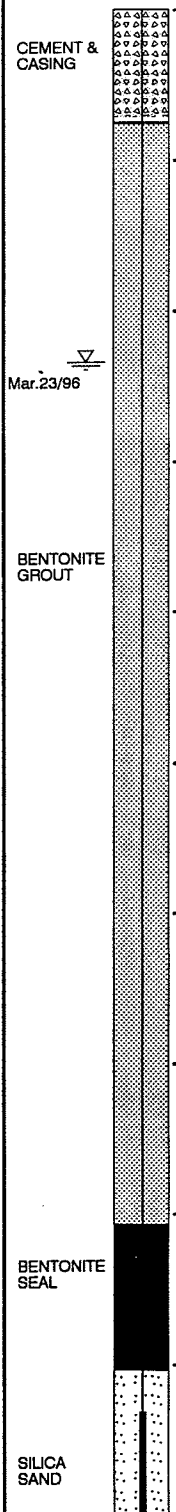


DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		HYDRAULIC CONDUCTIVITY, k, cm/s		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa	nat V - + rem V - ⊕			Q - ● U - ○	WATER CONTENT, PERCENT Wp ----- W ----- Wi
0		GROUND SURFACE		265.31 0.00									
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

No samples collected.
Refer to BH-49-96-1
for stratigraphy.

TRACK MOUNTED CME 75 POWER AUGER
108mm I.D./203mm O.D. H.S.A.

CONTINUED ON NEXT PAGE



DEPTH SCALE

1 to 50

Golder Associates

LOGGED: TM

CHECKED: PMM

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-49-96-2

SHEET 2 OF 2

LOCATION: SEE PLAN

BORING DATE: MARCH 20/96

DATUM: GEODETIC

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm



DEPTH SCALE METRES	SOIL PROFILE	STRATA PLOT	SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
			DESCRIPTION	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa	nat V - rem V -	+ ⊕	q - ● U - ○	WATER CONTENT, PERCENT Wp ----- W ----- Wl		
10	CONTINUED FROM PREVIOUS PAGE													
11	END OF BOREHOLE		254.47 10.84											
12														
13														
14														
15														
16														
17														
18														
19														
20														

Water level in
monitoring well
at elevation
263.03m on
March 23, 1996.

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: TM

CHECKED: PMM

1529493 BHS

DATA INPUT: PS JUNE 19/96

SOILM6

PROJECT: 961-1529A

RECORD OF BOREHOLE BH-49-96-3

SHEET 1 OF 1

LOCATION: SEE PLAN

BORING DATE: MARCH 20/96

DATUM: GEODETIC

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm



DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		HYDRAULIC CONDUCTIVITY, k, cm/s		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT ELEV. DEPTH (m)	NUMBER TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa	nat V - + Q - ● rem V - ⊕ U - ○	WATER CONTENT, PERCENT Wp ——— W ——— Wi			
0	TRACK MOUNTED CME 75 POWER AUGER 108mm I.D./203mm O.D. H.S.A.	GROUND SURFACE	265.35 0.00								CEMENT & CASING Mar.23/96 BENTONITE GROUT BENTONITE SEAL SILICA SAND CAVED Water level in monitoring well at elevation 284.71m on March 23, 1996.
1		No samples collected. Refer to BH-49-96-1 for stratigraphy.									
2											
3											
4											
5			END OF BOREHOLE	260.78 4.57							
6											
7											
8											
9											
10											

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: TM

CHECKED: PMM

DEPTH SCALE METERS	BOTHING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		HYDRAULIC CONDUCTIVITY K, cm/s		ADDITIONAL LAB. TESTING	PIEZOMETE., OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT ELEV. DEPTH (m)	NUMBER	TYPE BLOWS/0.3m	3-SHEAR STRENGTH C _u , kPa	nat V. + Q. ● rem V. ⊕ U. ○	WATER CONTENT PERCENT Wp			
		GROUND SURFACE	256.49								
		TOPSOIL	256.29								
		Firm, moist, dark brown SILTY CLAY, trace sand, gravel and organics (roots).	256.20	1	20						
		NOTE: Artificially high 'N' value for sample 2 probably due to gravel/cobble pieces in spoon.		2	50 141						
		Compact, moist, brown sandy SILT, trace to some clay, trace gravel. (TILL)	254.05 2.44	3	50 146						
		NOTE: Artificially high 'N' value for sample 3 probably due to gravel/cobble pieces in spoon.		4	50 150						
		Dense to very dense, wet, grey sandy SILT, trace to some clay and gravel. (TILL)	252.05 4.44	5	50 150						
				6	50 150						
		LIMESTONE (BEDROCK) Interface inferred from auger resistance. For bedrock coning information, see sheet 2.	248.52 7.97								

SEP. 8/98

BENTONITE GROUT

S&2 Gravel = 3%
Sand = 29%
Silt = 47%
Clay = 21%

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: DKB

CHECKED: FSB

PROJECT 381-1494

RECORD OF DRILLHC 53-98

SHEET 2 OF 2



LOCATION: SEE FIGURE 2

DRILLING DATE: SEPT. 3/98

DATUM: GEODETIC

INCLINATION: -90

AZIMUTH:

DRILL RIG: CME-75 POWER AUGER

DRILLING CONTRACTOR: ALL TERRAIN DRILLING LTD.

DEPTH SCALE METERS	DRILLING H. COORD	DESCRIPTION	SYMBOLIC LOG	CORRECTION	RUN NO	PENETRATION RATE (mm/min)	FLUSH	RECOVERY	R.Q.D.	FRACT. INDEX	SCONTINUITY DATA	HYDRAULIC CONDUCTIVITY K, cm/sec	DIAMETRAL LOG	NOTES
								FR-FRACTURE CL-CLEAVAGE SH-SHEAR VN-VEIN	F-FAULT J-JOINT P-POLISHED S-SUCKENED	SM-SMOOTH R-ROUGH ST-STEPPED PL-PLANAR	FL-FLEXURED LE-UNEVEN W-WAVY C-CURVED	BC-BROKEN CORE MB-MECH. BREAK B-BEDDING		WATER LEVEL INSTRUMENTATION
7		CONTINUED FROM SHEET 1												
8		BEDROCK SURFACE		248.52										
9		Fresh, light to medium grey, medium grained, medium to thickly bedded, stylonitic LIMESTONE with occ. slightly fossiliferous horizons and dolomitic nodules. (BEDROCK)												
10														
11		END OF BOREHOLE		245.90										
12														
13														
14														
15														
16														
17														

DEPTH SCALE:

1 to 50

Golder Associates

LOGGED: DKB

DATE: SEPT. 3/98

CHECKED: FSB

PROJECT: 581-1494

RECORD OF BOREHOLE 54-98

SHEET 1 OF 3



LOCATION: SEE FIGURE 2

BORING DATE: SEPT. 8, 1998

DATUM: GEODETIC

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

N1494054 B115

DATA: SIB MAR 5/99

J01LM6

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	HYDRAULIC CONDUCTIVITY K, cm/s	ADDITIONAL LAB TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV.	NUMBER	TYPE	SHEAR STRENGTH C _u , kPa			WATER CONTENT PERCENT
				DEPTH (m)	BL (CWS)/0.3m					

0	CME-75 POWER AUGER BORING 203mm DIA. HOLLOW STEM AUGERS	GROUND SURFACE	259.70						
		TOPSOIL	259.50						
			0.20	1	SO	10			
1									
2		Compact, moist, brown to mottled brown and grey sandy SILT, some clay and gravel. (TILL)		2	SO	15			
3				3	SO	22			
4			255.89 3.81	4	SO	50/ 17			
5									
6		Very dense, moist, grey sandy SILT, trace to some clay and gravel. (TILL)		5	SO	50/ 50			
7				6	SO	50/ 17			
8		251.47 8.23							
9		Very dense, wet, grey sandy GRAVEL, trace to some silt.							
		Cobble/boulder @ 9.09m depth.		7	SO	50/ 33			
10		249.70 10.00							

So.2 Gravel= 8%
Sand=43%
Silt=37%
Clay=12%

BENTONITE GROUT

SEP. 8/98

3.2 Gravel = 8%
 Sand = 43%
 Silt = 37%
 Clay = 12%

BENTONITE
GROUT

SEP. 8/98

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: DKB

CHECKED: FSB

PROJECT: 981-1494

RECORD OF BOREHOLE 54-98

SHEET 2 OF 3

LOCATION: SEE FIGURE 2

BORING DATE: SEPT. 8, 1998

DATUM: GEODETIC

SAMPLER HAMMER, 63.5kg; DROP, 760mm

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm



DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		HYDRAULIC CONDUCTIVITY K, cm/s		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA ELEV. DEPTH (m)	NUMBER	TYPE	SHEAR STRENGTH C _u , kPa	WATER CONTENT PERCENT W _p				
10	CME 75 HSA		249.70 10.00								
11		LIMESTONE (BEDROCK) Interface inferred from auger resistance. For bedrock coring information, see sheet 3.	249.03 10.67								
12											
13											
14											
15											
16											
17											
18											
19											
20											

DEPTH SCALE

1 to 50

Golder Associates

LOGGED: DKB

CHECKED: FSB

PROJECT: 981-1484

RECORD OF DRILLHOLE: 54-98

SHEET 3 OF 3



LOCATION: SEE FIGURE 2

DRILLING DATE: SEPT. 8/98

DATUM: GEODETIC

INCLINATION: -90 AZIMUTH:

DRILL RIG: CME-75 POWER AUGER

DRILLING CONTRACTOR: ALL TERRAIN DRILLING LTD.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	RUN No.	PENETRATION RATE (m/min)	FLUSH % RETURN	FR-FRACTURE CL-CLEAVAGE SH-SHEAR VN-VEIN	F-FAULT J-JOINT P-POLISHED S-SUCKENSIDED	SM-SMOOTH R-ROUGH ST-STEPPED PL-PLANAR	FL-FLEXURED UE-UNEVEN W-WAVY C-CURVED	BC-BROKEN CORE MB-MECH. BREAK B-BEDDING	DIAMETER ROD LOG NO. 1149-405-4	NOTES WATER LEVELS INSTRUMENTATION
SEP 8/98	NQ							RECOVERY	R.O.D.	FRACT.	DISCONTINUITY DATA	HYDRAULIC CONDUCTIVITY x cm/sec		
								TOTAL CORE %	SOLID CORE %	INDEX	TYPE AND SURFACE DESCRIPTION			
10		CONTINUED FROM SHEET 2												
		BEDROCK SURFACE		249.03										
11				10.67	1	0.051	90-100%							BENTONITE GROUT
12		Fresh to weathered, medium grey, fine to medium grained, laminated to thinly bedded, fossiliferous, nodular LIMESTONE with occ. shale partings. (BEDROCK)			2	0.019	90-100%							BENTONITE SEAL
13					3	0.009	90-100%							SAND FILTER
					4	0.024	90-100%							
		END OF BOREHOLE		248.31										
				13.39										
14														
15														1. WATER LEVEL MONITORING MEASURED AT 3.21m DEPTH (ELEV. 256.40m) ON SEPT. 8/98.
16														2. MONITORING WELL HAND PUMPED TO 6.85m DEPTH (ELEV. 252.85m) ON SEPT. 8/98.
17														
18														
19														
20														

DEPTH SCALE:

1 to 50

Golder Associates

LOGGED: DK8

DATE: SEPT. 8/98

CHECKED: FSB

PROJECT: 531-1494

RECORD OF DRILLHOLE: 55-98-1

SHEET 1 OF 2

LOCATION: SEE FIGURE 2

DRILLING DATE: SEPT. 4/98

DATUM: GEODETIC

INCLINATION: 90 AZIMUTH:

DRILL RIG: CME-75 POWER AUGER

DRILLING CONTRACTOR: ALL TERRAIN DRILLING LTD.



11404551 BHM

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	RUN NO	PENETRATION RATE (mm/min)	FLUSH % RETURN	FR-FRACTURE CL-CLEAVAGE SH-SHEAR VN-VEIN	F-FAULT J-JOINT P-POLISHED S-SUCKERSIDED	SM-SMOOTH R-ROUGH ST-STEPPED PL-PLANAR	FL-FLEXURED JE-UNEVEN W-WAVY C-CURVED	BC-BACKEN CORE MB-MECH BREAK B-BEDDING	DIAMETRAL POMI LOG INDEX (MPa)	NOTES WATER LEVELS INSTRUMENTATION
0				255.64 0.00										
1														
2														
3														
4														
5		UNSAMPLED OVERBURDEN												
6														
7														
8														
9														
10														
		CONTINUED ON NEXT PAGE												

SEP. 8/98

BENTONITE
GROUT

DATA INPUT: SUB MAR 5/99

OCCURS

DEPTH SCALE:

1 to 50

LOGGED: DKB

DATE: SEPT. 4/98

CHECKED: FSB

Golder Associates

PROJECT: 981-1494

RECORD OF DRILLHOLE: 55-98-1

SHEET 2 OF 2



LOCATION: SEE FIGURE 2

DRILLING DATE: SEPT. 4/98

DATUM: GEODETIC

INCLINATION: -90

AZIMUTH:

DRILL RIG: CME-75 POWER AUGER

DRILLING CONTRACTOR: ALL TERRAIN DRILLING LTD.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH	RUN NO.	PENETRATION RATE (mm/min)	COLOUR RETURN	FLUSH	FR-FRACTURE CL-CLEAVAGE SH-SHEAR VN-VEIN	F-FAULT J-JOINT P-POLISHED S-SUCKENSIDED	SM-SMOOTH R-ROUGH ST-STEPPED PL-PLANAR	FL-FLEXURED JE-UNEVEN W-WAVY C-CURVED	BC-BROKEN CORE MB-MECH. BREAK B-BEDDING	DIAMETRAL POINT LOAD INDEX (MPa)	NOTES WATER LEVELS INSTRUMENTATION
NO.	SEP 4/98	NO.	SYMBOLIC LOG	ELEV. DEPTH	RUN NO.	PENETRATION RATE (mm/min)	COLOUR RETURN	FLUSH	RECOVERY TOTAL CORE % SOLID CORE %	R.Q.D. %	FRACT. INDEX PER 0.3m CORE ASS.	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	HYDRAULIC CONDUCTIVITY x cm/sec	DIAMETRAL POINT LOAD INDEX (MPa)	NOTES WATER LEVELS INSTRUMENTATION
10			CONTINUED FROM PREVIOUS PAGE												
11			BEDROCK SURFACE INFERRED FROM AUGER RESISTANCE	254.41											
12			Fresh to weathered, medium grey, fine to medium grained, laminated to medium bedded, fossiliferous, nodular LIMESTONE with occ. shale partings. (BEDROCK)	11.23	1	0.059									
13				252.28	2	0.142									
14			END OF BOREHOLE	13.36											
15															
16															
17															
18															
19															
20															

DEPTH SCALE:

1 to 50

Golder Associates

LOGGED: DKB

DATE: SEPT. 4/98

CHECKED: FSR

PROJECT: 931-1494

RECORD OF DRILLHOLE: 55-98-2

SHEET 2 OF 2

LOCATION: SEE FIGURE 2

DRILLING DATE: SEPT. 3/98

DATUM: GEODETIC

INCLINATION: 90

AZIMUTH:

DRILL RIG: CME-75 POWER AUGER

DRILLING CONTRACTOR: ALL TERRAIN DRILLING LTD.



DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	RUN No.	PENETRATION RATE (mm/min)	CORRECTION % RETURN	FR-FRACTURE CL-CLEAVAGE SH-SHEAR VN-VEIN	F-FAULT J-JOINT P-POLISHED S-SLICKENSIDED	SM-SMOOTH R-ROUGH ST-STEPPED PL-PLANAR	FL-FLEXURED UE-UNEVEN W-WAVY C-CURVED	BC-BROKEN CORE MB-MECH BREAK B-BEDDING	DIAMETRAL POINT LOAD INDEX (MPa)	NOTES WATER LEVELS INSTRUMENTATION						
															RECOVERY TOTAL CORE %	SOLID CORE %	R.Q.D. %	FRACT INDEX PER C-3	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	HYDRAULIC CONDUCTIVITY cm/sec
10		CONTINUED FROM PREVIOUS PAGE																		
		BEDROCK SURFACE		254.82																
11				10.82																
					1	0.070	90-100%													
12																				
13		Fresh to weathered, medium grey, fine to medium grained, laminated to medium bedded, fossiliferous, nodular LIMESTONE with occ. shale partings. (BEDROCK)																		
14					2	0.051	90-100%													
15																				
16																				
17					3		90-100%													
18		Fresh, light to medium grey, medium grained, medium to thickly bedded, stylolitic LIMESTONE with occ. slightly fossiliferous horizons. (BEDROCK)																		
19		END OF BOREHOLE																		
20																				

BENTONITE
GROUTBENTONITE
SEALSAND
FILTER

1. WATER LEVEL IN MONITORING WELL MEASURED AT 4.04m DEPTH (ELEV. 261.80m) ON SEPT. 4/98.
2. MONITORING WELL HAND PUMPED TO 10.42m DEPTH (ELEV. 255.22m) ON SEPT. 4/98.
3. WATER LEVEL IN MONITORING WELL MEASURED AT 9.32m DEPTH (ELEV. 258.32m) ON SEPT. 4/98.

DEPTH SCALE:

1 to 50

Golder Associates

LOGGED: DKB

DATE: SEPT. 3/98

CHECKED: CCB

N1404552 0003

PROJECT: 981-1494

RECORD OF DRILLHOLE: 55-98-2

SHEET 1 OF 2

LOCATION: SEE FIGURE 2

DRILLING DATE: SEPT.3/98

DATUM: GEODETIC

INCLINATION: -90

AZIMUTH:

DRILL RIG: CME-75 POWER AUGER

DRILLING CONTRACTOR: ALL TERRAIN DRILLING LTD.



DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (m)	RUN No.	PENETRATION RATE (mm/min)	FLUSH % RETURN	COLOUR	FRACTURE & SURFACE DATA										HYDRAULIC CONDUCTIVITY k. cm/sec	DIAMETRAL POINT LOAD INDEX (MPa)	NOTES WATER LEVEL INSTRUMENTATION
									FR-FRACTURE		F-FAULT		SM-SMOOTH		FL-FLEXURED		BC-BROKEN CORE				
									CL-CLEAVAGE	J-JOINT	R-ROUGH	UE-UNEVEN	MB-MECH. BREAK	W-WAVY	C-CURVED	PL-PLANAR	S-SUCKEN SIDED	B-BEDDING			
									SH-SHEAR		VN-VEIN		ST-STEPPED		C-CURVED		C-CURVED				
RECOVERY		R.O.D.		FRACT INDEX		DISCONTINUITY DATA		TYPE AND SURFACE DESCRIPTION		TYPE AND SURFACE DESCRIPTION		TYPE AND SURFACE DESCRIPTION		TYPE AND SURFACE DESCRIPTION		TYPE AND SURFACE DESCRIPTION					
TOTAL CORE %		SOLID CORE %		%		%		%		%		%		%		%					
0				265.64																	
				0.00																	
1																					
2																					
3																					
4																					
5		UNSAMPLED OVERBURDEN															BENTONITE GROUT				
6																					
7																					
8																					
9																					
10																					
CONTINUED ON NEXT PAGE																					

DATA INPUT: SUB MAR 5/98

SEP. 8/98

DEPTH SCALE:

1 to 50

Golder Associates

LOGGED: DK8

DATE: SEPT.3/98

CHECKED: FSB

Project: Reinstallation/New Wells at Lindsay Ops

Project Location: 51 Wilson Road, Lindsay

Project Number: 57-25-I

Date(s) Drilled	October 21, 2025	Logged By	Deyonte Levene	Checked By	Heather Dzruko
Drilling Method	Drill Rig Auger	Drill Bit Size/Type	23" Drill Bit	Total Depth of Borehole	18.60236 feet
Drill Rig Type		Drilling Contractor	Orbit Garant Drilling	Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)	Ground Core Samples	Hammer Data	
Borehole Backfill		Location	4917919.365, 680263.794		

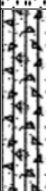
Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	STANDPIPE INSTALLATION
840.363	0						See Record of Borehole 57-25-II for Stratigraphy	
	5							BENTONITE SEAL
	10							
	15			2			Light Moist Grey - Silty Sand (Saturated), Trace of Clay. Hit a Boulder. Water Present.	
857.363	20						Bottom of Borehole	
	25							
	30							

Project: Reinstallation/New Wells at Lindsay Ops

Project Location: 51 Wilson Road, Lindsay

Project Number: 57-25-II

Date(s) Drilled	October 21, 2025	Logged By	Deyonte Levene	Checked By	Heather Dzruko
Drilling Method	Drill Rig Auger	Drill Bit Size/Type	23" Drill Bit	Total Depth of Borehole	25.52493 feet
Drill Rig Type		Drilling Contractor	Orbit Garant Drilling	Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)	Ground Core Samples	Hammer Data	
Borehole Backfill		Location	4917916.342, 680262.806		

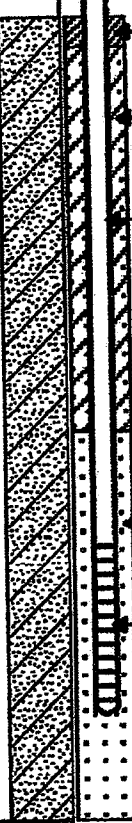
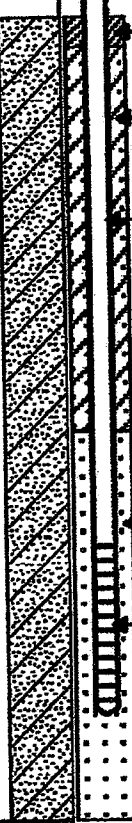
Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	STANDPIPE INSTALLATION
840.248	0		1	11			Brown with Hint of Grey - Topsoil/Fill. Loose.	
			2	22			Dark Brown - Topsoil, with Silt Rock. Loose to Slightly Compact.	
	5		3	18			Brown with Red Tinge - Silt Clay. Dense	
	10		4	2			Light Moist Grey - Silty Sand (Saturated). Trace of Clay.	
	15		5					
	20		6	81			Light Grey - Silty Sand, with Gravel. Grained but Compacted	
865.773	25						Bottom of Borehole	
	30							

HYDROTERRA LIMITED
15 Glamis Place, Thornhill, ON L3T 3G7

Project Name: Lindsay Lagoon
Client: Kawartha Lakes
Borehole Type: Soil Auger
Ground Elevation: -
Northing: -

Log of Borehole: 59-05

Project No.: 1440
Date: June 21, 2005
Hole Diameter: 110 mm
Engineer: LB
Easting: -

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth (m) / Elev. (masl)	Description	Symbol log	Monitor Details	Depth (m) / Elev. (masl)	Number	Type	N-Value	
-1.00								
0.00	Ground Surface			0.00				
1.00	SANDY SILT TO SILTY SAND TILL greyish brown to grey, dense to very dense, moist with occasional silt/sand seams		Cement Benseal PVC Casing Sand Pack Slotted PVC Screen		1	SS	15	
2.00								
3.00					2	SS	55	
4.00								
5.00					3	SS	38	
6.00	gravelly layers below 7.0 metres		Cement Benseal PVC Casing Sand Pack Slotted PVC Screen		4	SS	56	
7.00								
8.00					5	SS	75	
	Refusal at bedrock surface							
8.00	End of Log			7.92				
9.00								

HYDROTERRA LIMITED
15 Glamis Place, Thornhill, ON L3T 3G7

Log of Borehole: 60-05

Project Name: Lindsay Lagoon

Project No.: 1440

Client: Kawartha Lakes

Date: June 22, 2005

Borehole Type: Soil Auger

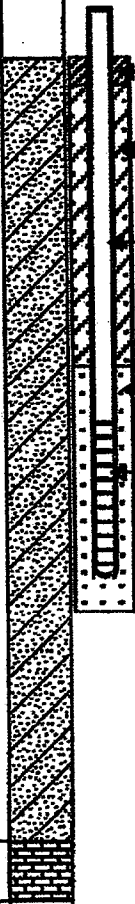
Hole Diameter: 110 mm

Ground Elevation: -

Engineer: LB

Northing: -

Easting: -

SUBSURFACE PROFILE				SAMPLE			Remarks		
Depth (m) / Elev. (masl)	Description	Symbol log	Monitor Details	Depth (m) / Elev. (masl)	Number	Type		N-Value	
-1.00									
0.00	Ground Surface			0.00					
1.00	SANDY SILT TO SILTY SAND TILL greyish brown to grey, dense to very dense, moist with occasional silt/sand seams, boulders near bedrock surface								
2.00						1	SS	32	
3.00						2	SS	40	
4.00						3	SS	27	
5.00						4	SS	91	
6.00						5	SS	96	
7.00									
8.00									
8.50	LIMESTONE grey				8.50				
9.00					9.14				
10.00	End of Log								

Sheet: 1 of 1

A068996

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Master Well Owner's and Land Owner's Information

First Name Heather Van Bruinessen	Last Name City of Kawartha Lakes	E-mail Address
Mailing Address (Street Number/Name, RR) 12 Peel Street	Municipality Lindsay	Province ON
Postal Code K9V3L8	Telephone No. (inc. area code) 7053249411	

Location and Construction of the Master Well in the Cluster

Address of Well Location (Street Number/Name, RR) Lindsay Ops Landfill, Wilson Road	Township Lindsay	Lot	Concession
County/District/Municipality City of Kawartha Lakes	City/Town/Village Lindsay	Province Ontario	Postal Code K9V111
UTM Coordinates NAD 83 17680118849117608	Zone 17	Easting 680118849117608	Northings 49117608
GPS Unit Make Garmin	Model etrex	Mode of Operation: ☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify	

Overburden and Bedrock Materials (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	To
Brown	Silt	Sand, cobbles, dr. clay	Fill	0'	4'
Grey	Silt	"	Fill	4'	11'
Grey	Sand	Till/cobbles	Dense	11'	20'
Grey	Silt	Till	Hard	20'	25'
Grey	Limestone			25'	35'
			Fractures at 32' and 34' approximately 2" in thickness EOH @ 35'		

Hole Details

Depth (Metres) From	To	Diameter (Centimetres)
0	25'	8.5"
25'	35'	4"

Water Use

☐ Public	☐ Industrial	☐ Not used	☐ Other, specify
☐ Domestic	☐ Commercial	☐ Dewatering	
☐ Livestock	☐ Municipal	☒ Monitoring	
☐ Irrigation	☐ Test Hole	☐ Cooling & Air Conditioning	

Method of Construction

☐ Cable Tool	☒ Air Percussion	☐ Digging
☐ Rotary (Conventional)	☐ Diamond	☒ Boring
☐ Rotary (Reverse)	☐ Jetting	☐ Other, specify
☐ Rotary (Air)	☐ Driving	

Status of Well

☒ Test Hole	☐ Abandoned, Insufficient Supply
☐ Replacement Well	☐ Abandoned, Poor Water Quality
☐ Dewatering Well	☐ Other, specify
☐ Alteration (Construction)	☐ Abandoned, other, specify

No Casing and Screen Used

Open Hole
☐ Yes ☒ No

Static Water Level Test

Metres Feet
4

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	To
2"	PVC Riser (34" stock)	3/16"	0	30'
2'	PVC 10 slot Screen	3/16"	30'	35'

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☒ Plastic

Outside Diameter (Centimetres)
2 3/8"

Slot No.
10

Water Details

Water found at Depth 4 Metres	Kind of Water ☒ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Water found at Depth 30 Metres	Kind of Water ☐ Fresh ☐ Salty ☒ Sulphur ☐ Minerals
Water found at Depth	Kind of Water ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☒ No If no, provide reason: Testhole

Date Master Well Completed (yyyy/mm/dd)
2010/03/12

Cluster Information (Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)

Total Wells in Cluster 2	Please indicate Number of Cluster Well Information Log Sheets Submitted
Total Wells on this Property Unknown	1

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.

☐ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

Signature of Technician/Contractor
Date (yyyy/mm/dd)
2010/03/15

Master Well Owner's/Land Owner's consent to use Cluster Form

Signature
Date (yyyy/mm/dd)
2010/03/17

Ministry Use Only

Audit No. M 06941	Well Contractor No.
Date Received (yyyy/mm/dd)	Date of Inspection (yyyy/mm/dd)
Remarks	

Well Contractor and Well Technician Information

Business Name of Well Contractor Pontil Drilling Ltd.	Well Contractor's Licence No. 73813
Business Address (Street No./Name, number, RR) 11 Water Street	Municipality Mt. Albert
Province ON	Postal Code 406110
Business E-mail Address info@pontildrilling.com	
Bus. Telephone No. (inc. area code) 2893381838	Name of Well Technician (Last Name, First Name) Smith, Greg
Well Technician's Licence No. 2888	Signature of Technician Date Submitted (yyyy/mm/dd) 2010/03/15

Well Tag No. for Master Well (Print Well Tag No.)
 A068996

Property Owner's Information
 First Name: Heather Van Bruinessen
 Last Name: City of Kawartha Lakes
 Mailing Address (Street No./Name, RR): 12 Peel St.
 Municipality: Lindsay
 Province: ON
 Postal Code: K9V 3L8
 E-mail Address:
 Telephone No. (inc. area code): 705 324 9411

Cluster Well Information
 Address of Well Location (Street Number/Name, RR): Lindsay Ops Landfill, Wilson Rd.
 Lot:
 Concession:
 Township: Lindsay
 County/District/Municipality: City of Kawartha Lakes
 City/Town/Village: Lindsay
 Province: Ontario
 Postal Code:
 GPS Unit Make: Garmin
 Model: eTrex
 Unit Mode of Operation: ☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify:

Consent
Property Owner's Consent to use cluster form
 Signature: H. Van...
 Date (yyyy/mm/dd): 2010/03/17

Consent to release additional information to the Director upon request
 Signature of Technician/Contractor:
 Date (yyyy/mm/dd): 2010/03/15

Well # on Sketch	UTM Coordinates		Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres)		Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
	Zone	Easting						From	To					
P-2-2 26-10-2	17	6801188491171608	20'6"	8.5"	Hollow Stem Auger	PVC	15'	15'	20'6"	Bentonite #2 well sand	4'		33' 1/2" Stick-up see P-2-1 for Soil Stratigraphy	2010/03/12

Well Contractor and Well Technician Information
 Business Name of Well Contractor: Pontil Drilling Ltd.
 Business Address (Street Number/Name, RR): 11 Water St.
 Municipality: Mt. Albert
 Province: ON
 Postal Code: L1G 1M0
 Business Telephone No. (inc. area code): 289 338 1183
 Well Contractor's Licence No.: 73813
 Business E-mail Address: info@pontildrilling.com
 Name of Well Technician (First Name, Last Name): Greg Smith
 Well Technician's Licence No.: 28818
 Date Submitted (yyyy/mm/dd): 2010/03/15
 Signature of Technician:

Date 1st Well in Cluster Constructed (yyyy/mm/dd): 2010/03/12
 Date Last Well in Cluster Constructed (yyyy/mm/dd): 2010/03/12

Ministry Use Only
 Date Received (yyyy/mm/dd):
 Date Inspected (yyyy/mm/dd):
 Audit No.: C 06658
 Remarks:

PROJECT: 021-1306

RECORD OF BOREHOLE: GP-1

SHEET 1 OF 1

LOCATION: Refer to Plan

BORING DATE: Feb.1,2002

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
								Cu, kPa	nat V. rem V.	+ ⊕	Q - U - ⊙	Wp	W			Wi	
								20	40	60	80	10 ⁻⁶	10 ⁻⁵	10 ⁻⁴	10 ⁻³		
								20	40	60	80	10	20	30	40		
0	CME 75 Bombardier 108mm Hollow Stem Augers	GROUND SURFACE		258.79													
		TOPSOIL		0.00													
		Very stiff to hard, mottled brown to brown sandy SILT, some clay, trace to some gravel, occ. cobbles/boulders below 3m depth. (TILL)		258.33													
				0.46	1	50 DO	20										
1																	
					2	50 DO	16										
2																	
3																	
4		Compact, grey silty SAND to sandy SILT, occ. silty clay seams/layers (2mm-5mm thick).		255.13													
				3.66													

DEPTH SCALE

1 : 50



LOGGED: DKB

CHECKED: FB

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PROJECT: 021-1306

RECORD OF BOREHOLE: GP-2

SHEET 1 OF 1

LOCATION: Refer to Plan

BORING DATE: Feb.1,2002

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION									
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT													
								20		40		60		80			10 ⁻⁶		10 ⁻⁵		10 ⁻⁴		10 ⁻³		
								Cu, kPa		nat V. rem V.		+ ⊕		Q - U - ● ○			Wp		W		W				
								20	40	60	80					10	20	30	40						
0	CME 75 Bombardier 108mm Hollow Stem Augers	GROUND SURFACE		259.08																					
		TOPSOIL		0.00																					
		Firm to stiff, mottled brown to brown CLAYEY SILT, some sand, trace gravel, occ. rootlets from 0.3m to 1.1m. (TILL)		258.78																					
				0.30																					
1			1	50 DO	6																				
2		2	50 DO	15																					
					256.49																				
					2.59																				
3		Very dense, grey sandy SILT to silty SAND, trace to some clay and gravel, occ. cobbles/boulders. (TILL)																							
4																									

BACKFILL

CONCRETE

BENTONITE SEAL

#3 SILICA SAND

WELL SCREEN
50mm Dia.
Sch. 40 PVC #50
slot
2.6m screen lengthTop of Pipe
Elev. = 259.90m
Stick-up = 0.82m

DEPTH SCALE

1 : 50



LOGGED: DKB

CHECKED: FB

MIS-BHS 001 021-1306.GPJ GAL-MISS.GDT 4/24/07 PS

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION				
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT							
								Cu, kPa		nat V. + rem V. ⊕		Q - ● U - ○							
								20	40	60	80	10 ⁻⁵	10 ⁻⁵			10 ⁻⁴	10 ⁻³	Wp — W — Wi	
0	CME 75 Bombardier 108mm Hollow Stem Augers	GROUND SURFACE		264.31															
		TOPSOIL		0.00															
		Stiff to very stiff, brown sandy SILT, some clay, trace to some gravel. (TILL)		264.01															
				0.30															
1			1	50 DO	9														
2		2	50 DO	18															
3		3	50 DO	61															
4	4	50 DO	55/ .15																
		Very dense, grey sandy SILT to silty SAND, some clay and gravel, occ. cobbles and boulders. (TILL)		261.87 2.44															
		END OF BOREHOLE		260.04 4.27															
5		Approximate depth to groundwater table = 0.54m (Feb. 11/02)																	
6																			
7																			
8																			
9																			
10																			

BACKFILL

CONCRETE

BENTONITE SEAL

#3 SILICA SAND

WELL SCREEN
50mm Dia.
Sch. 40 PVC #50
slot
2.6m screen length

Top of Pipe
Elev. = 265.21m
Stick-up = 0.90m

PROJECT: 021-1306

RECORD OF BOREHOLE: GP-4

SHEET 1 OF 1

LOCATION: Refer to Plan

BORING DATE: Jan.31,2002

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB TESTING	PIEZOMETER OR STANDPIPE INSTALLATION									
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT													
								20		40		60		80			10 ⁻⁶		10 ⁻⁵		10 ⁻⁴		10 ⁻³		
								SHEAR STRENGTH Cu, kPa		nat V. + rem V.		Q - U -		Wp			W		W						
								20	40	60	80	10	20	30	40										
0	CME 75 Bombardier 108mm Hollow Stem Augers	GROUND SURFACE		266.88																					
		TOPSOIL		0.00																					
		Stiff, brown sandy SILT, some clay, trace to some gravel. (TILL)		266.58																					
				0.30																					
1			1	50 DO	12																				
			2	50 DO	10																				
2																									
					264.14																				
3		Dense, grey sandy SILT to silty SAND, trace to some gravel and clay, occ. cobbles/boulders. (TILL)		2.74																					
			3	50 DO	37																				
4	4		50 DO																						
				262.46																					
				4.42																					
5		END OF BOREHOLE																							
		Approximate depth to groundwater table = 0.78m (Feb.11/02)																							
6																									
7																									
8																									
9																									
10																									

BACKFILL

CONCRETE

BENTONITE SEAL

#3 SILICA SAND

WELL SCREEN
50mm Dia.
Sch. 40 PVC #50 slot
3.0m screen length

Top of Pipe
Elev. = 267.74m
Stick-up = 0.86m

BACKFILL

CONCRETE

BENTONITE SEAL

#3 SILICA SAND

WELL SCREEN
50mm Dia.
Sch. 40 PVC #50
slot
3.0m screen lengthTop of Pipe
Elev. = 267.74m
Stick-up = 0.86m

DEPTH SCALE

1 : 50



LOGGED: DKB

CHECKED: FB

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DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES			DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION					
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT									
								Cu, kPa		nat V. rem V.		+ ⊕ - ●		Wp			W		Li		
								20	40	60	80	10 ⁻⁶	10 ⁻⁵	10 ⁻⁴			10 ⁻³	10	20	30	40
0	CME 75 Bombardier 108mm Hollow Stem Augers	GROUND SURFACE		262.57																	
		TOPSOIL		0.00																	
		Firm to stiff, mottled brown to brown sandy SILT, some clay, trace to some gravel. (TILL)		262.27 0.30																	
1			1	50 DO	8																
2			2	50 DO	11																
3			Dense to very dense, grey silty SAND to sandy SILT, trace to some gravel and clay, occ. cobbles/boulders. (TILL)		259.83 2.74																
			3	50 DO	47																
4																					
				258.23 4.34		4	50 DO	60/ 1.00													
5		END OF BOREHOLE																			
		Approximate depth to groundwater table = 0.42m (Feb.11/02)																			
6																					
7																					
8																					
9																					
10																					

BACKFILL

CONCRETE

BENTONITE SEAL

#3 SILICA SAND

WELL SCREEN
50mm Dia.
Sch. 40 PVC #50
slot
3.0m screen length

Top of Pipe
Elev. = 263.47m

Stick-up = 0.90m

PROJECT: 021-1306

RECORD OF BOREHOLE: GP-6

SHEET 1 OF 1

LOCATION: Refer to Plan

BORING DATE: Jan.31,2002

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa				WATER CONTENT PERCENT					
								20	40	60	80	10 ⁻⁶	10 ⁻⁵			10 ⁻⁴	10 ⁻³
0	CME 75 Bombardier 108mm Hollow Stem Augers	GROUND SURFACE		265.65													
		TOPSOIL		0.00													
				265.35													
		Stiff, brown sandy SILT, some to trace clay, trace to some gravel. (TILL)		0.30													
1					1	50 DO	9										
2					2	50 DO	12										
3			Very dense, brown to grey sandy SILT to silty SAND, trace to some gravel and clay. (TILL)		263.52												
					2.13												
4					3	50 DO	50/ .15										
5		END OF BOREHOLE		261.23													
		Approximate depth to groundwater table = 0.75m (Feb.11/02)		4.42	4	50 DO	60/ 15										
6																	
7																	
8																	
9																	
10																	

BACKFILL

CONCRETE

BENTONITE SEAL

#3 SILICA SAND

WELL SCREEN
50mm Dia.
Sch. 40 PVC #50
slot
3.0m screen length

Top of Pipe
Elev. = 266.56m
Stick-up = 0.91m

BACKFILL

CONCRETE

BENTONITE SEAL

#3 SILICA SAND

WELL SCREEN
50mm Dia.
Sch. 40 PVC #50 slot
3.0m screen lengthTop of Pipe
Elev. = 266.56m
Stick-up = 0.91m

DEPTH SCALE

1 : 50



LOGGED: DKB

CHECKED: FB

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PROJECT: 021-1306

RECORD OF BOREHOLE: GP-7

SHEET 1 OF 1

LOCATION: Refer to Plan

BORING DATE: Jan.31,2002

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION									
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT													
								20		40		60		80			10 ⁻⁶		10 ⁻⁵		10 ⁻⁴		10 ⁻³		
								SHEAR STRENGTH Cu, kPa		nat V. + rem V. ⊕		Q - U - ○													
								20	40	60	80														
0	CME 75 Bombardier 108mm Hollow Stem Augers	GROUND SURFACE		263.26																					
		TOPSOIL		0.00																					
				262.96																					
		Loose, brown silty sand, trace to some gravel, trace clay, occ. topsoil layers. (FILL)		0.30																					
1				262.04	1	50 DO	6																		
		Compact, brown silty SAND to sandy SILT.		1.22																					
2					2	50 DO	20																		
				260.52																					
				2.74																					
3		Very dense, brown sandy SILT to silty SAND, trace to some gravel and clay, occasional cobbles/boulders. (TILL)		2.74																					
				259.91	3	50 DO	50/.25																		
				3.35																					
		END OF BOREHOLE																							
4		Approximate depth to groundwater table = 0.76m (Feb.11/02)																							
5																									
6																									
7																									
8																									
9																									
10																									

BACKFILL

CONCRETE

BENTONITE SEAL

SILICA SAND

WELL SCREEN

50mm Dia.

Sch. 40 PVC #50 slot

1.5m screen length

Top of Pipe

Elev. = 264.16m

Stick-up = 0.90m

BACKFILL

CONCRETE

BENTONITE SEAL

SILICA SAND

WELL SCREEN
50mm Dia.
Sch. 40 PVC #50
slot
1.5m screen lengthTop of Pipe
Elev. = 264.16m
Stick-up = 0.90m

DEPTH SCALE

1 : 50



LOGGED: DKB

CHECKED: FB

MIS-BHS 001 021-1306.GPJ GAL-MISS.GDT 4/24/07 PS

PROJECT: 021-1306

RECORD OF BOREHOLE: GP-8

SHEET 1 OF 1

LOCATION: Refer to Plan

BORING DATE: Jan.31,2002

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa				WATER CONTENT PERCENT					
								20	40	60	80	10 ⁻⁶	10 ⁻⁵			10 ⁻⁴	10 ⁻³
									</								

BACKFILL

CONCRETE

BENTONITE SEAL

#3 SILICA SAND
WELL SCREEN
50mm Dia.
Sch. 40 PVC #50
slot
1.5m screen length

Top of Pipe
Elev. = 261.58m
Stick-up = 0.82m

DEPTH SCALE

1 : 50



LOGGED: DKB

CHECKED: FB

MIS-BHS 001 021-1306.GPJ GAL-MISS GDT 4/24/07 PS

PROJECT: 021-1306

RECORD OF BOREHOLE: GP-9

SHEET 1 OF 1

LOCATION: Refer to Plan

BORING DATE: Jan.30,2002

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa	nat V. rem V.	+ ⊕	Q - U -	10 ⁻⁵	10 ⁻⁴	10 ⁻³		
0	CME 75 Bombardier 108mm Hollow Stem Augers	GROUND SURFACE	257.77												
		TOPSOIL	0.00												
		Firm to hard, mottled brown to brown sandy SILT, trace to some clay, trace to some gravel. (TILL)	257.47 0.30	1	50 DO	8									BACKFILL
1															CONCRETE
2				2	50 DO	33									BENTONITE SEAL
		Very dense, brown silty SAND to sandy SILT, trace to some clay and gravel, occ cobbles/boulders. (TILL)	255.33 2.44												#3 SILICA SAND
3				3	50 DO	65/ .15									WELL SCREEN 50mm Dia. Sch. 40 PVC #50 slot 1.5m screen length
		END OF BOREHOLE	254.42 3.35												Top of Pipe Elev. = 258.65m Stick-up = 0.88m
4		Approximate depth to groundwater table = 0.68m (Feb.11/02)													
5															
6															
7															
8															
9															
10															

DEPTH SCALE

1 : 50



LOGGED: DKB

CHECKED: FB

MIS-BHS 001 021-1306.GPJ GAL-MISS.GDT 4/24/07 PS

PROJECT: 021-1306

RECORD OF BOREHOLE: GP-10

SHEET 1 OF 1

LOCATION: Refer to Plan

BORING DATE: Jan.31,2002

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES			DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
								Cu, kPa		nat V. + Q - rem V. ⊕ U - ○							
								20	40	60	80	10 ⁻⁶	10 ⁻⁵	10 ⁻⁴			10 ⁻³
								20	40	60	80	10	20	30	40		
0	CME 75 Bombardier 108mm Hollow Stem Augers	GROUND SURFACE		255.18													BACKFILL CONCRETE BENTONITE SEAL #3 SILICA SAND WELL SCREEN 50mm Dia. Sch. 40 PVC #50 slot 1.5m screen length Top of Pipe Elev. = 255.97m Stick-up = 0.79m
TOPSOIL			0.00														
1		Very stiff to hard, mottled brown to brown silty SAND to sandy SILT, trace to some clay, trace to some gravel. (TILL)		254.72													
			1	50 DO	25												
2		2	50 DO	46													
3	Very dense, brown silty SAND to sandy SILT, trace to some gravel, trace clay, occ. cobbles/boulders. (TILL)		252.74														
			2.44														
4		END OF BOREHOLE		251.83													
		Approximate depth to groundwater table = 0.15m (Feb.11/02)		3.35													
5																	
6																	
7																	
8																	
9																	
10																	

BACKFILL

CONCRETE

BENTONITE SEAL

#3 SILICA SAND
WELL SCREEN
50mm Dia.
Sch. 40 PVC #50
slot
1.5m screen lengthTop of Pipe
Elev. = 255.97m
Stick-up = 0.79m

DEPTH SCALE

1 : 50



LOGGED: DKB

CHECKED: FB

MIS-BHS 001 021-1306.GPJ GAL-MISS.GDT 4/24/07 PS



APPENDIX C

Ground Water Level Data

Table D-1: Groundwater Level Elevations (mASL) (2004-2024)
Lindsay-Ops Landfill Site

Monitor No.	Reference Elevation (mASL)	9-Mar-04	1-May-04	27-Jul-04	1-Oct-04	5-Feb-05	5-May-05	1-Jul-05	5-Oct-05	1-Feb-06	1-May-06	1-Jul-06	1-Oct-06	7-Apr-07	1-Aug-07	7-Oct-07	1-Feb-08	1-Apr-08	1-Jul-08	1-Oct-08	1-Feb-09	1-May-09	
6-90-II	270.96	256.12	255.60	-	255.96	255.67	255.80	-	-	255.59	257.32	-	255.15	256.53	256.14	256.22	265.74	267.65	256.65	256.18	256.43	256.60	
7-90	271.99	262.84	263.49	-	263.22	-	-	264.62	-	-	-	263.31	261.71	-	-	-	-	260.74	261.81	263.38	263.59	261.86	
7-90-II	273.82	-	-	-	-	-	-	-	-	-	-	-	-	-	265.46	268.79	268.92	264.21	262.43	285.75	263.51	263.11	270.88
11-90	255.53	-	254.06	254.17	253.15	-	254.45	-	-	254.48	254.39	254.13	254.28	254.50	252.95	252.88	254.48	254.88	-	254.31	254.71	254.97	
12-91-I	263.18	261.38	261.18	260.86	260.59	261.35	261.20	260.71	260.32	261.19	261.09	260.62	261.24	261.27	260.26	260.63	260.32	260.54	261.12	260.95	261.31	261.39	
12-91-II	263.39	261.31	261.07	260.79	260.57	261.35	261.11	260.69	260.37	261.15	261.03	260.60	261.49	261.15	260.09	260.77	260.34	261.70	261.14	260.91	261.25	261.37	
13-91-I	262.24	261.23	261.16	260.89	260.31	261.16	261.25	260.56	259.70	261.20	261.12	260.53	260.72	261.83	260.26	259.97	261.76	261.89	261.33	260.97	261.32	261.39	
13-91-II	262.53	258.50	258.58	258.39	258.03	258.53	258.65	258.20	257.81	258.64	258.58	258.18	258.18	259.80	258.63	258.39	259.57	259.67	259.24	258.50	258.74	258.78	
14-07	259.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	258.67	257.11	256.36	256.30	256.48	256.62	
15-91-I	261.00	255.08	255.42	254.80	254.52	254.77	255.01	254.46	254.20	254.67	254.84	254.58	254.88	255.40	-	253.36	254.06	254.45	253.86	253.73	253.95	254.10	
15-91-II	260.89	255.79	254.98	255.24	254.98	255.33	255.52	255.06	254.68	255.24	255.30	255.04	255.20	255.98	-	253.81	254.42	254.72	254.28	254.10	254.31	254.45	
16-91-I	257.71	254.53	253.97	253.67	253.57	253.73	253.81	253.56	253.12	253.50	253.84	253.84	254.30	254.52	253.24	253.76	254.31	254.51	254.11	253.78	254.07	254.18	
16-91-II	258.06	255.53	253.59	253.37	253.38	253.49	253.53	253.36	253.25	253.39	253.97	254.43	254.95	255.06	253.64	253.93	254.45	254.78	254.11	253.44	253.72	253.82	
17-91-I	259.92	258.92	255.89	255.53	254.17	255.67	255.94	255.21	254.75	255.47	255.78	255.37	255.60	256.16	254.87	255.05	256.09	256.38	255.77	255.61	255.82	256.11	
17-91-II	259.97	256.42	256.21	255.73	255.36	255.98	256.30	255.47	255.05	255.86	255.99	255.58	255.79	256.46	255.24	255.27	256.40	256.74	256.07	255.85	256.13	256.44	
18-91	259.51	255.77	255.56	255.25	254.89	255.49	255.75	255.00	254.57	255.24	255.56	255.09	255.48	255.80	254.57	254.63	255.76	256.22	255.47	255.37	255.68	255.90	
19-91	258.48	255.43	255.30	255.10	254.80	255.16	255.37	254.88	254.18	255.01	255.28	254.93	255.15	255.57	254.39	254.58	255.43	255.85	255.27	255.12	255.41	255.57	
20-91-I	260.81	253.33	253.50	253.32	252.96	253.28	253.55	252.84	252.67	253.23	253.17	252.90	252.90	253.48	-	252.18	252.67	252.99	252.72	252.44	252.65	252.80	
20-91-II	260.82	253.39	253.75	253.54	253.23	253.41	253.35	252.84	252.81	253.25	253.33	253.17	253.37	253.64	-	252.34	252.87	253.42	252.89	252.59	252.87	252.99	
20-91-III	260.81	253.59	253.86	253.72	253.31	253.11	253.45	252.98	252.96	252.81	253.47	253.33	253.44	253.79	-	252.48	253.02	253.56	253.04	252.74	253.00	253.10	
21-91-I	258.01	253.36	253.51	253.34	252.97	253.32	253.56	252.83	252.60	253.11	253.17	252.94	252.92	253.49	252.62	252.89	253.57	253.77	254.13	253.22	253.42	253.58	
21-91-II	258.02	251.61	252.62	250.57	251.92	250.98	252.45	252.38	252.49	250.70	252.50	253.98	251.47	252.30	249.53	251.58	251.79	252.06	256.26	253.26	250.60	252.68	
21-91-III	258.02	253.41	253.61	253.43	253.13	253.23	253.27	252.73	252.69	253.14	253.22	253.06	253.18	253.45	252.63	253.01	253.52	254.04	256.28	253.23	253.54	253.63	
23-07	259.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	256.82	256.19	256.14	256.27	256.40	
24-91	258.66	255.45	255.32	255.11	254.79	255.18	255.38	254.86	254.56	255.07	255.30	255.08	255.16	255.50	254.47	254.66	255.45	255.89	255.26	255.14	255.45	255.60	
25-91	259.87	258.77	258.58	258.41	257.50	258.84	258.81	257.76	257.04	-	258.84	258.11	255.77	259.12	257.41	257.10	259.37	258.96	258.81	258.94	259.25	259.26	
25-96	259.80	255.19	255.26	256.25	254.72	255.14	255.41	254.68	254.48	255.48	255.25	255.12	258.17	255.92	254.79	254.89	255.83	255.96	255.43	254.98	255.51	255.78	
27-93	259.83	255.88	255.77	255.39	255.02	255.57	255.85	255.09	254.78	255.48	255.67	255.33	255.50	256.03	254.89	254.87	255.96	256.33	255.69	255.54	255.85	256.06	
28-93	262.41	-	255.95	256.01	255.96	255.90	256.08	256.00	255.72	255.91	256.87	256.12	256.03	256.33	256.02	255.96	256.04	256.06	256.07	256.03	256.18	256.91	
29-93	259.36	257.61	257.50	257.51	256.78	257.62	257.72	256.96	256.72	257.68	257.60	257.23	257.90	258.18	-	257.19	258.06	258.22	257.86	257.48	257.66	257.75	
30-93	249.50	249.23	249.32	249.01	249.22	-	249.29	249.17	249.22	-	249.31	249.26	249.28	249.22	249.17	249.67	249.78	249.87	249.77	249.68	249.77	248.86	
31-93	249.16	248.75	248.79	248.63	248.35	248.75	248.77	248.43	248.68	-	249.07	-	249.49	249.48	248.75	249.34	249.57	249.49	249.21	249.38	249.19	249.48	
32-93-I	262.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32-93-II	262.28	261.18	261.05	260.90	260.00	-	261.03	260.14	259.16	-	260.96	260.20	260.77	261.02	-	-	-	-	-	-	261.35	-	261.63
32-93-III	262.48	261.65	261.58	261.31	-	-	261.52	260.75	-	-	261.45	260.73	261.39	261.49	-	-	261.55	261.61	261.36	261.19	261.68	261.57	
35-93-I	258.62	-	256.36	256.23	256.03	255.84	256.52	256.04	255.80	255.68	256.40	256.02	256.65	256.69	255.94	255.96	255.48	256.96	256.39	256.33	256.54	256.77	
35-93-II	258.86	-	-	-	-	-	-	-	-	256.40	256.14	255.84	256.44	256.38	255.92	255.93	256.56	256.72	256.11	256.14	256.30	256.54	
36-93	258.63	257.63	257.27	257.07	256.61	-	257.44	256.70	256.40	-	257.30	256.65	257.50	257.38	256.42	255.93	257.93	257.86	257.33	257.33	257.73	257.67	
37-93-I	258.61	257.83	257.45	257.45	256.91	257.65	257.76	256.95	256.50	-	257.64	257.10	256.79	258.07	256.73	256.82	258.26	257.86	257.83	257.65	257.62	257.92	
37-93-II	258.93	257.58	257.18	257.15	256.46	-	257.43	256.58	256.40	-	257.07	256.83	257.49	257.66	256.34	256.55	257.83	257.76	257.36	257.30	258.01	257.60	
38-93	259.30	258.22	257.95	257.69	257.15	258.03	258.10	257.22	256.83	258.29	257.59	-	258.11	258.23	256.85	256.80	258.50	258.13	258.02	258.03	258.40	258.33	
39-93-I	259.55	257.91	257.72	257.55	257.14	257.81	257.99	257.32	256.82	258.03	257.85	257.28	257.91	258.52	257.29	257.20	258.39	258.50	258.14	257.83	258.00	258.05	
39-93-II	259.87	258.74	258.31	257.91	256.95	-	258.61	257.27	256.60	-	258.49	257.68	258.19	258.61	-	256.67	258.69	258.76	258.46	258.30	258.81	258.66	
43-93-I	261.54	260.19	260.04	259.93	259.21	260.13	260.14	259.19	258.61	260.27	260.05	259.26	259.88	260.27	258.69	258.83	-	260.33	259.77	259.86	257.22	260.30	
43-93-II	261.54	260.28	260.15	260.01	259.15	260.30	260.25	259.11	259.03	260.46	260.09	259.22	259.87	260.31	258.47	258.64	260.50	260.41	260.20	260.15	260.32	260.39	
44-93-I	263.39	-	262.73	262.11	261.69	-	262.93	261.19	260.85	-	262.36	261.86	262.23	260.20	261.76	261.13	262.96	263.41	262.89	262.64	-	262.37	
44-93-II	263.46	262.15	261.91	261.41	261.05	-	261.76	261.68	260.54	262.12	261.78	261.04	261.60	262.07	260.98	260.58	262.01	262.46	261.59	261.39	262.61	-	
45-93	266.78	264.00	264.87	263.89	262.83	265.13	265.35	263.65	261.98	265.55	265.08	264.59	262.99	265.62	263.21	261.95	265.51	266.03	264.63	263.83	265.68	265.87	
45-95-I	251.92	250.35	250.20	250.01	249.81	250.08	250.15	249.58	249.16	250.16	249.74	249.23	249.67	250.00	249.22	249.69	250.10	250.56	250.25	249.84	250.28	250.30	
45-95-II	252.28	250.01	249.84	249.67	249.52	249.78	249.82	249.32	248.95	249.91	248.83	249.06	249.38	249.70	-	249.36	249.76	250.24	24				

Table D-1: Groundwater Level Elevations (mASL) (2004-2024)
Lindsay-Ops Landfill Site

Monitor No.	1-Oct-09	10-Feb-10	10-May-10	5-Jul-10	10-Oct-10	24-Feb-11	3-May-11	10-Oct-11	22-Feb-12	31-May-12	1-Oct-12	25-Feb-14	5-May-14	15-Jul-14	20-Oct-14	1-Feb-15	1-May-15	1-Jul-15	1-Oct-15	4-Feb-16	20-May-16	12-Jul-16	18-Oct-16
6-90-II	263.64	255.47	268.11	256.09	255.85	256.15	256.02	255.75	-	255.83	255.66	-	-	-	-	-	-	-	-	Dry	254.63	-	Dry
7-90	257.19	-	257.39	267.51	261.69	-	271.85	261.79	-	261.57	261.33	-	-	261.03	261.07	261.12	-	-	-	-	262.19	-	Dry
7-90-II	264.15	265.05	263.39	263.35	265.84	264.83	265.04	263.72	-	265.37	-	-	265.12	264.51	-	-	-	264.12	-	-	262.84	-	265.02
11-90	254.46	254.39	254.43	254.38	254.44	254.37	254.87	254.62	254.65	254.59	254.35	254.80	254.93	254.45	254.65	254.39	254.53	254.77	254.51	255.15	254.85	254.68	254.73
12-91-I	261.22	261.19	261.22	260.99	261.23	261.26	261.41	261.22	261.19	261.11	260.82	261.23	261.40	260.84	261.01	261.13	260.90	261.00	260.61	261.46	260.95	260.57	260.53
12-91-II	261.30	261.13	261.22	260.97	261.67	261.18	261.55	261.22	260.65	261.07	260.98	261.28	261.50	260.81	261.10	261.17	260.94	260.96	260.60	261.73	260.95	260.60	260.80
13-91-I	261.22	261.15	261.21	261.10	259.8	261.28	261.45	261.31	261.33	261.33	260.24	261.39	261.41	260.71	260.95	260.92	261.01	261.08	261.05	260.38	260.20	259.42	258.62
13-91-II	258.61	258.63	258.68	258.57	258.35	258.68	258.77	258.72	258.75	258.8	258.09	258.79	258.80	258.39	258.49	258.47	258.58	258.60	257.97	258.55	258.51	257.99	257.56
14-07	256.38	256.34	256.37	256.26	256.29	256.25	256.72	256.52	256.60	256.33	256.16	256.70	256.57	256.17	256.40	256.10	256.15	256.23	255.99	256.66	256.20	256.02	255.93
15-91-I	253.81	253.87	253.79	253.74	253.58	253.82	254.06	253.83	255.24	253.82	253.44	253.81	254.04	254.06	253.99	253.68	253.69	253.79	253.40	253.89	254.00	253.27	252.12
15-91-II	254.10	254.18	254.18	254.1	253.88	254.18	254.52	254.11	255.76	253.94	253.82	254.18	254.53	253.64	253.60	254.11	254.16	254.25	253.88	254.31	254.20	253.95	253.62
16-91-I	253.87	253.91	253.93	253.87	253.64	253.95	253.86	253.69	253.63	253.65	253.5	254.64	253.87	253.62	253.64	254.85	253.68	253.72	253.49	253.69	253.54	253.45	253.33
16-91-II	253.62	253.59	253.59	253.54	253.28	253.67	253.41	253.38	253.29	253.29	253.21	-	253.39	253.18	253.23	254.61	253.23	253.25	253.13	253.19	253.06	253.06	253.02
17-91-I	255.81	255.82	255.69	255.61	255.45	255.76	256.14	256.78	255.81	255.81	255.23	255.92	256.05	255.47	255.58	255.54	255.63	255.73	255.09	256.77	255.70	255.22	254.89
17-91-II	256.09	256.03	255.94	255.88	255.68	256.01	256.5	255.98	256.07	256.08	255.43	256.17	256.39	255.66	255.79	255.46	255.84	255.96	255.27	256.39	255.70	255.19	254.80
18-91	255.57	255.51	255.55	255.42	255.25	255.64	255.98	255.67	255.64	255.62	255.01	255.73	255.91	255.25	255.51	255.16	255.44	255.46	254.78	256.01	255.45	254.90	254.46
19-91	255.25	255.25	255.2	255.13	254.97	255.21	255.59	255.32	255.26	255.27	254.87	255.35	255.51	254.98	255.11	255.03	255.15	255.21	254.78	255.61	255.20	254.81	254.43
20-91-I	252.48	252.56	252.35	252.39	252.24	252.68	252.57	252.32	252.47	252.33	252.05	252.21	252.43	252.54	252.12	259.00	252.85	252.34	254.39	-	251.68	251.98	251.76
20-91-II	252.64	252.66	252.66	252.64	252.54	252.85	252.95	252.67	252.60	252.63	252.37	252.80	257.01	252.34	252.62	252.62	252.70	252.78	252.47	252.89	252.67	252.78	252.13
20-91-III	252.79	252.73	252.74	252.86	252.62	252.78	253.09	252.79	252.64	252.70	252.4	252.86	252.96	252.59	252.67	252.63	252.70	252.78	252.48	252.91	252.69	252.17	252.13
21-91-I	253.06	253.3	253.13	253.16	253.03	253.28	253.35	253.1	250.46	253.10	252.83	255.53	253.22	253.08	252.81	-	252.83	253.21	252.80	250.63	252.78	252.84	252.51
21-91-II	253.19	250.62	252.36	247.28	253.25	250.65	251.98	252.08	250.62	252.28	251.58	-	252.48	248.66	251.74	-	252.63	246.73	251.01	253.58	252.70	248.26	251.38
21-91-III	253.24	253.34	253.34	253.33	251.58	253.49	253.61	253.35	253.30	253.34	253.13	-	253.71	253.36	253.43	-	253.53	253.56	253.26	253.58	253.39	252.60	252.86
23-07	256.21	256.15	256.15	256.06	256.01	256.14	257.45	256.28	256.35	256.15	255.86	256.44	256.43	255.97	256.16	255.98	256.05	256.04	255.80	256.67	256.04	255.86	255.67
24-91	255.28	255.26	255.24	255.15	255.01	255.32	255.63	255.36	255.31	256.3	254.9	-	255.56	255.03	255.16	255.08	255.21	255.29	254.83	255.79	255.33	256.54	254.60
25-91	259.16	259.29	257.14	258.66	259.01	-	258.89	259.17	255.94	258.99	258.06	-	259.25	258.45	259.21	-	258.69	258.81	257.66	259.09	258.86	256.10	Dry
25-96	255.51	255.6	255.42	255.34	255.02	255.3	258.8	255.29	253.59	255.34	254.84	255.41	255.64	255.24	255.19	254.96	255.12	255.49	254.95	255.74	255.50	255.25	254.46
27-93	255.73	255.71	255.65	255.56	255.41	255.65	256.08	255.83	255.77	255.76	255.16	255.88	256.05	255.42	255.58	255.45	255.61	255.69	255.04	256.04	-	254.78	254.62
28-93	256.17	255.68	256.32	255.97	256.08	255.88	256.19	256.18	255.58	256.31	255.97	256.32	256.40	256.64	256.32	256.34	256.54	260.94	256.24	256.49	256.47	256.24	256.10
29-93	257.68	257.62	257.76	257.33	257.59	257.64	258.78	257.71	257.76	257.65	257.09	257.92	257.93	257.19	257.62	257.12	257.33	257.48	256.83	258.05	257.54	256.92	256.61
30-93	249.75	249.69	249.67	249.47	249.71	-	249.77	249.87	247.77	249.78	249.66	-	-	249.86	249.57	249.59	249.54	249.50	249.44	249.59	249.65	249.65	249.57
31-93	249.46	249.57	249.45	249.18	249.47	-	249.47	249.48	-	249.42	249.37	-	249.47	249.42	249.41	249.46	249.24	249.12	249.15	249.44	249.38	249.20	249.06
32-93-I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	262.33	262.38	262.46	-	261.10	261.72	261.39	-	260.31
32-93-II	261.43	261.44	261.53	261.09	261.1	261.4	261.53	261.30	-	261.4	259.63	-	-	261.41	260.90	260.69	261.58	261.03	-	260.16	-	-	259.94
32-93-III	261.35	261.54	261.51	261.04	261.19	-	261.49	261.37	-	261.59	-	-	-	261.59	260.86	261.38	260.14	261.26	261.39	-	261.55	-	Dry
35-93-I	258.53	256.4	256.46	256.32	256.26	256.37	256.85	256.63	256.70	256.46	256.13	-	256.88	256.19	256.34	250.92	256.27	256.34	256.06	257.05	256.30	255.77	255.91
35-93-II	256.29	256.14	256.21	256.1	256.12	256.09	256.65	256.41	256.52	256.22	256	-	256.76	256.00	256.13	257.12	256.03	256.08	255.92	257.11	255.88	255.95	255.85
36-93	257.66	257.82	257.61	257.25	257.46	-	257.74	257.67	257.66	257.54	256.96	257.73	257.68	256.97	257.31	257.50	257.06	257.20	256.74	257.87	257.33	256.66	256.35
37-93-I	257.89	257.64	257.87	257.54	257.72	-	257.94	257.88	256.87	257.84	256.86	-	257.91	257.31	257.68	257.57	257.43	257.55	256.89	257.94	257.67	256.95	256.34
37-93-II	257.57	257.69	257.6	257.11	257.47	-	257.6	257.55	-	257.57	257.27	-	257.62	256.88	257.46	258.05	257.03	257.54	256.60	257.65	257.41	256.44	255.91
38-93	258.35	258.38	258.34	257.91	258.1	258.36	258.39	258.34	258.33	258.28	257.44	-	258.32	257.53	258.02	257.36	257.79	257.93	257.07	258.39	258.13	257.09	256.27
39-93-I	257.96	258.84	257.95	257.77	257.74	257.9	258.02	254.95	257.99	257.93	257.26	-	258.97	257.46	257.72	258.65	257.67	257.70	257.09	258.98	257.81	257.22	256.58
39-93-II	258.61	258.65	258.66	258.1	257.73	-	258.67	258.57	-	258.47	257.26	258.06	258.62	257.54	257.75	-	258.18	258.16	256.83	258.65	258.45	257.23	256.02
43-93-I	260.04	260.1	260.18	258.86	258.86	260.15	260.20	260.13	259.55	260.12	259.17	260.21	260.26	259.50	259.87	259.93	259.63	259.88	-	260.28	260.09	259.15	258.23
43-93-II	260.37	260.21	260.42	259.9	260.07	260.27	260.49	260.55	260.00	260.24	259.04	260.46	260.35	259.40	260.15	260.02	260.13	260.11	-	260.47	260.22	259.03	258.09
44-93-I	262.86	263.31	263.07	262.75	262.37	263.37	263.41	262.94	260.94	262.96	261.86	-	-	262.46	262.61	263.38	262.81	260.31	261.87	-	263.01	262.18	261.07
44-93-II	261.70	261.69	261.73	261.5	261.45	261.79	262.38	261.71	-	261.8	261.09	261.88	262.34	261.31	261.47	261.56	261.52	261.79	261.06	262.50	261.71	261.12	260.67
45-93	263.9																						

Table D-1: Groundwater Level Elevations (mASL) (2004-2024)
Lindsay-Ops Landfill Site

Monitor No.	1-Feb-17	1-May-17	1-Jul-17	1-Oct-17	15-Feb-18	8-May-18	25-Jul-18	16-Oct-18	14-Feb-19	8-May-19	15-Jul-19	7-Oct-19	5-Feb-20	5-May-20	15-Jul-20	13-Oct-20	26-Feb-21	3-May-21	5-Jul-21	13-Oct-21	22-Feb-22	2-May-22	26-Jul-22
6-90-II	256.25	257.27	258.84	256.11	256.32	256.13	Dry	256.08	256.16	DRY	256.46	255.93	256.45	255.75	256.40	256.12	256.27	256.40	256.06	256.16	256.61	256.59	256.47
7-90	blocked	blocked	blocked	blocked	blocked	blocked	blocked	blocked	blocked	blocked	blocked	blocked	259.18	264.56	258.06	259.17	259.74	259.33	259.17	259.23	259.85	259.74	259.55
7-90-II	264.52	265.28	266.99	263.32	273.28	262.97	263.14	264.21	265.14	262.76	-	263.12	264.26	259.63	262.81	265.06	263.07	263.05	264.22	262.50	263.17	263.59	263.50
11-90	255.28	255.63	255.01	254.69	254.91	255.03	254.33	254.10	254.90	255.16	254.45	253.92	254.80	254.73	253.80	253.77	252.45	253.95	253.33	253.36	254.02	254.12	253.62
12-91-I	261.62	261.23	261.16	261.10	261.19	260.90	261.19	260.87	261.08	261.10	260.75	260.23	260.97	260.95	261.11	260.49	260.90	261.41	261.61	261.00	261.50	261.30	260.99
12-91-II	261.85	261.22	261.05	261.16	261.06	260.92	261.51	260.85	261.04	261.31	260.83	260.50	261.19	261.19	261.19	260.80	261.20	261.66	261.52	261.11	261.48	261.22	260.98
13-91-I	261.28	261.23	261.33	259.65	261.23	261.29	260.41	259.50	260.15	260.37	259.65	258.75	260.20	260.24	259.63	258.97	260.03	260.36	259.84	259.88	260.40	260.35	259.77
13-91-II	258.52	258.52	258.52	258.27	258.50	258.57	259.02	257.82	258.26	259.02	258.37	257.92	258.69	259.84	258.48	258.01	258.59	259.03	258.33	258.49	258.99	259.04	258.48
14-07	257.59	256.50	256.39	256.34	256.33	256.35	256.06	256.07	256.14	256.62	255.98	255.82	256.33	256.13	255.86	255.89	256.38	256.06	255.89	256.43	256.30	255.93	
15-91-I	253.91	253.81	253.77	253.55	253.79	253.94	253.46	253.43	253.70	255.20	254.93	254.30	254.90	254.99	254.53	254.49	252.80	252.98	252.56	254.02	254.26	254.06	
15-91-II	254.32	254.39	254.32	254.03	254.22	254.47	254.04	253.95	254.15	255.57	255.12	254.76	255.38	255.33	255.09	254.91	255.21	255.14	254.75	254.66	255.14	255.36	255.36
16-91-I	252.55	253.08	253.67	253.61	252.74	253.13	253.61	255.62	253.69	253.96	253.46	253.36	253.64	253.70	253.06	253.43	251.44	251.55	251.43	251.73	252.75	252.89	252.81
16-91-II	251.12	253.86	253.21	253.12	251.01	254.04	253.13	253.12	253.15	253.48	253.20	253.26	253.43	253.45	253.05	253.25	253.15	253.35	252.90	253.12	253.31	253.39	253.22
17-91-I	256.08	255.65	255.77	255.37	255.74	255.83	255.11	255.22	255.47	256.12	255.50	254.88	255.82	255.77	255.12	255.17	254.22	254.78	249.67	254.52	255.35	255.40	255.09
17-91-II	256.42	256.14	256.04	255.66	255.95	256.14	255.23	255.37	frozen	256.35	255.61	254.99	256.03	255.93	255.22	255.31	254.86	255.49	254.79	255.05	255.77	255.79	255.34
18-91	256.06	256.69	256.64	256.40	256.56	255.74	254.79	254.91	255.40	255.93	254.99	254.60	255.70	255.60	254.81	254.68	255.01	255.43	255.16	254.95	255.48	255.53	255.20
19-91	255.65	255.32	255.24	255.08	255.23	255.48	254.87	255.92	255.12	255.73	255.03	254.62	258.18	255.35	254.90	254.90	257.18	254.50	253.88	254.21	254.90	255.02	254.77
20-91-I	frozen	252.27	252.28	252.00	252.10	252.37	258.95	258.53	253.42	253.01	253.22	252.52	253.32	252.72	252.80	252.37	250.66	251.04	250.99	251.42	252.06		252.08
20-91-II	252.84	252.89	252.73	252.77	252.10	253.28	252.75	252.74	252.89	253.16	253.32	253.05	252.95	253.63	252.84	253.21	249.82	249.54	249.28	249.40	251.39	251.60	251.44
20-91-III	252.86	252.90	252.75	252.78	252.92	253.30	252.76	252.76	252.91	253.16	253.77	253.05	253.54	255.52	253.32	253.21	249.95	249.56	249.31	249.37	251.39	251.60	251.45
21-91-I	256.03	253.16	253.00	252.69	250.91	253.12	252.67	252.60	252.41	253.12	252.84	252.23	252.80	252.72	249.48	252.41	250.65	251.07	250.80	251.80	252.08	252.32	252.08
21-91-II	258.03	252.87	247.78	251.57	253.76	253.02	250.51	252.30	251.51	253.02	249.41	251.75	251.02	252.76	250.30	251.79	250.56	250.00	246.87	246.65	249.03	250.39	248.53
21-91-III	258.03	253.66	253.51	253.55	252.64	254.09	253.66	253.56	253.68	254.16	253.76	253.04	253.53	253.62	250.17	253.19	249.33	249.43	248.91	249.29	251.34	251.50	251.26
23-07	256.84	256.31	256.20	256.10	256.19	256.12	255.84	255.85	256.00	256.55	256.02	255.77	256.33	255.18	255.80	255.86	255.45	255.91	255.62	255.61	256.17	256.17	255.86
24-91	256.71	256.38	256.32	254.91	256.30	255.54	254.92	255.02	frozen	255.71	255.15	254.61	255.34	255.35	254.91	254.89	257.68	254.41	254.37	254.16	254.81	254.96	254.75
25-91	Frozen	259.23	259.14	259.21	259.43	259.15	256.01	258.08	frozen	258.97	258.36	256.75	259.04	258.87	257.51	258.05	259.11	259.06	258.97	258.72	259.09	259.05	258.52
25-96	256.45	256.67	256.39	254.99	256.49	256.49	254.05	254.99	255.47	255.60	255.02	254.68	255.32	255.42	254.89	254.95	254.05	254.30	253.20	253.80	254.85	255.02	254.43
27-93	255.10	256.84	255.74	255.39	255.68	255.88	255.06	255.12	255.48	256.04	255.44	254.31	254.59	255.32	255.05	255.10	254.13	254.64	254.31	254.27	255.17	255.29	254.99
28-93	256.01	256.33	256.01	256.35	256.18	256.32	256.29	256.15	256.27	256.11	256.28	256.17	256.13	255.49	256.17	256.04	255.92	255.71	255.30	255.51	255.70	255.85	255.92
29-93	258.01	257.81	257.77	257.73	257.74	257.80	255.99	256.96	257.32	257.98	257.36	256.56	257.87	257.85	256.83	256.98	257.67	258.07	257.66	257.52	258.05	257.93	257.66
30-93	249.60	249.87	249.87	249.63	249.63	249.87	249.63	249.66	frozen	249.50	249.30	249.18	249.38	248.51	249.05	249.27	249.21	249.32	249.30	249.50	249.37	249.41	249.50
31-93	249.45	249.36	249.37	249.33	249.57	249.40	249.15	249.32	frozen	248.66	248.47	248.42	248.75	248.56	248.18	248.56	248.67	248.70	248.73	248.58	248.76	248.70	248.54
32-93-I	262.48	261.31	261.38	261.16	261.44	262.48	261.68	261.43	frozen	262.48	262.48	260.94	262.48	262.48	262.38	261.91	261.64	261.60	261.27	261.23	261.68	261.54	261.18
32-93-II	frozen	262.50	262.50	262.18	262.50	262.50	260.35	260.50	frozen	261.35	260.94	259.44	261.20	260.80	260.75	260.77	262.50	262.50	262.27	262.50	262.50	262.50	262.50
32-93-III	261.57	261.56	261.51	261.36	261.70	261.51	Dry	260.88	frozen	261.47	260.96	dRY	261.53	261.36	260.84	260.83	261.53	261.59	261.20	261.19	261.56	261.58	261.09
35-93-I	257.28	256.54	256.42	255.37	256.43	256.56	256.04	256.09	255.93	257.13	256.20	dRY	256.59	256.41	255.99	256.04	255.84	256.51	255.99	255.79		256.50	256.15
35-93-II	257.33	256.36	256.15	256.25	256.18	256.42	255.90	255.95	256.33	257.28	256.14	256.04	256.59	256.36	255.99	256.09	256.33	256.95	256.44	256.19		256.55	256.17
36-93	257.99	257.51	257.55	257.27	257.43	257.50	256.53	256.73	256.17	257.95	256.84	255.80	257.47	257.32	256.45	256.59	257.29	257.53	257.23	256.75	257.63	257.44	256.93
37-93-I	258.07	257.86	257.83	257.66	257.82	257.89	256.82	257.06	frozen	258.03	257.11	256.41	257.84	257.81	256.35	256.85	257.54	257.77	257.51	257.37	257.98	257.88	257.25
37-93-II	257.65	257.36	257.55	257.20	257.56	257.30	256.45	256.83	frozen	258.07	257.24	256.42	258.06	257.84	257.09	256.90	257.70	257.99	257.83	257.48	258.15	257.95	257.31
38-93	258.41	258.29	258.21	257.94	258.29	258.29	257.06	257.11	frozen	258.40	257.54	256.45	258.29	258.22	257.34	257.03	258.16	258.36	258.07	257.76	258.48	258.33	257.56
39-93-I	258.00	257.92	257.93	257.70	257.97	257.90	257.17	257.23	257.60	258.04	257.27	256.57	257.83	257.83	257.00	257.12	257.33	257.35	257.33	257.33	257.85	257.85	257.41
39-93-II	frozen	258.37	258.35	258.41	258.67	258.55	257.28	256.88	frozen	259.07	258.18	256.78	259.06	258.90	257.39	257.48	259.02	258.80	258.77	258.39	259.05	259.00	258.25
43-93-I	260.12	260.22	260.14	259.76	260.20	260.21	259.41	259.55	259.99	260.30	258.58	258.86	259.98	260.00	259.26	259.27	259.81	260.15	259.58	259.64	260.09	260.17	259.68
43-93-II	260.64	260.20	260.10	260.19	260.25	260.19	259.22	259.67	260.11	259.95	258.28	258.33	259.93	259.85	258.91	259.09	259.81	260.11	259.60	259.59	260.09	259.98	259.51
44-93-I	263.41	263.19	263.07	262.51	263.31	263.17	262.11	261.71	frozen	263.29	262.40	261.26											

Table D-1: Groundwater Level Elevations (mASL) (2004-2024)
Lindsay-Ops Landfill Site

Monitor No.	25-Oct-22	10-Feb-23	1-May-23	12-Jul-23	17-Oct-23	7-Feb-24	6-May-24	8-Jul-24	15-Oct-24	26-Feb-25	6-May-25	23-Jul-26	14-Oct-25
6-90-II	256.36	256.42	256.74	256.63	256.50	256.50	258.00	256.37	NA	NA	256.28	256.01	256.00
7-90	259.22	259.66	259.95	259.62	259.29	259.59	259.72	259.48	259.26	259.65	259.74	259.37	260.74
7-90-II	263.91	263.07	262.69	262.43	273.82	262.55	261.80	263.37	261.42	NA	263.57	262.28	261.01
11-90	253.38		253.96	253.33	253.29	253.85	253.81	NA	253.26	NA	253.81	252.84	252.73
12-91-I	260.84	261.76	261.61	261.12	261.07	261.41	261.33	261.18	260.97	261.34	261.59	260.86	260.55
12-91-II	260.89	261.94	261.62	261.10	261.08	261.37	261.25	261.15	261.06	261.32	261.64	260.85	260.59
13-91-I	259.31	260.42	260.52	259.78	259.64	260.29	260.28	259.83	259.88	260.22	260.52	259.42	258.52
13-91-II	258.20	259.19	259.32	258.42	258.29	258.84	259.23	260.66	258.58	258.82	259.47	258.26	257.81
14-07	255.89	257.10	256.69	255.91	255.93	256.31	256.35	255.98	255.90	256.11	256.31	255.84	255.71
15-91-I	253.81	254.92	254.59	254.58	254.56	254.62	254.16	254.42	253.80	255.39	254.66	254.04	253.83
15-91-II	254.76	255.28	255.40	255.11	255.02	255.39	255.49	255.20	255.05	255.22	255.38	255.07	254.63
16-91-I	252.59	253.54	253.16	253.43	253.31	NA	253.25	NA	253.21	NA	253.70	252.95	252.83
16-91-II	252.93	253.36	253.38	253.24	253.17	253.36	254.94	253.77	253.17	NA	253.37	253.09	252.94
17-91-I	254.91	255.93	255.79	256.38	255.38	255.89	255.96	255.57	255.29	255.61	255.93	254.92	254.79
17-91-II	255.16	256.20	256.18	255.51	255.51	256.13	256.18	255.72	255.47	255.78	256.15	255.25	254.96
18-91	255.00	255.86	255.82	255.22	255.32	255.77	255.76	255.34	255.01	255.50	255.79	254.63	254.60
19-91	254.54	255.62	255.39	255.04	255.02	255.46	255.53	255.22	254.87	255.09	255.51	254.66	254.65
20-91-I	251.94	252.47	252.55	252.37	252.26	252.45	252.82	252.49	252.30	252.47	252.70	252.10	251.99
20-91-II	251.15	253.55	252.18	253.18	253.09	253.30	253.80	253.22	252.77	253.26	253.74	252.65	252.64
20-91-III	251.16	253.56	252.18	253.18	253.07	253.30	253.81	255.21	252.77	253.26	253.76	252.65	252.64
21-91-I	251.89	252.45	252.54	252.62	252.22	252.44	244.49	249.83	252.78	NA	252.68	252.08	251.96
21-91-II	250.27	250.39	251.69	249.61	252.01	251.72	249.07	249.82	252.07	NA	252.70	252.62	251.52
21-91-III	251.11	253.55	252.14	253.21	253.03	253.28	253.77	253.25	252.25	NA	253.77	252.67	252.62
23-07	255.75	256.60	256.48	255.92	255.94	256.28	256.31	255.99	255.90	256.11	256.30	255.78	255.64
24-91	254.19	257.66	255.30	254.96	254.91	257.66	255.30	255.21	254.77	254.95	255.53	254.78	254.54
25-91	257.85	259.22	259.06	258.26	258.60	259.07	259.04	258.30	258.72	259.05	259.09	257.55	256.27
25-96	254.45	255.40	255.28	254.72	254.76	254.81	254.95	254.79	254.49	254.65	254.87	254.29	254.11
27-93	254.84	255.96	255.81	255.35	254.34	255.88	255.93	255.53	255.21	NA	255.89	254.97	254.75
28-93	255.81	255.89	256.07	255.92	255.95	255.99	256.20	255.87	256.07	255.78	255.93	256.14	255.85
29-93	257.10	258.18	258.19	257.23	257.49	257.92	257.94	257.23	257.54	NA	NA	NA	NA
30-93	249.31	249.32	249.44	249.37	249.26	249.26	249.50	249.50	249.26	NA	249.50	249.23	249.21
31-93	248.58	248.76	248.73	248.64	248.57	248.80	248.77	248.51	248.54	NA	248.74	248.16	248.38
32-93-I	262.16	262.48	262.48	262.18	262.48	262.48	261.49	NA	262.22	262.48	262.48	261.70	260.91
32-93-II		261.59	261.53	261.00	261.11	261.52	262.50	NA	261.06	261.50	261.47	260.46	259.69
32-93-III	260.76	261.56	261.57	260.95	261.10	261.59	261.16	NA	261.03	261.47	261.47	260.82	Dry
35-93-I	256.07	257.85	256.89	256.15	256.18	256.62	256.53	256.14	256.14	NA	256.51	256.00	255.88
35-93-II	256.14	258.32	256.96	256.12	256.15	256.74	256.58	256.27	256.21	NA	256.57	256.12	256.13
36-93	256.80	257.79	257.71	256.86	257.12	257.56	257.53	NA	256.70	257.63	257.72	256.63	256.17
37-93-I	257.02	257.73	258.01	257.20	257.30	257.70	257.71	257.39	257.36	257.73	257.83	256.69	256.09
37-93-II	257.02	257.39	258.02	257.15	257.64	258.04	257.97	257.60	257.59	258.02	258.03	256.77	256.38
38-93	257.26	258.46	258.42	257.55	257.74	258.33	258.32	257.97	257.90	258.38	258.44	257.12	256.26
39-93-I	257.15	248.20	258.01	257.38	257.51	257.69	257.69	257.54	257.42	257.67	257.78	256.89	256.27
39-93-II	257.70	258.82	259.04	258.21	258.27	259.06	258.98	258.22	258.49	259.05	259.02	257.47	256.29
43-93-I	259.46	260.19	260.21	259.56	259.69	260.04	260.03	NA	260.10	260.21	260.35	259.47	258.91
43-93-II	259.42	260.49	260.37	259.75	260.13	260.18	260.20	NA	259.87	260.62	260.60	259.62	258.89
44-93-I	261.86	262.04	263.33	262.37	262.28	263.19	263.06	NA	262.38	262.01	263.27	262.00	260.79
44-93-II	261.22	262.41	262.90	261.78	261.71	262.51	262.82	NA	261.69	262.76	262.76	261.46	260.81
45-93	262.68	265.41	265.72	263.78	263.07	265.33	265.55	NA	263.42	264.23	265.41	263.43	261.95
45-95-I	249.75	250.48	250.23	249.73	249.77	250.08	250.06	NA	249.68	NA	249.80	249.46	249.41
45-95-II	249.86	250.50	250.22	249.78	249.78	250.06	250.06	NA	249.83	NA	250.02	249.56	249.61
46-95-I	250.45	250.62	250.63	250.54	250.51	250.52	250.83	250.62	250.45	250.55	250.79	250.34	250.25
46-95-II	250.50	250.71	250.74	250.66	250.54	250.56	251.04	250.71	250.57	250.59	250.88	250.37	250.27
47-96-I	252.08	252.76	252.43	252.58	252.63	252.69	253.35	252.89	252.48	252.80	253.24	252.27	252.23
47-96-II	252.70	252.73	252.83	252.80	252.67	252.71	253.40	252.93	252.42	252.74	253.26	252.23	252.23
48-96-I	252.11	252.97	252.66	252.94	252.82	253.07	253.37	253.17	252.79	253.04	253.40	252.69	252.48
48-96-II	252.12	253.13	252.65	252.95	252.78	253.05	253.47	253.18	252.68	253.05	253.31	252.58	252.48
49-96-I	262.39	263.91	264.00	262.99	262.84	263.80	263.87	263.57	262.90	263.53	263.96	262.46	261.17
49-96-II	262.74	264.53	264.53	263.37	263.15	264.38	264.37	264.23	263.49	264.14	264.52	262.98	261.50
49-96-III	263.04	265.38	265.39	264.09	263.69	265.23	265.04	264.83	264.07	264.90	265.35	263.54	261.62
53-98	254.08	255.35	255.27	254.42	254.54	255.09	255.07	NA	254.74	NA	255.10	253.97	253.22
54-98	258.75	259.96	259.92	259.19	259.33	259.78	260.06	259.34	259.36	259.59	259.73	258.57	257.22
55-98-I	252.65	255.95	256.27	256.09	256.05	256.01	256.25	NA	256.11	256.03	256.30	256.00	255.70
55-98-II	262.30	264.01	264.08	262.96	262.85	263.81	265.73	NA	263.05	255.52	263.91	262.63	261.26
56-02-I	262.58	264.16	264.21	263.16	263.10	263.91	263.94	NA	263.39	263.88	264.06	262.68	261.05
56-02-II	261.45	263.53	263.52	262.59	262.32	263.48	263.47	263.05	262.78	263.43	263.54	262.00	259.89
57-02-I	253.52	254.58	254.63	253.28	253.23	254.32	254.56	NA	253.28	NA	254.63	252.75	252.48
57-02-II					Destroyed								
58-02	253.60	254.64	254.63	253.87	253.70	254.60	254.59	NA	253.70	NA	254.57	252.98	252.87
59-05	250.39	250.50	250.58	250.44	250.44	250.41	250.63	NA	250.37	NA	250.63	250.24	250.16
60-05	249.30	249.50	249.43	249.17	249.22	249.45	249.36	NA	249.12	NA	249.38	248.86	249.09
61-10-I	251.84	253.61	252.72	253.28	253.06	253.47	253.78	NA	252.88	253.31	253.72	252.72	252.69
61-10-II	252.54	253.94	253.53	253.57	253.35	253.82	254.05	NA	253.21	253.62	254.05	253.00	252.90
61-17-I	251.84	253.62	252.72	253.29	253.06	NA	253.79	NA	252.88	NA	253.74	252.73	252.69
62-17-I	250.77	253.20	252.01	252.35	252.32	254.17	253.79	NA	252.72	253.17	253.80	252.66	252.61
62-17-II	251.00	253.49	252.08	253.18	252.93	253.26	253.77	NA	252.69	253.22	253.71	252.65	252.59
62-17-III	252.57	254.18	253.80	253.14	253.63	254.15	254.38	NA	253.34	253.65	254.36	253.22	253.02



TECHNICAL MEMORANDUM

DATE February 13, 2026

Project No. CA0055895.6271

TO Kayla Pantaleo
City of Kawartha Lakes

CC

FROM Santosh Rimal, Frank Barone

EMAIL santosh.rimal@wsp.com

LINDSAY OPS LANDFILL VIBRATING WIRE PIEZOMETER LEACHATE HEAD AND LINER TEMPERATURE MONITORING (2025)

Attached are updated plots of measured leachate head and temperature on the surface of the geomembrane liner at the Lindsay Ops Landfill in 2025. The following table provides a summary of Vibrating Wire Piezometer (VWP) monitoring:

Vibrating Wire Piezometer	Location	Figure Number	Average Leachate Head in 2025 (m)	Average Geomembrane Liner Surface Temperature in 2025 (°C)	Remarks
VWP 02-1	Cell 1	A-1	<0.01	19.6	Data updated for 2025. Monitored three (3) times in 2025. Meets ECA requirement of monitoring three (3) times per year.
VWP 04-1	Cell 2 (East Side)	A-2	Not operational	Not operational	The piezometer cable got buried and could not be located since June 2019.
VWP 04-2	Cell 2 (West Side)	A-3	Not operational	Not operational	Has not been operational since mid-2012.
VWP 12-1	Cells 3 and 6 (West Side)	A-4	<0.01	19.4	Data updated for 2025. Monitored three (3) times in 2025. Meets ECA requirement of monitoring three (3) times per year.
VWP 12-2	Cells 3 and 6 (East Side)	A-5	<0.01	14.9	Data updated for 2025. Monitored three (3) times in 2025. Meets ECA requirement of monitoring three (3) times per year.

WSP Canada Inc.



Santosh Rimal, Ph.D., P.Eng.
Geotechnical Engineer

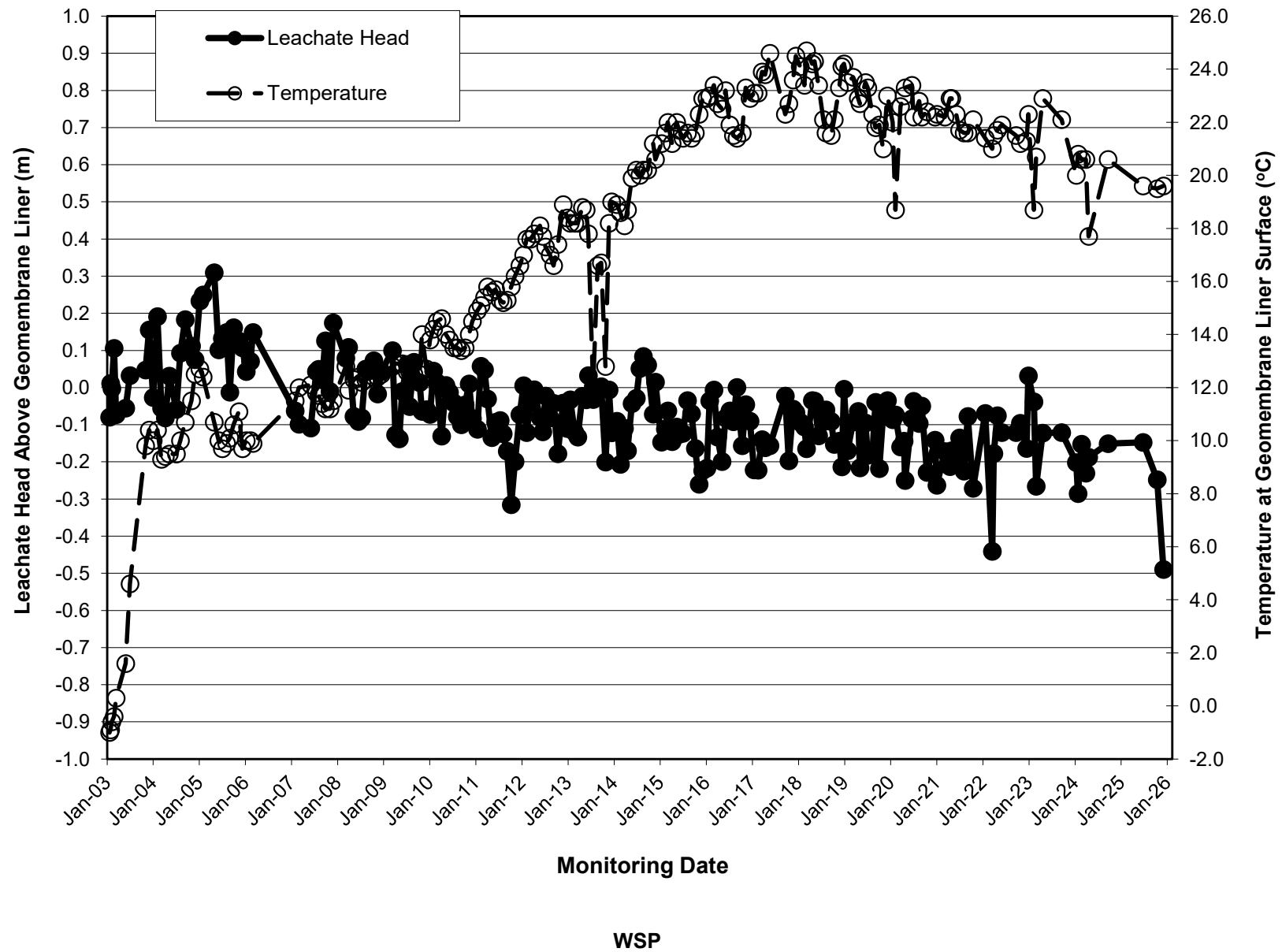


Frank Barone, Ph.D., P.Eng.
Principal

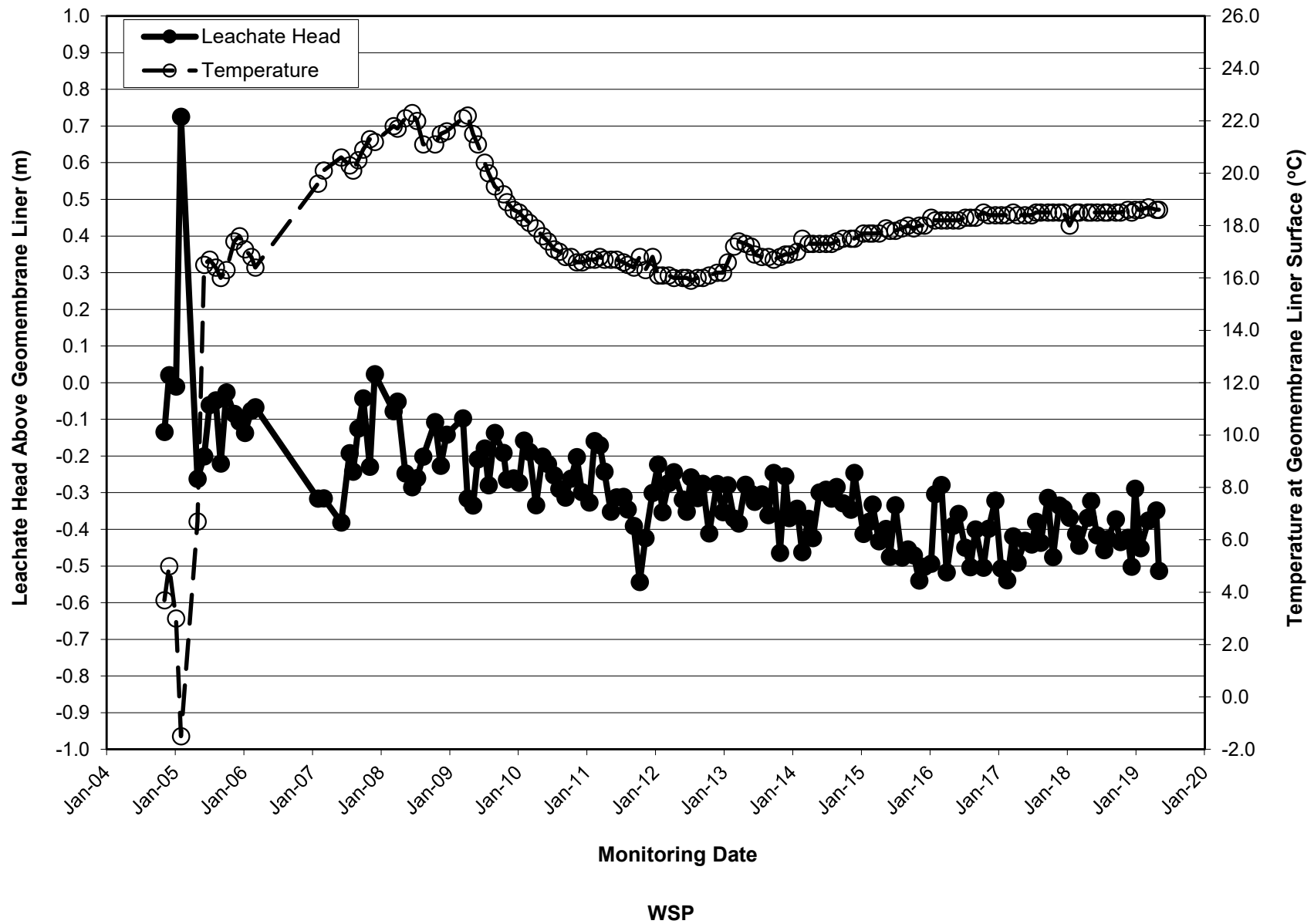
SR/FSB/sr

https://wsponline-my.sharepoint.com/personal/santosh_rimal_wsp_com/documents/desktop/files/2023/lindsay_ops_vwp_2025/report/ca0055895.6271_tm_vwp_2025_lindsay_ops_-_2025feb13.docx

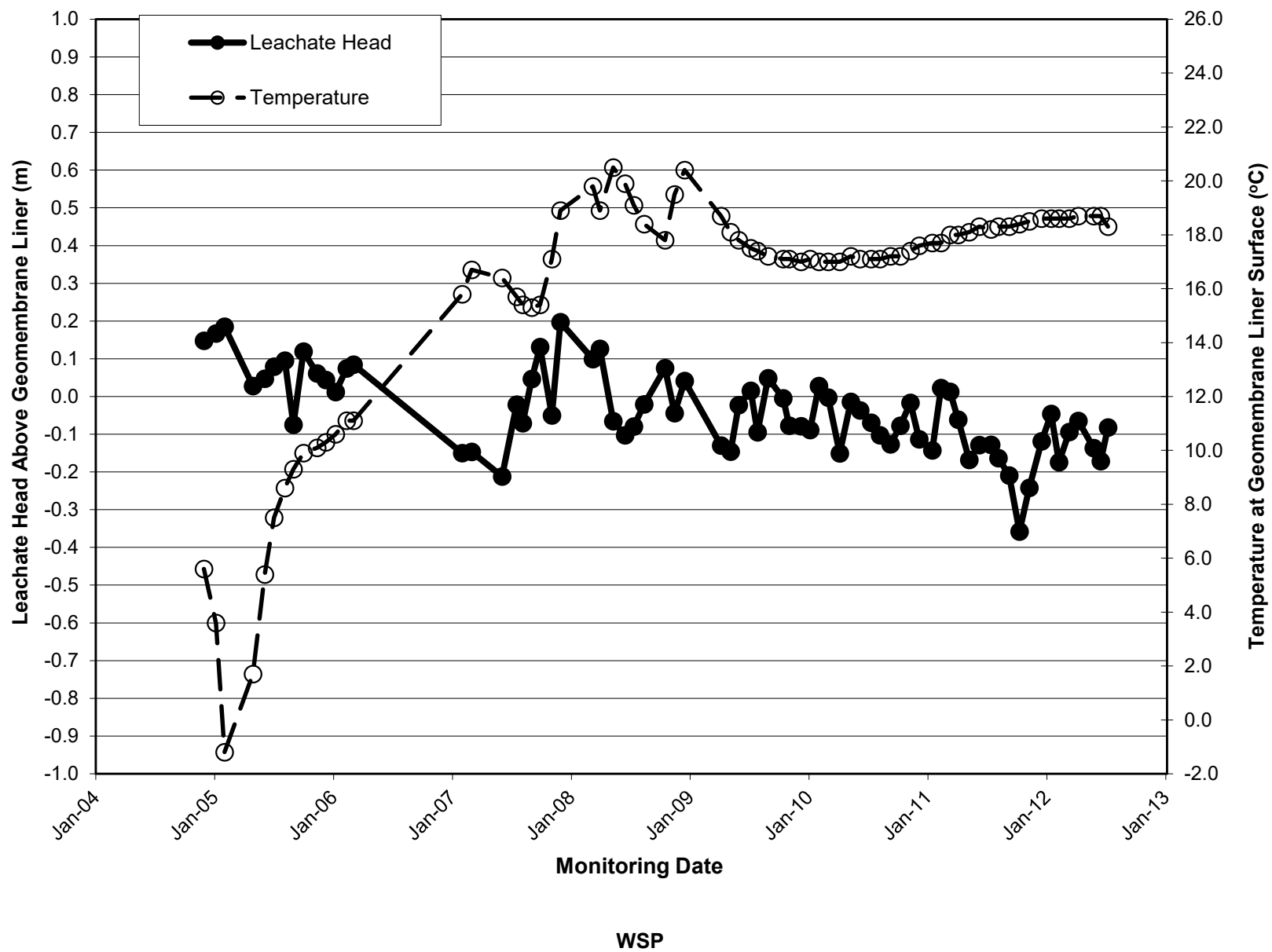
Figure A-1: Vibrating Wire Piezometer Pressure Head and Temperature Monitoring, Cell 1 (VWP 02-1)
Lindsay-Ops Landfill Site, City of Kawartha Lakes, ON



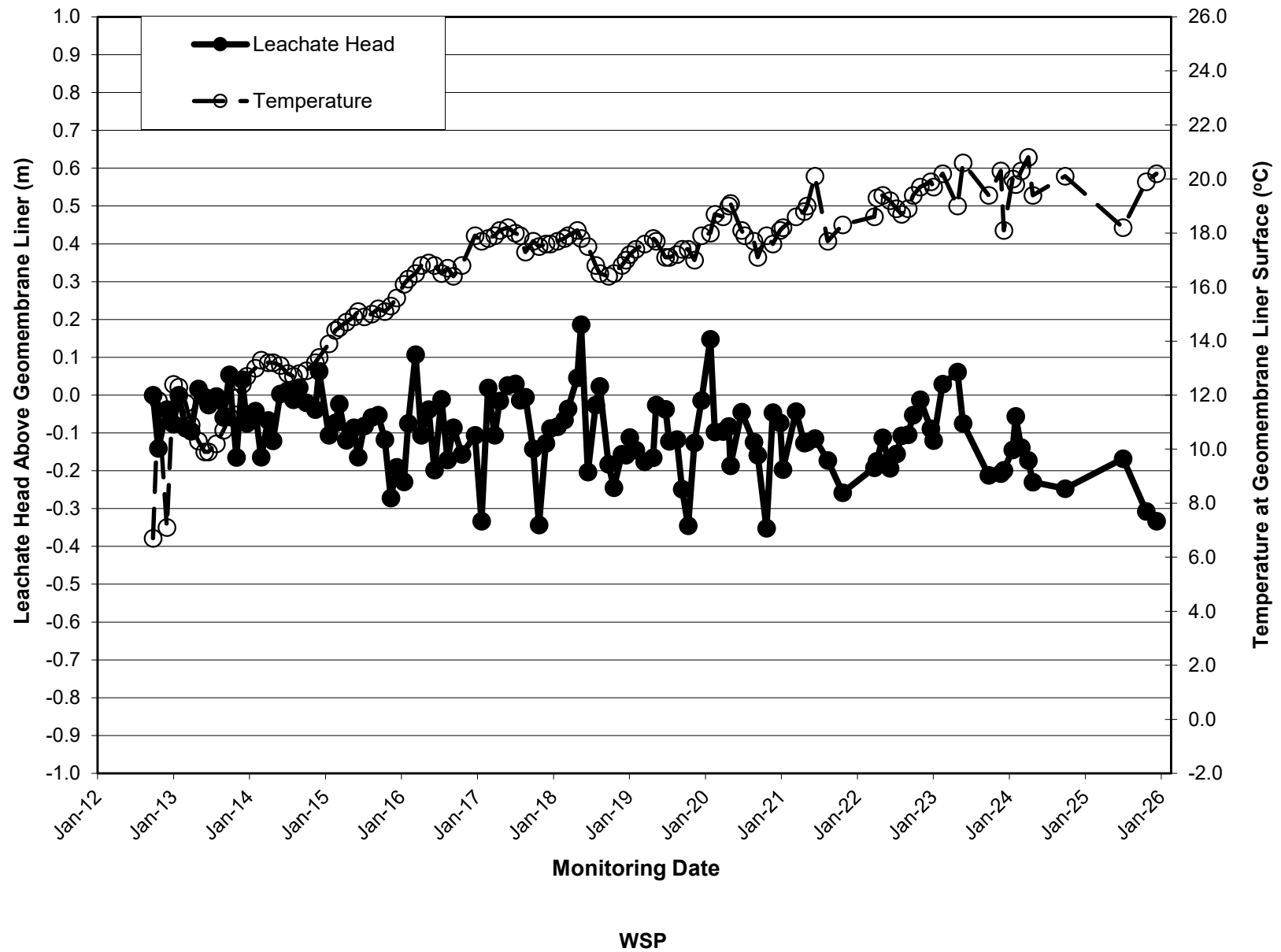
**Figure A-2: Vibrating Wire Piezometer Pressure Head and Temperature Monitoring, East Side Cell 2 (VWP 04-1)
Lindsay-Ops Landfill Site, City of Kawartha Lakes, ON**



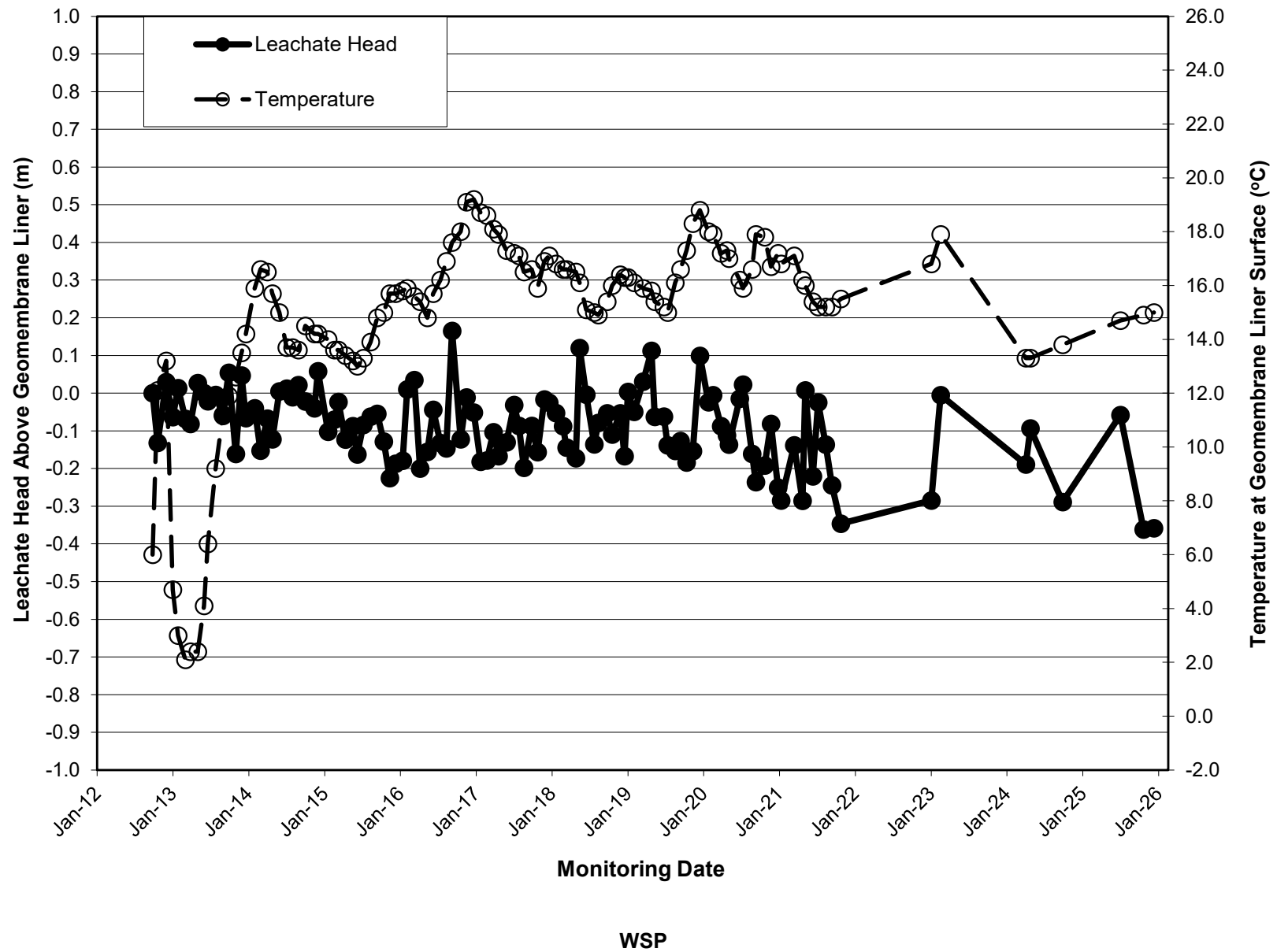
**Figure A-3: Vibrating Wire Piezometer Pressure Head and Temperature Monitoring, West Side Cell 2 (VWP 04-2)
Lindsay-Ops Landfill Site, City of Kawartha Lakes, ON**



**Figure A-4: Vibrating Wire Piezometer Pressure Head and Temperature Monitoring, West Side Cell 3/6 (VWP 12-1)
Lindsay-Ops Landfill Site, City of Kawartha Lakes, ON**



**Figure A-5: Vibrating Wire Piezometer Pressure Head and Temperature Monitoring, East Side Cell 3/6 (VWP 12-2)
Lindsay-Ops Landfill Site, City of Kawartha Lakes, ON**





APPENDIX D

Ground Water & Leachate Quality Summary Tables

**Ground Water Chemistry
Summary - General Water
Quality**

			6-90-II	6-90-II	6-90-II	6-90-II	6-90-II	6-90-II	6-90-II	6-90-II	6-90-II	6-90-II	7-90	7-90	7-90	7-90	7-90	7-90	7-90	7-90
Parameters	Units	ODWQS	16-May-16	23-May-17	12-Nov-19	3-May-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23
Alkalinity	mg/L	500	4660	4750	3600	2740	Dry	Dry	2780	Damaged	3450	3640	4100	6720	5670	5730	3590	6280	5200	6500
Unionized Ammonia	mg/L	N/A	0.94	2.69	0.79	1.64			0.89		0.87	<0.01	1.38	0.02		3.25	1.39	0.46	1.56	0.05
Ammonia	mg/L	N/A	622	645	695	401			568		466	453	366	543	510	511	441	709	451	579
BOD	mg/L	N/A	>20	91	141	18			16		19	16	16	18	19	14	19	21	17	
Calcium	mg/L	N/A	114	55.3	85.5	128			150		292	140	201	132	159	141	40.3	115	100	111
COD	mg/L	N/A	997	1420	9000	3170			1090		855	791	1790	1530	1610	1450	985	1220	1340	1080
Chloride	mg/L	250	1210	971	1350	547			818		1000	821	922	1050	909	529	775	1290	957	1250
Conductivity	umhos/cm	N/A	11400	11700	9730	6860			8680		9060	8680	9570	13200	11700	12500	10400	13200	11300	13400
Cyanide	mg/L	0.2	< 0.01	< 0.005	< 0.005	< 0.005			<0.008		<0.009	<0.005	< 0.005	< 0.005	< 0.03	< 0.005	< 0.005	0.005	< 0.005	
DOC	mg/L	5	273	155	96.6	68.1			176		176	195	101	105	121	< 0.2	91.9	130	61.4	208
Fluoride	mg/L	1.5	< 1	< 0.5	< 3	< 1			<0.7		<3.5	0.8	< 3	< 3	< 5	< 5	< 1	< 3	< 1	<0.1
Hardness	mg/L	500	1430	1280	1260	908			1260		1840	1240	1070	1290	1080	1200	421	1250	886	1110
Ion Balance	%	N/A				0.00199			1.35		4.51	0.321	3.55	7.34	2.25	11.3	11	5.69	11.4	11.8
Iron	mg/L	0.3	2.44	1.09	0.453	0.377			1.11		35.8	0.735	5.16	8.78	11	2.05	0.347	2.1	1.25	4.05
Magnesium	mg/L	N/A	279	278	255	143			217		269	217	139	234	167	205	77.9	235	155	203
Manganese	mg/L	0.05	0.104	0.029	0.067	0.14			0.198		0.42	0.17	0.256	0.17	0.314	0.152	0.073	0.143	0.19	0.15
Nitrate	mg/L	10	< 1	< 0.3	< 1	0.91			<0.40		<2.00	<0.40	2.08	< 1	< 3	< 3	0.91	< 1	< 0.5	<0.05
Nitrite	mg/L	1	< 1	0.4	< 1	< 0.5			<0.40		<2.00	<0.40	< 1	< 1	< 3	< 3	< 0.5	< 1	< 0.5	<0.05
Tot Kjel N	mg/L	N/A	733	686	864	461			566		686	542	377	669	446	782	485	709	507	578
pH-Lab	pH unit	6.5-8.5	7.57	7.51	7.68	7.49			7.79		7.31	7.78	7.67	7.59	7.87	7.56	7.4	7.44	7.43	7.76
Phenols	mg/L	N/A	0.015	0.226	0.027	0.007			0.025		0.011	0.012	0.03	0.028	0.169	0.052	0.022	0.029	0.029	<0.005
Phosphorus	mg/L	N/A	1.2	0.2	0.3	< 0.1			0.1		2	<0.1	1.4	2.9	2	0.3	0.1	0.5	0.2	1.6
Potassium	mg/L	N/A	387	378	311	171			286		328	259	264	376	279	358	119	361	249	326
Sodium	mg/L	200	1100	1170	1030	459			778		942	742	1460	2430	1730	2150	1650	2240	1840	2290
Sulphate	mg/L	500	23	28	< 30	15			21		<8	11	70	< 30	64	< 50	< 10	< 30	< 10	<1
TDS	mg/L	500	6710	6560	6081	3627			4980		5200	4980	5993	8266	7494	7481	5432	8929	6415	7810
TSS	mg/L	N/A	650	280	26000	102000			2100		960	560	23200	9600	6920	219000	9400	21700	2170	1140
Turbidity	NTU	N/A	192	450	1700	18200			3690		387	475	9020	11600	24400	31600	4190	3190	2180	884
Colour	TCU	5	454	350	187	138			227		216	216	310	518	410	533	296	433	377	465
Aluminum	mg/L	0.1	< 0.05	0.03	0.08	0.06			0.06		2.82	0.07	0.11	0.12	0.1	0.06	0.04	0.07	0.07	0.7
Antimony	mg/L	0.006	0.0013	0.0104	0.0014	0.0036			0.0012		0.0016	0.0018	0.0027	0.0025	0.0021	0.0037	0.0025	0.0043	0.0022	0.0034
Arsenic	mg/L	0.025	0.0565	0.029	0.0093	0.005			0.0029		0.0068	0.0024	0.0044	0.0047	0.0045	0.0086	0.0041	0.0255	0.004	0.0084
Barium	mg/L	1	1.59	0.255	0.7	1.18			1.71		3.44	1.4	0.603	0.744	0.587	0.398	0.09	0.312	0.213	0.48
Beryllium	mg/L	N/A	< 0.02	< 0.002	< 0.002	< 0.002			<0.0001		<0.001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0005
Boron	mg/L	5	5.88	5.87	6.42	5.49			6.83		7.72	6.5	3.36	4.15	3.07	4.28	1.39	3.89	2.99	3.93
Cadmium	mg/L	0.005	< 0.00002	< 0.000014	< 0.00012	< 0.000059			<0.000030		<0.005	<0.000030	< 0.00012	< 0.00012	< 0.00012	< 0.00012	0.000174	0.00148	< 0.00012	<0.000590
Chromium	mg/L	0.05	< 0.0002	< 0.001	0.008	< 0.001			0.008		0.03	0.008	0.044	0.07	0.05	0.039	0.009	0.044	0.021	0.071
Cobalt	mg/L	N/A	< 0.05	0.017	0.017	0.007			0.0128		0.029	0.0151	0.0126	0.016	0.013	0.019	< 0.005	0.024	0.011	0.0208
Copper	mg/L	1	0.005	0.0105	0.0012	0.0004			0.0002		0.018	0.0007	< 0.0006	0.0025	0.0007	0.0018	0.002	0.143	0.0008	0.0433
Lead	mg/L	0.01	0.00006	0.0001	< 0.0004	0.0013			0.0002		0.06	0.00053	< 0.0004	0.00053	< 0.0004	0.00485	0.00354	0.33	0.00047	0.0658
Mercury	mg/L	0.001	< 0.00002	< 0.00002	0.00004	< 0.00002			<0.00002		<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005	< 0.00002	0.00008	< 0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0056	0.0026	0.0139	0.0236			0.0024		<0.01	0.0016	0.0015	0.0024	0.0018	0.0152	0.0037	0.0075	0.0019	0.0092
Nickel	mg/L	N/A	< 0.1	0.07	0.08	0.02			0.0396		0.06	0.0423	0.07	0.09	0.07	0.1	0.02	0.11	0.04	0.0992
Selenium	mg/L	0.01	0.025	0.011	0.012	<0.02			<0.001		<0.005	<0.001	0.005	0.006	0.012	<0.02	<0.02	<0.02	< 0.004	<0.021
Silver	mg/L	N/A	< 0.00002	0.00003	0.0008	< 0.0002			<0.0001		<0.005	<0.0001	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	<0.0023
Strontium	mg/L	N/A	1.16	0.762	1.27	1.29			1.54		1.85	1.47	1.09	1.05	0.967	0.952	0.355	0.8	0.697	0.765
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00008	< 0.00005			<0.00005		<0.0003	<0.00005	0.00018	0.00029	< 0.00008	0.00009	< 0.00008	0.0005	< 0.00008	0.0004
Vanadium	mg/L	N/A	0.0157	0.0314	0.0051	0.0039			0.0017		0.006	0.0014	0.0053	0.0077	0.0061	0.0099	0.0046	0.0532	0.0061	0.0159
Zinc	mg/L	5	< 0.05	< 0.005	0.026	0.006			<0.005		0.169	0.008	< 0.005	< 0.005	0.006	0.013	< 0.005	0.054	0.009	0.049

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	7-90	7-90	7-90	7-90	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	11-90	11-90	11-90
			6-May-24	16-Oct-24	7-May-25	15-Oct-25	18-May-16	18-Oct-16	8-May-18	8-May-19	8-Oct-19	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	17-May-16	13-Jul-16	12-Oct-16
Alkalinity	mg/L	500	5850	6050	6510	5740	6920	6740	6030	6090	6260	Dry	Dry	6680	6660	6880	4220	316	316	291
Unionized Ammonia	mg/L	N/A	1.47	3.82	2.09	1.91	2.23	7.59	26.5	7.59	11.1			7.05	14.6	2.16	<0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	591	740	449	441	1160	1000	1130	1140	1210			1500	1720	1540	489	0.2	0.24	0.29
BOD	mg/L	N/A	40	18	37	16	>20	88	48	49	43			19	20	40	17	2	< 3	< 3
Calcium	mg/L	N/A	113	591	233	85.2	97.6	106	124	107	107			102	118	112	92.3	136	129	118
COD	mg/L	N/A	1210	1300	1010	1810	1530	1600	351	2040	1940			1930	1740	2260	1110	9	6	< 5
Chloride	mg/L	250	1020	986	1060	1810	2380	2220	2260	9.7	1190			2120	1860	1600	1080	117	135	101
Conductivity	umhos/cm	N/A	12200	14100	12600	16900	17800	17600	16100	16400	16000			17000	16900	17100	13400	1000	1070	959
Cyanide	mg/L	0.2	<0.085	<0.034	<0.009	<0.005	0.014	0.006	0.011	0.009	0.005			<0.017	<0.034	<0.009	<0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	223	293	235	307	315	312	427	265	243			536	531	553	273	2	1.8	1.9
Fluoride	mg/L	1.5	<0.7	<7.0	<7.0	<0.7	< 10	< 10	< 10	< 0.1	<10			<1.8	<7.0	<70.0	<0.7	0.2	0.2	0.3
Hardness	mg/L	500	1100	2560	1540	1110	1130	1110	1120	1170	1280			1180	1240	1270	1200	473	447	414
Ion Balance	%	N/A	2.56	4.4	7.17	6.6								0.374	7.9	11.7	3.85			
Iron	mg/L	0.3	1.85	31.3	14.9	3.36	3.92	3.91	8.8	9.33	3.49			3.86	6.21	6.9	1.75	1.39	1.13	0.768
Magnesium	mg/L	N/A	198	264	233	217	215	206	198	219	246			224	229	241	236	32.2	30.5	29
Manganese	mg/L	0.05	0.149	0.876	0.379	0.175	0.175	0.173	0.253	0.216	0.2			0.243	0.267	0.267	0.118	0.132	0.104	0.094
Nitrate	mg/L	10	<0.40	<4.00	<4.00	<0.40	< 10	< 10	< 5	< 0.05	< 5			<1.00	<4.00	<40.0	<0.40	< 0.1	< 0.1	< 0.1
Nitrite	mg/L	1	<0.40	<4.00	<4.00	<0.40	< 10	< 10	< 5	< 0.05	< 5			1.14	<4.00	<40.0	<0.40	< 0.1	< 0.1	< 0.1
Tot Kjel N	mg/L	N/A	575	692	608	1390	1430	1410	1180	1260	1150			1130	1530	1480	582	0.4	0.5	0.4
pH-Lab	pH unit	6.5-8.5	8.01	7.74	7.6	7.76	7.75	7.76	7.69	7.51	7.88			8.02	7.7	7.41	7.88	8.06	7.48	8.12
Phenols	mg/L	N/A	0.024	0.019	0.043	0.032	< 0.001	0.034	0.024	< 0.002	0.019			0.06	0.016	0.121	0.035	< 0.001	0.051	< 0.001
Phosphorus	mg/L	N/A	0.5	4.9	3.3	2.8	< 10	3.7	3	2.2	4.9			3	3.6	4.1	0.5	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	338	371	320	510	529	537	629	592	635			592	592	611	304	3.6	3.8	3.4
Sodium	mg/L	200	1880	2550	2250	1620	1960	1880	1890	1850	1910			1820	1840	1880	2120	26.9	45	39.2
Sulphate	mg/L	500	19	<15	<15	5	< 100	< 100	< 100	< 1	< 100			21	<15	<150	9	27	30	54
TDS	mg/L	500	7040	8200	7340	9920	10800	10300	10185	7914	544			10000	9900	10000	7810	535	565	521
TSS	mg/L	N/A	15500	3560	1620	280	1100	195	2000	440	950			400	180	270	2210	46	4	7
Turbidity	NTU	N/A	7820	4130	802	109	903	146	407	415	1030			125	116	107	1090	22.2	14.3	14
Colour	TCU	5	810	638	440	886	880	890	875	1200	10213			862	1170	764	430	< 2	10	< 2
Aluminum	mg/L	0.1	0.09	7	2.52	0.09	< 0.5	0.27	1.18	0.16	0.14			0.09	0.68	0.78	0.06	0.03	0.03	0.03
Antimony	mg/L	0.006	0.0024	0.0039	0.0023	0.0062	0.0004	0.0091	0.356	0.0103	0.0041			0.0048	0.0057	0.0056	0.0035	< 0.0001	< 0.0001	0.0002
Arsenic	mg/L	0.025	0.0062	0.0147	0.0078	0.0219	0.0016	0.0346	0.015	0.0247	0.0117			0.0358	0.0269	0.0252	0.0068	0.0007	0.0003	0.0005
Barium	mg/L	1	0.337	1.23	0.678	0.24	0.256	0.242	0.317	0.295	0.31			0.273	0.353	0.366	0.312	0.296	0.287	0.365
Beryllium	mg/L	N/A	<0.0001	0.0005	<0.001	0.0002	< 0.2	< 0.002	< 0.002	< 0.002	< 0.02			<0.0001	<0.0001	<0.001	0.0002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	4.08		4.03	21.1	9.3	14.6	15.4	18.3	23.4			20.3		22.8	3.78	0.081	0.053	0.075
Cadmium	mg/L	0.005	<0.000059	0.00088	<0.005	0.00008	< 0.00002	0.00005	< 0.00059	0.00135	< 0.00030			0.00008	0.000275	<0.005	0.00007	< 0.00002	< 0.00002	< 0.00002
Chromium	mg/L	0.05	0.032	0.079	0.047	0.053	< 0.0002	< 0.0002	0.043	0.03	0.06			0.053	0.059	0.061	0.037	0.002	< 0.0002	0.0008
Cobalt	mg/L	N/A	0.0161	0.0242	0.022	0.0314	< 0.5	0.048	0.0425	0.037	< 0.05			0.0296	0.0274	0.035	0.0199	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0023	0.0489	0.012	0.0018	0.0006	0.0131	0.0113	0.0414	< 0.002			0.0013	0.0055	0.002	0.0051	0.0003	0.0001	0.0002
Lead	mg/L	0.01	0.00362	0.15	0.05	0.00239	< 0.00002	0.00187	0.286	0.0245	< 0.0009			0.00195	0.00624	<0.02	0.00639	< 0.00002	< 0.00002	< 0.00002
Mercury	mg/L	0.001	<0.00002	0.00008	0.00003	<0.00002	< 0.00002	0.00003	0.00003	0.00005	0.00003			<0.00002	<0.00002	<0.00002	<0.00002	0.00003	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0041	0.0048	<0.01	0.0058	0.0005	0.0054	0.0073	0.0086	0.0033			0.0059	0.004	<0.01	0.0046	0.0005	0.0003	0.0002
Nickel	mg/L	N/A	0.0742	0.104	0.07	0.152	< 1	0.15	0.16	0.15	0.16			0.146	0.132	0.14	0.0913	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.002	<0.001	<0.005	<0.002	0.001	0.024	< 0.02	0.015	0.01			<0.002	<0.001	<0.005	<0.002	< 0.001	< 0.001	0.001
Silver	mg/L	N/A	<0.0002	<0.0001	<0.005	<0.0002	< 0.00002	0.00023	< 0.002	0.0006	< 0.001			<0.0002	<0.0001	<0.005	<0.0002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.783	1.47	0.956	1.35	0.873	1.03	1.11	1.2	1.51			1.37	1.49	1.51	0.708	1.3	1.19	1.52
Thallium	mg/L	N/A	<0.00005	0.00016	<0.0003	0.00009	< 0.00005	< 0.00005	0.0102	0.00067	0.00047			<0.00005	<0.00005	<0.0003	0.00006	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0069	0.0225	0.01	0.0108	0.0026	0.0314	0.0146	0.0146	0.009			0.0109	0.0126	0.011	0.0091	0.0008	0.0005	0.0004
Zinc	mg/L	5	0.019	0.454	0.146	<0.021	< 0.5	0.013	0.134	0.052	< 0.05			0.016	0.057	0.058	0.05	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

			11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90
Parameters	Units	ODWQS	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18	11-Oct-18	9-May-19	16-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22
Alkalinity	mg/L	500	320	316	304	310	281	284	300	281	280	318	299	295	328	328	286	310	321	362
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01			< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.38	0.36	0.27	0.3	0.24	0.26	0.34	0.31	0.31	0.48	0.3	0.43	0.41	0.23	0.41	0.48	0.41	0.36
BOD	mg/L	N/A	< 3	< 3	< 3	< 3	< 2	3		< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	143	146	138	151	138	145	159	159	159	160	152	135	155	163	158	170	162	188
COD	mg/L	N/A	9	< 5	5	23	9	9	12	9	< 5	26	23	9	9	7	10	23	9	11
Chloride	mg/L	250	108	113	92.8	142	146	141	168	161	167	161	143	124	234	236	227	178	183	193
Conductivity	umhos/cm	N/A	1080	1070	1010	1020	1030	1060	1140	1080	1060	1170	1050	988	1420	1350	1230	1220	1170	1350
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	2.9	3.1	2.3	4.3	2.4	3.1	4.1	2.6	3.2	3.1	2.4	2.3	2.9	2	1.4	2.3	1.8	0.4
Fluoride	mg/L	1.5	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Hardness	mg/L	500	483	493	472	514	471	491	536	527	532	541	515	476	540	547	540	580	550	642
Ion Balance	%	N/A										1.88	4.52	3.65	1.04	3.42	0.0816	3.96	2.29	6.57
Iron	mg/L	0.3	0.548	0.634	0.569	0.314	0.332	0.452	0.299	0.7	0.62	0.686	1.55	1.12	4.39	5.27	2.29	0.805	2	10
Magnesium	mg/L	N/A	30.7	31.6	30.8	33.1	30.7	31.2	33.6	31.4	32.8	34.3	32.8	33.5	37.1	33.9	35.2	37.9	35.3	41.9
Manganese	mg/L	0.05	0.041	0.041	0.032	0.03	0.03	0.0291	0.03	0.03	0.028	0.034	0.038	0.027	0.097	0.065	0.051	0.038	0.064	0.112
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	0.07	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.12	< 0.05	0.17	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.5	0.6	0.4	0.5	0.5	0.4	0.8	0.4	0.5	0.9	0.6	0.7	0.8	0.5	0.7	0.6	0.7	0.6
pH-Lab	pH unit	6.5-8.5	7.69	7.64	8.04	7.7	7.78	7.88	7.76	7.61	7.81	7.76	7.71	7.81	8.07	7.6	7.51	7.28	7.63	7.5
Phenols	mg/L	N/A	< 0.001	< 0.001	0.001	< 0.001	0.006	0.012	< 0.002	< 0.002	< 0.002	0.004	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.04	< 0.01	0.02	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	4.3	4.6	4.5	4.8	4.3	4.2	5	4	4.4	5.6	4.8	4.7	4.2	3.7	4.1	4.1	4	4.2
Sodium	mg/L	200	23.4	23.6	20.1	25.3	21.5	20.7	30.8	20.6	22.2	26.3	25.4	24	44.9	42.8	40	26.3	34	46.5
Sulphate	mg/L	500	27	26	21	31	30	30	39	28	28	40	29	27	33	43	32	33	27	44
TDS	mg/L	500	530	535	491	574	539	544	616	574	582	619	568	527	696	725	671	637	640	746
TSS	mg/L	N/A	12	5	< 3	4	< 3	22		< 3	7	16	< 3	12	65	36	5	7	8	30
Turbidity	NTU	N/A	19.7	5.9	3.3	4.6	5.4	7.3		10	3.3	40.2	20.6	15.2	207	189	21.5	9.2	31.6	116
Colour	TCU	5	2	2	3	< 2	< 2	< 2		< 2	< 2	< 2	3	3	4	< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.04	0.05	0.06	0.07	0.07	0.07	0.08	0.07	0.09	0.08	0.08	0.05	0.09	0.05	0.07	0.05	0.08	0.11
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0006	0.0005	0.0006	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0002
Barium	mg/L	1	0.302	0.349	0.284	0.302	0.269	0.277	0.358	0.281	0.282	0.318	0.272	0.232	0.272	0.255	0.253	0.284	0.263	0.327
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.085	0.094	0.087	0.099	0.085	0.086	0.104	0.091	0.098	0.115	0.106	0.113	0.093	0.098	0.095	0.107	0.092	0.031
Cadmium	mg/L	0.005	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.0001	0.009	< 0.0001	0.005	0.0002	< 0.005	< 0.0001	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0011	0.001	0.0005	0.0008	0.0001	0.0004	0.0005	0.0004	< 0.0001	< 0.0001	0.0012	0.0046	0.0007	0.0001	0.0002	0.0002	0.0005	0.0002
Lead	mg/L	0.01	0.00003	0.00008	< 0.00002	0.00007	< 0.00002	0.00003	0.00004	0.00004	< 0.00004	0.00006	0.0001	0.00003	0.00004	0.00008	< 0.00004	0.00002	< 0.00004	< 0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0005	< 0.0001	< 0.0001	0.0003	0.0002	< 0.0001	0.0002	< 0.0001	< 0.0001	0.0001	0.0003	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	0.004	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.002	0.002	0.002	0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.24	1.34	1.12	1.26	1.1	1.18	1.4	1.17	1.18	1.31	1.16	1.17	1.25	1.19	1.19	1.22	1.2	1.36
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.001	0.0017	0.0018	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	0.013	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	11-90 2-May-23	11-90 12-Jul-23	11-90 18-Oct-23	11-90 6-May-24	11-90 29-Jul-24	11-90 16-Oct-24	11-90 7-May-25	11-90 24-Jul-25	11-90 15-Oct-25	12-91-I 17-May-16	12-91-I 17-Oct-16	12-91-I 23-May-17	12-91-I 17-Oct-17	12-91-I 8-May-18	12-91-I 11-Oct-18	12-91-I 8-May-19	12-91-I 8-Oct-19	12-91-I 5-May-20
Alkalinity	mg/L	500	378	352	388	381	383	393	407	374	359	336	430	349	313	256	299	240	228	248
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01									
Ammonia	mg/L	N/A	2.71	0.57	1.1	0.84	0.71	1.82	0.42	0.32	0.42	0.05	0.14	0.03	0.09	0.06	0.07	0.09	0.1	0.01
BOD	mg/L	N/A	< 3	< 3		<3	<3	<3	4	<3	3									
Calcium	mg/L	N/A	142	113	102	121	143	126	126	128	112	100	147	132	102	88.4	90.3	87.7	80.4	80.1
COD	mg/L	N/A	16	15	23	19	158	14	16	20	17	40	< 5	18	42	8	106	33	37	< 5
Chloride	mg/L	250	175	122	124	104	105	117	105	91.8	101	22.8	17.3	17.7	35.3	39.9	37.8	32.6	39.4	33.8
Conductivity	umhos/cm	N/A	1270	1040	1060	1090	1060	1140	1100	1030	1010	785	928	783	734	710	730	668	655	675
Cyanide	mg/L	0.2	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005									
DOC	mg/L	5	2.1	< 0.2	4.5	7	4.1	2.6	5.9	3.3	6.3	2.6	4.3	2.9	2.8	2.5	3.4	2.7	2.9	3.3
Fluoride	mg/L	1.5	< 0.1	< 1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	517	409	393	467	541	477	485	466	431	358	509	451	388	354	357	347	333	332
Ion Balance	%	N/A	5.23	6.35	8.63	1.1	4.29	0.479	2.38	4.89	2.34									2.14
Iron	mg/L	0.3	8.4	6.99	1.69	3.32	1.43	1.8	2.82	5.01	1.3	< 0.005	0.132	< 0.005	0.026	< 0.005	0.018	< 0.005	< 0.005	< 0.005
Magnesium	mg/L	N/A	39.2	30.9	33.6	40.2	44.6	39.5	41.4	35.9	36.6	25.9	34.1	29.6	32.3	32.4	32	31.2	32.2	32.1
Manganese	mg/L	0.05	0.131	0.101	0.046	0.091	0.032	0.041	0.087	0.084	0.041	< 0.001	0.032	0.002	0.013	0.001	0.019	0.015	0.004	0.002
Nitrate	mg/L	10	< 0.05	< 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	< 0.1	0.1	< 0.05	< 0.05	0.09	0.09	< 0.05	< 0.05	0.14
Nitrite	mg/L	1	< 0.05	< 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	4.2	0.9	2.2	0.9	0.9	12.9	0.8	0.7	0.7	0.5	0.6	< 1	0.7	0.7	1.9	0.5	1.1	0.2
pH-Lab	pH unit	6.5-8.5	7.49	7.59	7.74	7.74	7.82	7.75	7.74	7.87	7.99	7.81	7.67	7.76	7.75	7.86	7.95	7.95	7.9	7.82
Phenols	mg/L	N/A	< 0.001	< 0.001	<0.001	<0.001	0.002	<0.001	0.001	<0.001	0.004	< 0.001	0.088	< 0.001	0.004	< 0.001	0.08	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1.23	3.05	< 0.1
Potassium	mg/L	N/A	3.4	3.3	3.3	4.1	4.5	4	4	3.9	3.9	1.7	2.5	1.8	2.7	2.6	2.4	2.2	2.3	2.2
Sodium	mg/L	200	88.4	88.5	45.4	39.9	27.1	41.4	30.4	33.3	28.5	10.6	13	10.9	13.3	13.6	13.7	11.6	12.4	11.8
Sulphate	mg/L	500	36	27	33	33	31	31	37	3	25	56	61	45	56	59	61	49	57	47
TDS	mg/L	500	720	604	570	586	570	615	593	551	541	419	534	446	430	390	417	358	361	356
TSS	mg/L	N/A	70	8	4	6	7	42	6	13	14									
Turbidity	NTU	N/A	85.5	50.6	11.9	19	26.7	170	35.6	47.1	13.1									
Colour	TCU	5	< 2	< 2	<2	<2	<2	<2	<2	<2	<2									
Aluminum	mg/L	0.1	0.04	0.07	0.06	0.04	0.04	0.07	0.07	0.04	0.03	0.03	0.06	0.04	0.06	0.05	0.04	0.05	0.05	0.06
Antimony	mg/L	0.006	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	0.0001	0.0002	< 0.0001	0.0002	< 0.0001	0.0001	0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0002	0.0003	0.0001	< 0.0001	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003	0.0005	0.0005
Barium	mg/L	1	0.323	0.295	0.282	0.316	0.374	0.295	0.299	0.257	0.284	0.118	0.168	0.134	0.14	0.128	0.128	0.109	0.121	0.116
Beryllium	mg/L	N/A	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.09	0.092	0.094	0.1	0.113	0.106	0.108	0.112	0.109	0.008	0.054	0.038	0.059	0.054	0.049	0.048	0.052	0.05
Cadmium	mg/L	0.005	< 0.000012	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0034	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0002	0.0002	<0.0001	0.0002	0.0002	0.0002	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.012	0.01	< 0.005	< 0.0001
Copper	mg/L	1	0.0002	0.0002	0.0007	<0.0001	0.0004	0.0007	<0.0001	0.0004	0.0002	0.0003	0.0014	0.0013	0.0005	0.0016	0.0011	0.0009	0.0006	0.0005
Lead	mg/L	0.01	< 0.00004	< 0.00002	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	<0.00002	0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	0.00005	0.00004	0.00004	< 0.00002	0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	<0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0001	0.0002	0.0003	0.0003	0.0004	0.0004	0.0006	0.0005	0.0005	0.0005	0.0004
Nickel	mg/L	N/A	< 0.01	< 0.01	0.0009	0.001	0.0014	0.0011	0.001	0.001	0.0009	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.29	1.15	1.13	1.32	1.49	1.17	1.29	1.21	1.22	0.642	0.855	0.708	0.653	0.753	0.729	0.727	0.768	0.778
Thallium	mg/L	N/A	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.001	0.0013	0.0027	0.0005	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II
			13-Oct-20	4-May-21	13-Oct-21	3-May-22	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	17-May-16	17-Oct-16	23-May-17	17-Oct-17	8-May-18	11-Oct-18
Alkalinity	mg/L	500	239	297	314	238	301	293	294	297	261	241	253	306	402	381	389	412	315	476
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.06	0.08	0.18	0.62	0.1	< 0.01	0.65	0.5	0.22	0.39	0.12	0.1	0.09	0.12	0.09	0.12	0.05	0.16
BOD	mg/L	N/A																	-	
Calcium	mg/L	N/A	77.8	87.4	111	81.7	119	90.9	93.7	85.9	86.6	76	77.2	85.1	141	184	158	190	122	209
COD	mg/L	N/A	9	21	30	10	32	28	< 5	15	26	29	39	39	32	44	36	51	20	43
Chloride	mg/L	250	34.2	27.1	28.8	33.8	2.3	44.8	33.2	31.4	34.2	33.7	35.4	32	3.6	3.8	3.1	3.8	4	6.3
Conductivity	umhos/cm	N/A	660	697	737	673	644	738	731	717	691	664	666	733	821	899	726	827	582	1010
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2.9	4.1	3.2	2.7	8.5	2.3	2.9	3.7	3.9	2.7	2.5	4	11.5	17.2	11.2	11.8	9	14.4
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	323	356	413	332	324	367	366	343	346	322	320	350	397	512	438	529	342	582
Ion Balance	%	N/A	1.29	0.854	4.25	2.58	1.19	3.63	0.536	2.73	3.01	1.99	0.742	2.76					1.22	
Iron	mg/L	0.3	< 0.005	0.011	0.929	< 0.005	0.106	0.28	0.016	0.047	0.235	0.01	< 0.005	0.026	0.216	0.027	0.15	1.25	0.02	1.27
Magnesium	mg/L	N/A	31.2	33.4	33	31	6.47	34.1	32.1	31.2	31.6	32.1	30.9	33.4	10.6	12.8	10.4	13.2	8.99	14.5
Manganese	mg/L	0.05	0.001	0.012	0.299	0.001	0.251	0.04	0.01	0.012	0.021	0.002	< 0.001	0.01	0.276	0.067	0.194	0.762	0.259	0.605
Nitrate	mg/L	10	0.1	< 0.05	0.14	0.08	< 0.05	0.12	0.06	0.14	0.12	0.13	0.08	0.48	0.2	1.6	< 0.05	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.3	0.5	0.8	1	1	0.4	1	0.8	0.8	0.5	0.6	0.7	1	1.5	1	1.7	0.9	1.1
pH-Lab	pH unit	6.5-8.5	7.92	8.1	7.84	7.77	7.5	7.72	7.79	7.31	7.81	8.02	7.66	7.57	7.62	7.75	7.68	7.45	7.7	7.61
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.005	< 0.001	0.019
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.13	< 0.1
Potassium	mg/L	N/A	2.1	2.3	2.6	2.2	0.5	2.5	2.5	2.4	2.3	2.3	2	2.3	0.6	0.8	0.6	0.9	0.7	1
Sodium	mg/L	200	11.6	11.4	12.8	10.9	3.5	11.2	10.9	10.8	12.4	10.6	9.7	10.6	5.7	7.3	4.3	5.4	3.8	6.6
Sulphate	mg/L	500	52	53	54	52	20	66	54	47	45	44	44	43	46	106	18	53	21	76
TDS	mg/L	500	352	393	432	354	333	426	403	372	359	345	346	382	451	550	428	516	350	601
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.05	0.05	0.07	0.05	0.09	0.07	0.02	0.02	0.14	0.02	0.04	0.04	0.04	0.05	0.05	0.09	0.07	0.08
Antimony	mg/L	0.006	0.0001	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0004	0.0001	0.0001	0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0007	0.0003	0.0012	0.0004	0.0009	0.0005	0.0003	0.0004	0.0005	0.0005	0.0004	0.0006	0.0008	0.001	0.0007	0.001	0.0005	0.0005
Barium	mg/L	1	0.118	0.126	0.159	0.125	0.047	0.151	0.137	0.13	0.147	0.127	0.12	0.143	0.05	0.086	0.052	0.079	0.047	0.081
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.053	0.051	0.055	0.048	0.008	0.039	0.05	0.054	0.051	0.051	0.05	0.05	< 0.005	0.028	0.021	0.035	0.013	0.029
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.00003	< 0.00002	< 0.000014	< 0.000014	0.00002	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	0.0034	0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0001	0.0003	0.0001	0.0002	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	0.0016	< 0.005
Copper	mg/L	1	0.0025	0.0015	0.0006	0.0008	0.0016	0.0005	0.0005	0.0007	0.0008	0.0007	0.0009	0.0008	0.0009	0.0023	0.0009	0.0004	0.0028	0.0004
Lead	mg/L	0.01	0.00005	0.00006	0.00032	0.00002	0.00013	< 0.00002	< 0.00002	< 0.00002	0.00045	< 0.00002	0.00004	< 0.00002	< 0.00006	< 0.00002	0.00003	< 0.00002	0.00235	0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0005	0.0004	0.0004	0.0005	0.0003	0.0005	0.0004	0.0005	0.0004	0.0005	0.0004	0.0005	0.0008	0.0007	0.0003	0.0003	0.0005	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0004	0.0006	0.0009	0.0004	0.0008	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.757	0.81	0.843	0.767	0.281	0.852	0.8	0.787	0.82	0.798	0.775	0.827	0.396	0.523	0.395	0.413	0.305	0.492
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	0.0001	0.0001	0.0002	0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0017	0.002	0.0034	0.0013	0.0002	0.0003
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	13-91-I	13-91-I	13-91-I	13-91-I
			8-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	25-Oct-22	2-May-23	18-Oct-23	6-May-24	6-May-24	16-Oct-24	7-May-25	15-Oct-25	11-May-16	13-Oct-16	23-May-17	16-Oct-17
Alkalinity	mg/L	500	380	326	308	458	381	388	404	371	399	352	493	422	296	430	196	192	193	192
Unionized Ammonia	mg/L	N/A																0.02		
Ammonia	mg/L	N/A	0.12	0.23	0.05	0.19	0.06	0.2	0.15	0.31	0.44	0.1	1.29	0.45	0.1	0.23	0.44	0.47	0.44	0.46
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	166	160	113	199	144	153	153	130	142	133	184	166	114	184	46.7	56.3	54.1	57.8
COD	mg/L	N/A	37	33	23	31	30	38	18	26	29	29	106	94	32	49	< 5	< 5	14	< 5
Chloride	mg/L	250	1.2	32.2	1.4	2.3	2	11.9	14.5	0.5	13	3.3	340	10.8	1.5	12.7	73.4	77.2	59.9	67.7
Conductivity	umhos/cm	N/A	798	803	631	959	725	801	840	735	882	743	2010	885	605	874	627	643	617	618
Cyanide	mg/L	0.2																		
DOC	mg/L	5	12.3	9.7	9.6	11.5	11.6	8.9	9.4	9.3	10.9	9.8	16	9.2	7.1	10.1	0.7	1.1	1.2	1.4
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.7	< 0.1	< 0.1	< 0.1	0.3	1.4	0.5	< 0.1
Hardness	mg/L	500	462	457	311	550	395	434	436	353	408	364	683	477	311	521	269	309	296	321
Ion Balance	%	N/A			1.56	5.44	0.294	1.59	1.88	3.2	5.55	1.19	2.87	2.42	1.13	5.54				
Iron	mg/L	0.3	0.839	2.69	0.162	2.22	0.416	1.14	0.434	1.09	1.14	2.15	10.6	4.08	2.74	3.75	0.189	0.292	0.221	0.332
Magnesium	mg/L	N/A	11.5	13.9	6.87	12.7	8.43	12.5	13.1	6.93	13	7.63	54	15.2	6.31	14.8	37.1	41	39	43
Manganese	mg/L	0.05	0.958	0.675	0.062	0.654	0.485	0.483	0.136	0.364	0.33	0.724	0.045	0.944	0.865	0.849	0.007	0.008	0.006	0.006
Nitrate	mg/L	10	< 0.05	< 0.05	0.28	< 0.05	< 0.05	< 0.05	0.15	< 0.05	< 0.05	< 0.05	< 0.40	0.05	< 0.05	0.66	0.1	0.1	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.40	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.05
Tot Kjell N	mg/L	N/A	0.9	1	0.9	1.1	0.6	1.3	1.1	0.8	1.3	0.8	3.2	0.9	0.9	1.2	0.6	0.6	0.9	0.6
pH-Lab	pH unit	6.5-8.5	7.62	7.55	7.58	7.36	7.71	7.54	7.47	7.46	7.19	7.54	7.56	7.66	7.37	7.52	7.99	8.11	7.98	7.98
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	0.002	0.006
Phosphorus	mg/L	N/A	0.07	0.11	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	0.7	1	0.6	1	0.6	1	1	0.6	1	0.5	6.4	1	0.3	1	3.1	3.5	3.4	3.8
Sodium	mg/L	200	3.7	9.4	2.7	5.3	2.7	13	7	2.9	9.9	3.2	151	6	2.3	5.2	11.6	13.3	12.7	12.4
Sulphate	mg/L	500	31	51	16	47	21	46	45	15	65	30	11	41	19	36	21	21	17	18
TDS	mg/L	500	444	467	326	545	408	473	477	380	467	388	1110	468	314	462	312	330	304	319
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.09	0.08	0.07	0.1	0.08	0.06	0.09	0.04	0.06	0.04	0.06	0.06	0.1	0.08	< 0.01	0.04	0.01	0.04
Antimony	mg/L	0.006	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0009	0.0006	0.0006	0.0004	0.0006	0.0008	0.0003	0.0005	0.0007	0.0007	0.0002	0.0018	0.001	0.0023	0.0001	0.0003	< 0.0001	0.0002
Barium	mg/L	1	0.054	0.06	0.038	0.076	0.054	0.074	0.065	0.048	0.056	0.05	1.09	0.064	0.034	0.082	0.093	0.109	0.106	0.124
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.018	0.041	0.011	0.038	0.018	0.04	0.019	0.012	0.035	0.015	0.297	0.041	0.016	0.032	0.06	0.101	0.097	0.113
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014
Chromium	mg/L	0.05	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0022	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0003	0.0009	0.0004	0.0008	0.0008	0.0007	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0011	< 0.0001	0.0028	0.0007	0.0016	0.0005	0.0012	0.0007	0.0007	0.0002	0.0002	0.0003	0.0004	0.0003	< 0.0001	0.0002	0.0008	0.0002
Lead	mg/L	0.01	0.00002	< 0.00002	0.00008	0.00004	0.00005	0.00006	0.00003	0.00003	0.00006	< 0.00002	< 0.00002	0.00004	0.00071	0.00005	< 0.00002	< 0.00002	0.00004	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0001	0.0003	< 0.0001	0.0002	0.0003	0.0002	0.0001	0.0003	0.0002	< 0.0001	0.0003	0.0002	0.0007	0.0006	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0012	0.0014	0.015	0.0009	0.0013	0.0017	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.397	0.412	0.271	0.484	0.35	0.467	0.439	0.29	0.399	0.304	1.51	0.452	0.25	0.471	1.25	1.54	1.58	1.42
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0003	0.0003	0.0002	0.0003	0.0002	0.0002	0.0001	< 0.0001	0.0002	0.0002	0.0003	0.0002	0.0001	0.0001	< 0.0001	0.0003	0.0013	0.0005
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	13-91-I	13-91-I	13-91-I	13-91-I	13-91-II	13-91-I	13-91-I	13-91-II	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I
			7-May-18	11-Oct-18	8-May-19	7-Oct-19	7-Oct-19	5-May-20	13-Oct-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25
Alkalinity	mg/L	500	192	193	182	184	430	185	180	363	196	198	185	189	184	210	189	187	186	191
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.47	0.45	0.46	0.46	0.07	0.42	0.45	0.27	0.46	0.5	0.53	0.53	1.69	0.71	1.3	1.26	0.48	0.52
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	54.3	57.1	57.1	60.4	277	55.4	55.6	173	52.9	58.6	56.5	52.1	55	55.7	56	58	58.1	62.7
COD	mg/L	N/A	< 5	8	7	6	18	< 5	5	45	12	12	6	< 5	< 5	11	35	31	13	19
Chloride	mg/L	250	76.7	84.4	79.9	84.6	790	79.7	87.2	477	81.8	88.3	93.1	125	103	90.5	97.7	95.1	103	97.5
Conductivity	umhos/cm	N/A	696	666	653	653	3010	657	674	2190	664	674	697	690	701	706	728	709	729	704
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.6	1.9	1.7	1.8	2.3	1.7	1.8	1.2	1.5	1.3	1.4	< 0.2	1.6	2.5	2.7	2.1	1.1	2.5
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	0.1	<0.1	0.2	<0.1	0.2	<0.1
Hardness	mg/L	500	307	304	319	328	839	309	309	537	301	320	311	306	305	308	314	323	318	334
Ion Balance	%	N/A						4.11	2.73	1.11	0.696	1.48	1.21	7.23	2.19	2.4	1.22	2.58	0.184	2.89
Iron	mg/L	0.3	0.213	0.262	0.235	0.318	2.5	0.216	0.296	2.4	0.278	0.291	0.293	0.461	0.281	0.126	0.336	0.28	0.328	0.31
Magnesium	mg/L	N/A	41.7	39.3	42.8	43.1	35.7	41.5	41.4	25.5	41	42.1	41.2	42.7	40.8	41	42.3	43.2	42.1	43.2
Manganese	mg/L	0.05	0.006	0.006	0.007	0.007	0.108	0.006	0.006	0.144	0.006	0.007	0.007	0.006	0.008	0.005	0.007	0.006	0.003	0.006
Nitrate	mg/L	10	< 0.05	0.07	< 0.05	0.21	< 0.5	0.17	< 0.05	< 0.05	< 0.05	0.14	< 0.05	0.18	< 0.05	0.44	0.32	<0.05	<0.05	0.19
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	0.17	< 0.05	< 0.05	< 0.05	0.09	<0.05	<0.05	<0.05	<0.05
Tot Kjel N	mg/L	N/A	0.5	0.6	0.5	0.7	0.5	0.5	0.6	0.9	0.6	0.9	0.6	0.6	1.5	0.9	1	1.2	0.6	0.7
pH-Lab	pH unit	6.5-8.5	7.99	7.86	8.03	7.91	7.45	7.9	7.96	7.52	8.05	7.89	7.65	7.84	7.82	7.3	7.75	8.02	7.63	7.8
Phenols	mg/L	N/A	< 0.001	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	0.017	<0.001	<0.001	<0.001	<0.001	0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	0.04	0.29	0.26	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	N/A	4.3	3.7	3.9	4	2.9	3.9	3.7	2.7	3.7	3.9	3.8	4	3.9	4	4.1	3.9	3.7	4
Sodium	mg/L	200	13	12.7	12.9	13.3	345	12.8	12.8	249	13	13.4	12.7	12.6	12.6	12.8	13	12.6	11.7	12.5
Sulphate	mg/L	500	20	22	20	19	< 10	19	21	28	19	21	20	27	23	20	20	18	20	19
TDS	mg/L	500	326	335	326	336	1719	323	330	1175	330	347	340	378	349	367	379	368	380	366
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.03	0.03	0.04	0.12	0.04	0.03	0.09	0.03	0.03	0.04	0.04	0.02	0.02	0.03	0.02	0.04	0.03
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0007	< 0.0001	< 0.0001	0.0009	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Barium	mg/L	1	0.114	0.113	0.109	0.119	0.584	0.109	0.11	0.365	0.109	0.123	0.114	0.121	0.12	0.118	0.14	0.12	0.115	0.127
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	5	0.105	0.094	0.108	0.108	0.024	0.104	0.102	0.032	0.101	0.104	0.099	0.091	0.1	0.106	0.1	0.102	0.1	0.096
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	N/A	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
Copper	mg/L	1	0.0001	0.0002	0.0003	< 0.0001	0.0018	0.0005	0.0015	0.0011	0.0006	0.0003	0.0002	0.0002	0.0006	0.0003	0.0001	0.0004	0.0004	0.0003
Lead	mg/L	0.01	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00009	0.00003	0.00005	0.00011	0.00002	0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	<0.00002	<0.00002	0.00003	<0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.0002	<0.0002	0.0004	<0.0002	0.0004
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	1.58	1.51	1.6	1.64	1.34	1.62	1.6	0.963	1.62	1.68	1.62	1.68	1.63	1.61	1.71	1.66	1.62	1.65
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	0.006

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

			13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	14-07
Parameters	Units	ODWQS	11-May-16	23-May-17	16-Oct-17	7-May-18	11-Oct-18	8-May-19	5-May-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	12-May-16
Alkalinity	mg/L	500	354	317	364	324	392	288	232	258	393	253	396	223	428	263	383	261	Dry	300
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.04	0.04	0.13	0.04	0.06	0.14	0.03	0.14	0.05	1.2	0.28	1.07	0.31	0.1	0.76	0.2		0.09
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	132	176	230	162	243	108	85.6	99.5	181	105	153	80.7	132	90.9	142	99.1		105
COD	mg/L	N/A	< 5	8	11	< 5	12	19	9	23	18	20	33	10	16	52	145	53		254
Chloride	mg/L	250	227	248	353	366	589	134	44.4	101	468	54.9	500	17	374	26.3	370	58.8		2.6
Conductivity	umhos/cm	N/A	1440	1530	2120	1510	2470	956	610	821	2080	680	2460	494	2080	613	2050	694		583
Cyanide	mg/L	0.2																		
DOC	mg/L	5	0.5	0.6	0.9	1.2	2	1.9	3.1	2.3	1.5	2.2	< 0.2	3.6	2.9	3.8	3.3	2.2		0.5
Fluoride	mg/L	1.5	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	<0.7	<0.1	<0.7	<0.1		0.1
Hardness	mg/L	500	387	510	678	470	711	337	231	303	527	284	471	219	383	245	462	266		277
Ion Balance	%	N/A							6.67	1.34	1.35	0.975	1.1	0.227	1.58	3.36	1.71	4.75		
Iron	mg/L	0.3	0.336	1.91	4.28	0.671	3.52	< 0.005	0.008	< 0.005	1.44	0.013	1.54	0.111	0.988	0.016	<0.005	<0.005		< 0.005
Magnesium	mg/L	N/A	14.1	17.3	25.1	15.7	25.1	16.4	4.22	13.3	18.1	5.15	21.5	4.11	13	4.24	25.8	4.51		3.32
Manganese	mg/L	0.05	0.01	0.04	0.093	0.032	0.098	0.025	0.001	< 0.001	0.066	0.002	0.04	0.007	0.03	0.001	0.016	<0.001		< 0.001
Nitrate	mg/L	10	< 0.1	< 0.05	0.48	0.06	< 0.05	< 0.05	0.12	< 0.05	< 0.05	< 0.05	< 0.5	< 0.05	<0.40	<0.05	<0.40	<0.05		0.3
Nitrite	mg/L	1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.05	<0.40	<0.05	<0.40	<0.05		< 0.1
Tot Kjel N	mg/L	N/A	0.3	0.9	0.3	0.2	0.4	0.7	0.6	0.9	0.5	1.8	1.5	1.2	0.8	0.9	1.7	1.2		2.8
pH-Lab	pH unit	6.5-8.5	7.58	7.72	7.61	7.66	7.62	7.84	7.77	8.06	7.63	7.63	7.49	7.75	7.43	7.76	7.8	7.55		7.79
Phenols	mg/L	N/A	< 0.001	< 0.001	0.007	< 0.001	0.003	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001		< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1		< 0.1
Potassium	mg/L	N/A	1.2	1.5	2.3	1.7	2.7	1	0.2	0.8	2.4	0.1	2.6	0.1	2.2	<0.1	2.8	<0.1		0.2
Sodium	mg/L	200	108	137	167	144	274	64.2	15.8	55.1	270	26.2	289	17.7	274	20.6	233	25.8		3.5
Sulphate	mg/L	500	24	19	19	24	29	11	9	12	36	7	29	9	<2	9	34	11		10
TDS	mg/L	500	719	790	1019	909	1401	508	298	437	1213	352	1235	263	1150	318	1130	360		307
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.03	0.05	0.09	0.08	0.09	0.07	0.06	0.03	0.07	0.06	0.09	0.05	0.05	0.05	0.05	0.06		0.02
Antimony	mg/L	0.006	< 0.0001	< 0.0001	0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001		< 0.0001
Arsenic	mg/L	0.025	0.0004	0.0012	0.0024	< 0.0005	0.0011	0.0005	0.0001	0.0002	0.0009	0.0001	0.001	0.0002	0.0005	0.0001	0.0005	<0.0001		< 0.0001
Barium	mg/L	1	0.174	0.252	0.436	0.237	0.462	0.132	0.039	0.124	0.331	0.043	0.323	0.036	0.213	0.034	0	0.032		0.027
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001		< 0.002
Boron	mg/L	5	< 0.005	0.013	0.024	0.012	0.021	0.013	< 0.005	0.013	0.022	< 0.005	0.012	0.009	0.022	0.006	0.031	0.005		< 0.005
Cadmium	mg/L	0.005	< 0.00002	< 0.000014	< 0.000014	< 0.000059	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000029	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015		< 0.00002
Chromium	mg/L	0.05	< 0.0002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001		< 0.0002
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.005	0.0005	0.01	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	0.0002	0.0004	0.0002		< 0.005
Copper	mg/L	1	0.0018	0.001	0.0007	0.0017	0.0002	0.0008	0.0011	0.001	0.0021	0.0006	0.0005	0.0014	0.0002	0.0008	0.0003	0.0009		< 0.0001
Lead	mg/L	0.01	< 0.00002	< 0.00002	< 0.00002	0.00059	< 0.00002	0.00003	0.00003	0.00004	0.00018	0.00004	< 0.00009	0.00032	<0.00004	0.0001	0.00007	0.00002		< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	<0.00002	<0.00002	<0.00002		< 0.00002
Molybdenum	mg/L	N/A	0.0003	0.0001	< 0.0001	< 0.0004	0.0002	0.0001	0.0001	0.0001	0.0003	0.0001	0.0006	0.0001	0.0001	<0.0001	0.0002	0.0001		0.0008
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0003	0.0003	0.0004	0.0003		< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.003	< 0.001	<0.001	<0.001	<0.001	<0.001		< 0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.00002	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001		< 0.00002
Strontium	mg/L	N/A	0.461	0.638	0.808	0.542	0.901	0.669	0.203	0.553	0.716	0.242	0.821	0.199	0.492	0.212	1.02	0.215		0.175
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005		< 0.00005
Vanadium	mg/L	N/A	< 0.0001	0.002	0.0009	< 0.0007	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0004	< 0.0001	< 0.0004	0.0001	<0.0001	<0.0001	<0.0001	<0.0001		< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005		< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07
			13-Oct-16	23-May-17	16-Oct-17	7-May-18	9-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25
Alkalinity	mg/L	500	259	281	269	258	259	258	271	240	265	251	286	260	285	244	293	270	283	288
Unionized Ammonia	mg/L	N/A	< 0.01																	
Ammonia	mg/L	N/A	0.09	0.06	0.14	0.06	0.07	0.06	0.11	0.03	0.19	0.08	0.05	0.46	0.23	1.67	0.51	0.76	0.6	0.11
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	126	107	130	102	115	110	129	104	117	100	116	107	109	89.3	106	102	111	106
COD	mg/L	N/A	8	23	37	5	< 5	220	24	152	17	43	8	48	10	21	20	46	133	44
Chloride	mg/L	250	21.1	3.9	21.6	2	16.5	2.5	27.8	5.5	32.6	11.7	39.8	4.1	43.6	2.5	23.5	2.5	22.3	2.2
Conductivity	umhos/cm	N/A	629	505	622	470	598	527	660	517	677	525	681	537	673	482	664	541	664	563
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.4	0.7	2.2	1.7	1.6	1.8	2.3	2.4	2.3	2.4	1.9	2.3	1	2.5	3.3	3.3	2.4	1.5
Fluoride	mg/L	1.5	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	352	284	353	272	321	291	355	278	325	272	326	286	308	239	288	270	305	283
Ion Balance	%	N/A								3.47	1.32	0.0119	2.58	3.72	6.87	1.84	8.38	0.123	3.29	1.47
Iron	mg/L	0.3	0.04	< 0.005	0.005	0.022	< 0.005	0.005	0.007	< 0.005	0.01	< 0.005	0.005	< 0.005	0.005	0.012	< 0.005	< 0.005	0.01	< 0.005
Magnesium	mg/L	N/A	9.41	4.23	6.8	4.22	8.26	3.89	7.91	4.34	8.02	5.25	8.71	4.53	8.73	3.7	5.67	3.66	6.53	4.3
Manganese	mg/L	0.05	0.075	< 0.001	0.058	0.001	0.043	< 0.001	0.056	0.001	0.044	< 0.001	0.011	< 0.001	0.006	0.001	0.003	< 0.001	0.007	< 0.001
Nitrate	mg/L	10	0.2	< 0.05	< 0.05	0.05	< 0.05	< 0.05	< 0.05	0.15	< 0.05	0.22	0.05	0.08	< 0.05	< 0.05	0.2	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	2.3	< 1	1.1	2.2	1	3	1.1	1	0.6	2.1	0.3	2.3	0.5	2.3	1	1	1.3	0.5
pH-Lab	pH unit	6.5-8.5	7.94	7.85	7.81	7.87	7.92	7.91	7.7	7.76	7.63	7.98	7.74	7.49	7.68	7.78	7.34	7.71	7.83	7.54
Phenols	mg/L	N/A	0.002	0.001	0.003	< 0.001	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	5.72	1.22	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	0.8	0.3	0.9	0.4	0.8	0.3	0.8	0.4	0.9	0.4	0.9	0.3	0.9	0.4	0.9	0.4	0.9	0.3
Sodium	mg/L	200	15.1	2.6	13.8	2.4	12.3	2.3	16.2	2.5	12.5	4.7	11.1	2.5	9.7	2.1	3.5	2.5	3.7	2.4
Sulphate	mg/L	500	35	10	31	7	30	6	32	16	32	13	25	6	32	5	22	5	21	5
TDS	mg/L	500	363	296	365	273	339	280	377	276	362	286	374	281	375	249	345	280	345	292
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.06	0.03	0.07	0.07	0.06	0.07	0.08	0.06	0.08	0.06	0.05	0.06	0.07	0.04	0.04	0.04	0.04	0.06
Antimony	mg/L	0.006	0.0003	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	0.0002	< 0.0001
Arsenic	mg/L	0.025	0.0005	0.0001	0.0002	< 0.0001	0.0003	< 0.0001	0.0002	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001
Barium	mg/L	1	0.067	0.036	0.066	0.036	0.055	0.035	0.059	0.037	0.057	0.034	0.052	0.039	0.058	0.038	0.058	0.042	0.056	0.038
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Boron	mg/L	5	0.01	< 0.005	0.011	0.006	0.01	0.007	0.01	0.006	0.011	0.008	0.011	0.005	< 0.005	0.008	0.012	0.006	0.011	0.007
Cadmium	mg/L	0.005	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	0.0018	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	0.0005	0.01	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.0002	0.0002	0.0002
Copper	mg/L	1	0.0004	0.0002	0.0003	0.0002	0.0006	0.0006	0.0003	0.0007	0.0019	0.0006	0.0005	0.0004	0.0004	0.0077	0.0007	0.0005	0.0006	0.0004
Lead	mg/L	0.01	0.00006	< 0.00002	< 0.00002	0.00005	0.00004	0.00003	< 0.00002	0.00003	0.00006	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005	< 0.00002	< 0.00002	0.00003	0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0004	0.0002	0.0002	< 0.0001	0.0004	0.0001	0.0003	0.0001	0.0003	0.0004	0.0003	0.0003	0.0002	0.0003	0.0002	0.0001	0.0002	0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0003	< 0.0002	0.0002	< 0.0002
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.239	0.192	0.203	0.178	0.212	0.188	0.233	0.185	0.219	0.194	0.233	0.19	0.235	0.164	0.195	0.186	0.202	0.185
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0008	0.002	0.0009	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

			14-07	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I
Parameters	Units	ODWQS	15-Oct-25	19-May-16	13-Oct-16	23-May-17	16-Oct-17	7-May-18	9-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24
Alkalinity	mg/L	500	297	426	417	457	411	403	410	183	371	381	391	422	515	496	583	548	578	519
Unionized Ammonia	mg/L	N/A			0.02															
Ammonia	mg/L	N/A	0.1	0.43	2.7	0.6	1.01	0.08	3.27	1.19	1.28	0.08	1.11	1.13	1.07	1.46	8.87	5.07	3.14	0.83
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	134	171	164	155	160	148	151	63	147	140	150	142	162	182	192	184	186	181
COD	mg/L	N/A	54	108	27	34	62	11	258	95	53	60	32	118	41	49	565	49	92	64
Chloride	mg/L	250	22.9	46.7	38.3	28.5	30.1	30.5	30.8	10	25.1	26	25.7	23.8	23.1	21.2	26	20.9	18.1	23.7
Conductivity	umhos/cm	N/A	670	985	983	983	897	862	951	421	851	876	898	927	1020	1110	1200	1160	1170	1160
Cyanide	mg/L	0.2																		
DOC	mg/L	5	3.7	6.2	7.1	7.4	5.7	4.2	7.6	14.3	6	6.6	5.1	6.2	4.9	6.9	8.1	6.5	9	7.5
Fluoride	mg/L	1.5	<0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1
Hardness	mg/L	500	363	521	505	475	495	460	469	190	450	433	462	442	498	564	600	572	578	566
Ion Balance	%	N/A	2.47									2.14	4.48	1.24	4.07	4.62	1	0.184	0.868	0.87
Iron	mg/L	0.3	<0.005	1.25	1.73	0.101	2.29	0.04	0.317	0.039	1.85	0.036	1.71	0.705	0.142	2.66	0.33	1.14	1.76	0.039
Magnesium	mg/L	N/A	6.7	22.8	23	21.4	23	21.8	22.3	8.02	20.1	20.3	21.2	21.2	22.6	26.5	29.1	27.4	27.6	27.5
Manganese	mg/L	0.05	0.014	0.034	0.053	0.032	0.036	0.014	0.042	0.031	0.04	0.016	0.034	0.03	0.045	0.04	0.064	0.07	0.057	0.044
Nitrate	mg/L	10	0.39	0.4	0.2	< 0.05	< 0.05	0.07	< 0.05	0.09	1.03	0.46	< 0.05	0.37	< 0.05	0.08	1.37	< 0.05	<0.05	2.08
Nitrite	mg/L	1	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	< 0.05	< 0.05	0.08	<0.05
Tot Kjel N	mg/L	N/A	0.5	3.3	20.6	1.6	2.5	1.6	13.7	2.3	3.1	2.9	2.1	4.3	2.2	2.3	32.3	7	9	2.9
pH-Lab	pH unit	6.5-8.5	7.53	7.64	7.68	7.72	7.67	7.79	7.99	7.71	7.67	7.68	7.47	7.84	7.57	7.63	7.58	7.58	7.44	7.6
Phenols	mg/L	N/A	<0.001	< 0.001	0.001	0.01	0.004	< 0.001	0.006	0.005	< 0.002	< 0.002	< 0.002	0.003	0.001	< 0.001	0.007	< 0.001	0.004	<0.001
Phosphorus	mg/L	N/A	<0.1	< 0.1	0.4	< 0.1	0.1	< 0.1	0.2	1.19	0.2	< 0.1	0.1	< 0.1	0.3	0.1	1.1	0.5	0.4	0.1
Potassium	mg/L	N/A	0.9	2.5	2.8	2.2	2.3	2.3	3.2	5.7	3	2.7	2.3	2.3	2.8	2.4	10.1	5.1	3.7	3.7
Sodium	mg/L	200	6.2	25.9	26.7	24.8	24.1	24.7	23.9	8.3	21.4	21.3	23.5	22.5	23.8	28.2	28.3	27.5	26.3	27
Sulphate	mg/L	500	28	43	46	27	37	47	42	12	40	42	47	53	54	55	65	59	52	60
TDS	mg/L	500	348	571	558	535	527	516	524	218	483	481	506	520	599	618	712	653	632	626
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.06	0.04	0.05	0.04	0.09	0.07	0.07	0.05	0.09	0.08	0.08	0.08	0.06	0.1	0.11	0.05	0.07	0.07
Antimony	mg/L	0.006	0.0001	< 0.0001	0.0003	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.025	0.0001	0.0002	0.0013	0.0003	0.0002	0.0001	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0001	0.0002	0.0002	0.0001	0.0001	0.0001
Barium	mg/L	1	0.068	0.128	0.128	0.107	0.133	0.112	0.112	0.036	0.142	0.112	0.141	0.113	0.124	0.142	0.171	0.119	0.159	0.131
Beryllium	mg/L	N/A	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001
Boron	mg/L	5	0.009	0.03	0.04	0.036	0.044	0.042	0.04	0.02	0.04	0.039	0.047	0.045	0.047	0.084	0.082	0.085	0.093	0.083
Cadmium	mg/L	0.005	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	<0.000015	<0.000015
Chromium	mg/L	0.05	<0.001	< 0.0002	0.0025	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001
Cobalt	mg/L	N/A	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.017	< 0.005	< 0.005	< 0.0001	< 0.005	0.005	< 0.005	< 0.005	< 0.005	0.005	<0.0001	0.0003
Copper	mg/L	1	0.0006	0.0003	0.0001	0.0001	0.0003	0.0003	0.0002	0.0012	0.0002	0.0011	0.0007	0.0007	< 0.0001	0.0002	0.0004	0.0003	0.0002	0.0005
Lead	mg/L	0.01	<0.00004	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00009	< 0.00002	0.00004	0.00003	0.00003	< 0.00004	< 0.00004	0.00006	< 0.00004	<0.00002	<0.00002
Mercury	mg/L	0.001	<0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00004	<0.00002
Molybdenum	mg/L	N/A	0.0003	0.0006	0.0003	0.0004	< 0.0001	0.0005	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	0.0003	0.0002	0.0001	0.0002	0.0001	<0.0001	0.0003
Nickel	mg/L	N/A	0.0012	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0022	0.0022
Selenium	mg/L	0.01	<0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	0.001	0.001	<0.001	<0.001
Silver	mg/L	N/A	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	0.228	0.425	0.392	0.367	0.337	0.358	0.355	0.145	0.346	0.342	0.354	0.366	0.398	0.449	0.487	0.449	0.448	0.455
Thallium	mg/L	N/A	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	<0.0001	0.001	0.001	0.0029	0.0011	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001
Zinc	mg/L	5	0.007	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.014	< 0.005	<0.005	0.013

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	15-91-I	15-91-I	15-91-I	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II
			16-Oct-24	7-May-25	15-Oct-25	19-May-16	23-May-17	16-Oct-17	7-May-18	9-Oct-18	8-May-19	5-May-20	13-Oct-20	4-May-21	3-May-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25
Alkalinity	mg/L	500	497	499	490	619	639	573	566	525	537	546	502	603	550	588	567	561	527	559
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	3.61	1.13	0.11	0.66	0.61	0.67	0.47	0.59	0.45	0.38	0.51	0.42	0.6	2.71	0.74	0.43	0.66	0.41
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	188	174	190	245	218	247	216	211	220	199	197	213	219	206	196	205	205	203
COD	mg/L	N/A	124	90	37	49	43	58	34	32	44	30	30	42	33	42	32	45	59	59
Chloride	mg/L	250	22.4	30.1	32.2	9.1	4.6	3.5	3.8	3.8	4.1	3	2.8	3.5	3.3	2	3.4	1.7	3.4	1.9
Conductivity	umhos/cm	N/A	1130	1100	1060	1120	1050	1080	1010	1010	1020	981	950	1040	1070	1070	1020	1050	989	1020
Cyanide	mg/L	0.2																		
DOC	mg/L	5	7.3	4.4	7	8.9	8.4	10.1	10	12	11.1	12.4	9.3	12.3	11.2	8	11.7	11.4	10.5	7.2
Fluoride	mg/L	1.5	<0.1	<0.1	<0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1
Hardness	mg/L	500	585	544	586	674	604	685	602	585	611	554	547	595	612	579	551	578	577	567
Ion Balance	%	N/A	4.1	0.38	3.58							2.21	5.79	0.537	6.6	12.2	10.5	14.4	5.17	13.8
Iron	mg/L	0.3	0.132	3.98	0.113	65.5	52.2		47.1	0.03	50.7	50.2		49.6	54.2	57.7	53.5	58.4	49	61
Magnesium	mg/L	N/A	27.9	26.5	27.1	14.8	14.5	16.4	15.1	13.9	14.9	13.7	13.3	15.1	15.6	15.8	14.8	15.8	15.6	14.5
Manganese	mg/L	0.05	0.044	0.039	0.042	0.364	0.326	0.26	0.248	0.11	0.288	0.296	0.132	0.241	0.281	0.279	0.191	0.288	0.25	0.294
Nitrate	mg/L	10	0.7	0.45	1.59	< 0.1	< 0.05	1.34	< 0.05	< 0.05	< 0.05	0.1	0.07	< 0.05	< 0.05	< 0.05	0.05	<0.05	<0.05	<0.05
Nitrite	mg/L	1	0.32	0.16	<0.05	< 0.1	0.25	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05
Tot Kjel N	mg/L	N/A	6.4	3	0.7	1.3	1.2	1.2	1	1.1	0.9	0.9	1	0.9	1.2	3.4	0.6	0.9	1.2	1.1
pH-Lab	pH unit	6.5-8.5	7.65	7.55	7.52	6.84	7.36	7.21	7.26	7.71	7.31	7.1	6.99	7.18	7.18	7.06	6.93	7.12	7.33	6.99
Phenols	mg/L	N/A	<0.001	<0.001	<0.001	< 0.001	0.01	0.004	< 0.001	0.006	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	N/A	<0.1	0.2	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.51	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	N/A	2.8	2.4	2.3	0.9	0.6	1	0.8	1	0.7	0.6	0.8	0.6	0.6	0.8	0.8	0.6	0.7	0.4
Sodium	mg/L	200	31.7	24.1	26	14.3	12.6	12.7	11.9	12.9	11.1	9.1	9.3	8.7	8.6	9.3	6.8	7.8	6.4	6.1
Sulphate	mg/L	500	72	60	58	7	9	24	< 1	2	< 1	< 1	< 1	1	< 1	< 1	3	2	2	<1
TDS	mg/L	500	608	591	566	664	643	650	588	561	574	554	524	605	578	645	544	562	527	547
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.05	0.11	0.07	0.06	0.07	0.11	0.09	0.09	0.1	0.1	0.1	0.1	0.1	0.07	0.06	0.07	0.06	0.1
Antimony	mg/L	0.006	0.0003	<0.0001	<0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.025	0.0003	0.0004	0.0002	0.004	0.0038	0.0037	0.002	0.0062	0.0027	0.0023	0.0086	0.0033	0.0042	0.0039	0.0045	0.0042	0.005	0.0046
Barium	mg/L	1	0.137	0.153	0.148	0.094	0.08	0.105	0.077	0.048	0.075	0.064	0.08	0.07	0.071	0.075	0.076	0.081	0.067	0.062
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	5	0.086	0.078	0.074	0.074	0.062	0.106	0.096	0.058	0.1	0.099	0.11	0.067	0.063	0.071	0.076	0.07	0.07	0.064
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.000014	< 0.000014	0.000022	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	< 0.0002	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	N/A	0.0003	0.0004	0.0003	< 0.005	< 0.005	< 0.005	0.0002	< 0.005	< 0.005	0.0003	0.0005	0.005	< 0.005	0.005	< 0.005	0.0006	0.0005	0.0006
Copper	mg/L	1	0.0007	0.0005	0.0006	0.0001	0.0022	0.0002	0.0002	0.0002	0.0003	0.0005	0.0018	0.0009	0.0002	0.0003	0.0002	0.0001	0.0003	0.0003
Lead	mg/L	0.01	<0.00002	<0.00002	<0.00004	< 0.00002	0.0002	0.00011	< 0.00002	0.00002	< 0.00002	0.00004	0.00008	0.00004	< 0.00002	0.00007	<0.00002	<0.00004	<0.00002	0.00003
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0113	0.0013	0.003	0.0004	0.0003	0.0002	0.0003	0.0003	0.0002	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0004
Nickel	mg/L	N/A	0.0017	0.0019	0.0025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0021	0.0008	0.001	0.0007
Selenium	mg/L	0.01	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	0.439	0.427	0.425	0.576	0.52	0.499	0.519	0.495	0.522	0.47	0.48	0.52	0.515	0.521	0.47	0.526	0.483	0.486
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	<0.0001	0.0001	<0.0001	0.0026	0.0065	0.0026	0.0007	0.0006	0.0007	0.0007	0.0006	0.0006	0.0009	0.0008	0.0007	0.0008	0.0006	0.0008
Zinc	mg/L	5	<0.005	<0.005	<0.005	0.006	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

			15-91-II	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I
Parameters	Units	ODWQS	15-Oct-25	17-May-16	13-Oct-16	23-May-17	17-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24
Alkalinity	mg/L	500		364	375	789	352	344	340	308	307	308	316	355	395	405	425	413	417	498
Unionized Ammonia	mg/L	N/A			< 0.01															
Ammonia	mg/L	N/A		0.56	0.73	2.31	0.56	0.38	0.44	0.37	0.4	0.34	0.47	0.46	0.58	2.29	1.07	1.08	1.11	2.84
BOD	mg/L	N/A																		
Calcium	mg/L	N/A		153	178	258	176	163	168	161	163	145	156	148	160	172	173	171	186	182
COD	mg/L	N/A		117	74	60	76	56	67	74	56	62	59	74	90	105	95	84	111	100
Chloride	mg/L	250		288	337	78.1	223	356	296	270	292	239	258	258	318	340	461	372	334	317
Conductivity	umhos/cm	N/A		1740	1760	1450	1600	1500	1560	1480	1440	1390	1410	1480	1610	1860	1910	1850	1800	2070
Cyanide	mg/L	0.2																		
DOC	mg/L	5		7.8	7.6	12.2	11.3	11.6	8.8	10.7	8.7	5.9	5.3	6.5	5.7	8	5.7	6.7	10	14.8
Fluoride	mg/L	1.5		0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	<0.7	<0.7
Hardness	mg/L	500		509	599	736	587	549	557	531	540		514	496	525	573	594	575	610	682
Ion Balance	%	N/A										2.7	3.55	3.44	0.52	2.03	5.32	1.66	2.77	2.94
Iron	mg/L	0.3		1.06	2.5	29.7	0.025	0.674	0.533	0.893	6.04	3.15	3.17	2.95	3.37	2.68	6.05	0.865	8.8	11.4
Magnesium	mg/L	N/A		31	37.4	21.8	35.7	34.4	33.3	31.3	32.2	28.8	30.2	30.6	30.5	34.9	39.2	36.1	35.3	55
Manganese	mg/L	0.05		0.024	0.037	0.338	0.021	0.023	0.03	0.023	0.027	0.029	0.027	0.031	0.037	0.037	0.039	0.039	0.049	0.046
Nitrate	mg/L	10		< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	0.17	< 0.05	0.09	< 0.05	0.09	< 0.05	< 0.05	< 0.5	< 0.05	<0.40	<0.40
Nitrite	mg/L	1		< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.11	< 0.05	< 0.05	0.24	< 0.05	< 0.5	< 0.05	<0.40	<0.40
Tot Kjel N	mg/L	N/A		2.5	2.4	3.1	2.3	2	1.9	1.9	1.6	1.8	2	2	1.8	4.1	3.1	2.5	3.3	4.4
pH-Lab	pH unit	6.5-8.5		7.71	7.81	7.37	7.62	7.85	7.73	7.82	7.65	7.68	7.67	7.76	7.68	7.84	7.45	7.58	7.31	7.38
Phenols	mg/L	N/A		< 0.001	< 0.001	0.012	0.009	< 0.001	0.014	< 0.002	< 0.002	0.002	< 0.002	0.003	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001
Phosphorus	mg/L	N/A		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.4	0.17	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1
Potassium	mg/L	N/A		3.7	4.5	6.6	4.8	5	4.3	4.1	4.2	4	4.1	4.1	4.5	4.7	5.4	5.1	4.8	6.4
Sodium	mg/L	200		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0002	< 0.0001	103	103	89.4	98	120	140	152	159	149	138	154
Sulphate	mg/L	500		9	6	3	7	8	9	13	6	8	10	< 1	9	4	< 10	1	<2	10
TDS	mg/L	500		814	926	920	778	891	826	769	792	702	749	778	904	956	1100	983	991	1140
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1		0.04	0.04	0.08	0.1	0.07	0.08	0.08	0.09	0.08	0.08	0.07	0.07	0.08	0.11	0.05	0.11	0.07
Antimony	mg/L	0.006		< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0002	0.0001	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002	0.0001	<0.0001
Arsenic	mg/L	0.025		0.0012	0.0003	0.0019	0.0021	< 0.0005	0.0002	0.0003	0.0006	0.0006	0.0007	0.0005	0.0005	0.0002	0.0004	0.0002	0.0007	0.0002
Barium	mg/L	1		0.296	0.41	0.173	0.453	0.41	0.386	0.353	0.398	0.328	0.402	0.393	0.434	0.504	0.644	0.548	0.594	1.07
Beryllium	mg/L	N/A		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001
Boron	mg/L	5		0.225	0.317	0.251	0.273	0.251	0.225	0.215	0.225	0.206	0.209	0.212	0.233	0.285	0.319	0.304	0.308	0.306
Cadmium	mg/L	0.005		< 0.00002	< 0.00002	0.000014	< 0.000014	< 0.000059	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	<0.000015	<0.000015
Chromium	mg/L	0.05		< 0.0002	0.0023	0.002	< 0.001	< 0.001	0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	<0.001	<0.001
Cobalt	mg/L	N/A		< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.011	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.007	0.0001	0.0004
Copper	mg/L	1		0.0001	0.0007	0.0019	0.0005	0.0008	0.0003	0.001	0.0003	< 0.0001	0.0002	0.0009	0.0002	0.0008	0.0003	0.0001	0.0004	0.0002
Lead	mg/L	0.01		< 0.00002	< 0.00002	0.00019	< 0.00002	< 0.0002	0.00004	0.00004	< 0.00009	0.00003	< 0.00004	0.00004	< 0.00004	< 0.00004	0.00005	< 0.00004	0.00034	<0.00002
Mercury	mg/L	0.001		0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002
Molybdenum	mg/L	N/A		0.0006	0.0006	0.0002	0.0006	0.0012	0.0005	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003	0.0002	0.0003	0.0004	0.0002
Nickel	mg/L	N/A		0.01	0.01	< 0.01	0.01	0.01	0.01	< 0.01	0.01	< 0.01	0.01	< 0.01	< 0.01	0.01	0.01	0.19	0.0122	0.0162
Selenium	mg/L	0.01		0.003	0.006	< 0.001	< 0.001	< 0.002	0.003	0.002	0.002	0.002	0.001	0.002	0.003	0.003	0.005	0.004	0.002	0.003
Silver	mg/L	N/A								< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A		0.599	0.654	0.652	0.632	0.613	0.569	0.602	0.595	0.535	0.558	0.551	0.584	0.647	0.724	0.668	0.668	1.49
Thallium	mg/L	N/A		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A		0.0009	0.0009	0.0084	0.0008	< 0.0007	0.0002	0.0002	< 0.0004	0.0002	0.0002	0.0002	< 0.0001	0.0002	0.0003	0.0002	0.0007	0.0004
Zinc	mg/L	5		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	16-91-I	16-91-I	16-91-I	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II
			16-Oct-24	7-May-25	15-Oct-25	17-May-16	13-Oct-16	23-May-17	17-Oct-17	8-May-18	11-Oct-18	9-May-19	5-May-20	13-Oct-20	4-May-21	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25
Alkalinity	mg/L	500	374	375	381	632	466	389	456	610	509	625	567	Dry	674	608	Dry	578	Dry	614
Unionized Ammonia	mg/L	N/A					0.78													
Ammonia	mg/L	N/A	0.91	0.69	0.59	4.46	7.71	0.54	5.26	2.68	4.44	1.99	2.2		1.66	2.52		2.71		4.28
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	167	159	179	198	199	178	195	231	204	246	225		240	223		213		204
COD	mg/L	N/A	176	165	103	68	111	73	121	56	136	86	61		40	83		108		133
Chloride	mg/L	250	304	319	349	170	437	271	316	142	456	137	156		42.9	180		260		291
Conductivity	umhos/cm	N/A	1730	1710	1700	1560	2190	1650	2130	1490	2270	1530	1540		1300	1640		1930		2040
Cyanide	mg/L	0.2																		
DOC	mg/L	5	14.1	7.3	11.7	10.3	9.4	11.1	15.8	15.2	14.3	17.8	10.8		11.2	8.7		17.8		10.6
Fluoride	mg/L	1.5	<0.1	<0.1	<0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1		< 0.1	< 0.1		<0.1		<0.1
Hardness	mg/L	500	565	539	591	600	753	593	740	701	759	744	677		670	631		630		641
Ion Balance	%	N/A	4.58	0.539	1.05								7.99		7.04	5.27		3.9		0.0445
Iron	mg/L	0.3	9.48	0.834	6.77	20.4	18.4	1.26	0.028	19.5	20.2	16.3	26.8		35.1	24.5		30.3		28.1
Magnesium	mg/L	N/A	35.8	34.4	34.9	25.4	62	36.2	61.5	30.1	60.5	31.4	27.9		17	18.1		24.1		31.8
Manganese	mg/L	0.05	0.034	0.018	0.046	0.205	0.155	0.03	0.126	0.345	0.123	0.359	0.212		0.214	0.197		0.176		0.136
Nitrate	mg/L	10	<0.05	<0.05	0.08	< 0.1	< 0.1	< 0.05	0.92	< 0.05	< 0.05	0.18	0.09		0.05	< 0.05		<0.05		<0.05
Nitrite	mg/L	1	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06		< 0.05	< 0.05		<0.05		<0.05
Tot Kjel N	mg/L	N/A	3.2	3.4	2.6	5.8	12.1	2.4	7.8	4	7.7	3.5	3.4		2.4	3.2		4.5		6.7
pH-Lab	pH unit	6.5-8.5	7.73	7.61	7.69	7.01	7.84	7.79	7.26	7.41	7.38	7.38	7.18		7.26	7.12		7.13		7.18
Phenols	mg/L	N/A	<0.001	0.004	<0.001	< 0.001	0.004	0.03	0.018	< 0.001	0.018	< 0.002	0.003		< 0.002	< 0.001		<0.001		0.005
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.08	< 0.1		< 0.1	< 0.1		<0.1		<0.1
Potassium	mg/L	N/A	4.8	4.5	4.8	8.5	17.7	4.3	17	9.8	14.4	7.8	7.1		4.6	6.2		6.6		7.5
Sodium	mg/L	200	131	124	127	54.3	161	128	164	72.9	197	85.4	77.2		33.4	118		140		138
Sulphate	mg/L	500	2	2	<1	2	3	6	1	1	< 1	6	8		2	3		<1		2
TDS	mg/L	500	951	938	930	863	1190	859	1036	876	1264	907	871		782	937		1060		1130
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.05	0.1	0.07	0.05	0.07	0.05	0.1	0.09	0.08	0.1	0.11		0.12	0.06		0.07		0.11
Antimony	mg/L	0.006	0.0001	0.0002	0.0001	< 0.0001	0.0003	0.0002	< 0.0001	< 0.0001	0.0002	< 0.0001	0.0001		0.0001	0.0002		<0.0001		0.0001
Arsenic	mg/L	0.025	0.0006	0.0002	0.0007	0.0023	0.0116	0.0007	0.0033	0.0012	0.0047	0.0009	0.001		0.0088	0.0331		0.0013		0.0027
Barium	mg/L	1	0.56	0.522	0.639	0.212	0.557	0.414	0.489	0.266	0.575	0.29	0.23		0.139	0.239		0.314		0.306
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002		< 0.002	< 0.002		<0.0001		<0.0001
Boron	mg/L	5	0.287	0.278	0.262	0.208	0.396	0.294	0.382	0.28	0.456	0.313	0.341		0.283	0.496		0.582		0.64
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.000058	< 0.000015	< 0.000015	< 0.000015		< 0.000015	< 0.000012		<0.000015		<0.000015
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	< 0.0002	0.0034	0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001		< 0.001	0.001		<0.001		<0.001
Cobalt	mg/L	N/A	0.0003	0.0004	0.0004	< 0.005	< 0.005	< 0.005	< 0.005	0.0006	0.011	< 0.005	0.0019		0.005	< 0.005		0.0006		0.0008
Copper	mg/L	1	0.0002	0.0002	0.0012	< 0.0001	0.0008	0.0035	0.0006	0.0011	0.0003	0.0009	< 0.0001		0.0007	0.0002		0.0002		0.0002
Lead	mg/L	0.01	<0.00002	0.00007	<0.00004	< 0.00002	0.00005	0.00024	< 0.00002	0.00005	< 0.00002	0.00003	0.00003		0.00004	< 0.00004		<0.00004		0.00002
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002		< 0.00002	< 0.00002		<0.00002		<0.00002
Molybdenum	mg/L	N/A	0.0006	0.0005	0.0005	0.0004	0.0001	0.0004	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002		0.0003	0.0014		<0.0001		0.0001
Nickel	mg/L	N/A	0.0119	0.0115	0.0115	< 0.01	0.02	0.01	0.03	< 0.01	0.03	< 0.01	0.01		< 0.01	0.06		0.0143		0.0211
Selenium	mg/L	0.01	0.002	<0.001	<0.001	0.001	0.007	< 0.001	< 0.001	< 0.001	0.004	0.001	< 0.001		< 0.001	0.003		0.002		<0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001	< 0.0001		<0.0001		<0.0001
Strontium	mg/L	N/A	0.647	0.632	0.638	0.624	0.897	0.664	0.884	0.671	0.894	0.726	0.644		0.575	0.586		0.608		0.644
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005	< 0.00005		<0.00005		<0.00005
Vanadium	mg/L	N/A	0.0003	0.0002	0.0003	0.003	0.0014	0.0027	0.0015	0.0009	0.0007	0.001	0.0008		0.0003	0.0004		0.0009		0.001
Zinc	mg/L	5	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.007	< 0.005		<0.005		<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	16-91-II	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I
			15-Oct-25	19-May-16	13-Oct-16	23-May-17	16-Oct-17	7-May-18	10-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24
Alkalinity	mg/L	500	Dry	300	309	302	406	294	302	279	304	285	286	293	294	278	279	282	301	290
Unionized Ammonia	mg/L	N/A			< 0.01															
Ammonia	mg/L	N/A		0.03	0.07	0.05	0.05	0.05	0.05	0.05	0.04	0.02	0.05	0.04	0.05	0.3	0.05	0.62	1.24	0.41
BOD	mg/L	N/A																		
Calcium	mg/L	N/A		122	138	122	128	127	134	130	132	128	126	124	131	130	118	116	112	113
COD	mg/L	N/A		11	< 5	11	11	5	12	15	7	9	7	23	7	9	< 5	< 5	11	14
Chloride	mg/L	250		4.7	4.6	6	7.9	19.2	12.5	19.3	11.2	24.9	21.7	36.7	47.7	54.9	68.9	49.3	43.2	32.6
Conductivity	umhos/cm	N/A		661	718	657	694	670	747	717	744	745	753	747	752	802	766	760	766	743
Cyanide	mg/L	0.2																		
DOC	mg/L	5		1.6	2.6	1.6	2.5	2.9	3.4	2.8	3.5	4	3.3	3.1	1.9	2.3	1.1	2.2	2.9	4.1
Fluoride	mg/L	1.5		0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500		362	412	363	384	379	399	389	394	382	377	373	388	384	355	346	334	335
Ion Balance	%	N/A										3.69	2.23	0.0275	1.86	3.34	4.3	1.27	3.55	0.457
Iron	mg/L	0.3		0.477	2.17	0.79	1.77	0.221	2.18	0.264	0.591	1.07	0.818	0.84	2.08	1.04	0.98	1.12	0.715	0.161
Magnesium	mg/L	N/A		13.8	16.1	14	15.6	15	15.6	15.5	15.6	15.1	15.1	15.4	14.7	14.4	14.6	13.4	13.2	13
Manganese	mg/L	0.05		0.023	0.043	0.082	0.039	0.038	0.041	0.047	0.017	0.06	0.022	0.014	0.036	0.028	0.02	0.044	0.022	0.007
Nitrate	mg/L	10		< 0.1	< 0.1	< 0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05	0.11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.17	< 0.05
Nitrite	mg/L	1		< 0.1	< 0.1	0.12	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	< 0.05	< 0.05	< 0.05	0.06	< 0.05
Tot Kjel N	mg/L	N/A		0.4	0.3	0.5	0.2	0.5	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.5	0.2	0.7	1.4	0.4
pH-Lab	pH unit	6.5-8.5		7.8	7.92	7.88	7.8	7.87	7.69	7.91	7.78	7.71	7.66	7.87	7.72	7.76	7.68	7.73	7.45	7.69
Phenols	mg/L	N/A		< 0.001	0.004	0.005	0.002	< 0.001	0.004	< 0.002	< 0.002	0.003	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.61	0.17	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A		0.8	0.8	0.7	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1	1.1	1.1	1
Sodium	mg/L	200		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	11.4	12.9	12.3	13.5	13.7	16.7	20	20.6	20	20.5	21.3
Sulphate	mg/L	500		52	71	45	57	59	76	63	77	61	72	59	52	47	61	50	45	43
TDS	mg/L	500		385	432	380	467	409	435	408	433	414	422	427	441	436	453	420	401	388
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1		0.03	0.06	0.03	0.08	0.08	0.06	0.08	0.09	0.07	0.07	0.08	0.06	0.07	0.08	0.04	0.04	0.04
Antimony	mg/L	0.006		< 0.0001	0.0002	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025		< 0.0001	0.0002	0.0002	< 0.0001	0.0001	0.0002	0.0001	< 0.0001	0.0001	< 0.0001	0.0003	0.0001	0.0001	0.0001	0.0001	< 0.0001	< 0.0001
Barium	mg/L	1		0.064	0.071	0.06	0.071	0.065	0.069	0.063	0.067	0.063	0.065	0.06	0.073	0.069	0.072	0.067	0.063	0.072
Beryllium	mg/L	N/A		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001
Boron	mg/L	5		0.015	0.026	0.015	0.024	0.016	0.022	0.02	0.018	0.019	0.022	0.017	0.019	0.015	< 0.005	0.017	0.016	0.014
Cadmium	mg/L	0.005		< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.00002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	< 0.000015	< 0.000015
Chromium	mg/L	0.05		< 0.0002	0.0018	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A		< 0.005	< 0.005	< 0.005	< 0.005	0.0005	< 0.005	0.005	< 0.005	0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.0002
Copper	mg/L	1		0.0002	0.0002	0.0021	0.0003	0.0001	0.0002	0.0005	0.0002	0.0004	0.0014	0.0005	0.0006	0.0003	0.0003	0.0007	0.0004	0.0003
Lead	mg/L	0.01		< 0.00002	0.00002	0.00014	0.00007	0.00003	< 0.00002	0.00003	< 0.00002	0.00003	0.00005	0.00007	< 0.00002	< 0.00002	0.00005	0.00003	< 0.00002	0.00003
Mercury	mg/L	0.001		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002
Molybdenum	mg/L	N/A		0.0006	0.0003	0.0005	0.0003	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0009	0.0004	0.0004	0.0005
Nickel	mg/L	N/A		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0003	< 0.0002
Selenium	mg/L	0.01		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A		0.268	0.295	0.264	0.249	0.272	0.28	0.282	0.288	0.284	0.284	0.292	0.299	0.292	0.296	0.273	0.263	0.273
Thallium	mg/L	N/A		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A		0.0007	0.0007	0.0022	0.0009	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	17-91-I	17-91-I	17-91-I	17-91-1 (DUP)	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II
			16-Oct-24	7-May-25	15-Oct-25	15-Oct-25	19-May-16	13-Oct-16	23-May-17	16-Oct-17	7-May-18	10-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22
Alkalinity	mg/L	500	282	293	298	296	441	367	403	385	386	360	367	356	345	344	345	341	357	342
Unionized Ammonia	mg/L	N/A						< 0.01												
Ammonia	mg/L	N/A	0.3	0.65	0.13	0.05	0.03	0.12	0.04	0.03	0.04	0.14	0.04	0.04	0.02	0.16	0.04	0.08	0.06	0.05
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	115	108	117	99.6	194	184	188	179	163	173	172	164	157	147	149	148	155	135
COD	mg/L	N/A	19	28	49	68	38	< 5	35	< 5	< 5	41	7	6	5	6	10	5	< 5	17
Chloride	mg/L	250	33.2	24.3	24.1	23.8	6.9	3.5	5.5	6	4.9	4.2	4.7	1.3	10.6	3.5	7.5	22.7	9.6	21.5
Conductivity	umhos/cm	N/A	724	712	705	699	930	810	847	837	784	830	821	798	776	774	732	746	817	767
Cyanide	mg/L	0.2																		
DOC	mg/L	5	3.2	2.3	4	3.7	1.6	2.3	1.5	2	2.2	3.3	2.8	2.9	3.5	3.3	3.4	2.6	2.7	1.6
Fluoride	mg/L	1.5	<0.1	<0.1	<0.1	<0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	342	321	345	301	519	499	504	483	439	466	463	443	423	398	402	399	418	369
Ion Balance	%	N/A	1.73	1.54	1.18	4.38									3.03	1.43	0.758	0.809	1.59	5.48
Iron	mg/L	0.3	0.476	0.364	0.652	0.583	< 0.005	0.24	< 0.005	0.011	0.055	0.02	0.019	0.011	0.005	0.012	< 0.005	0.017	0.021	< 0.005
Magnesium	mg/L	N/A	13.4	12.3	12.8	12.5	8.51	9.53	8.33	8.75	7.72	8.24	7.96	7.92	7.45	7.44	7.08	7.09	7.32	7.71
Manganese	mg/L	0.05	0.022	0.015	0.046	0.041	0.008	0.13	0.01	0.012	0.003	0.025	0.001	0.002	0.007	0.007	0.002	0.034	0.001	0.029
Nitrate	mg/L	10	<0.05	<0.05	0.3	0.32	2.2	1.4	1.91	2.52	1.89	1.84	1.97	2.15	1.72	0.19	2.37	1.52	1.8	1.32
Nitrite	mg/L	1	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	0.17	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.5	0.8	0.5	0.4	0.5	0.6	0.6	0.3	0.4	0.3	0.3	0.4	0.3	0.4	0.4	< 0.1	0.4	0.3
pH-Lab	pH unit	6.5-8.5	7.88	7.59	7.65	7.97	7.5	7.72	7.7	7.72	7.71	7.49	7.74	7.66	7.65	7.68	7.91	7.64	7.57	7.57
Phenols	mg/L	N/A	<0.001	0.001	<0.001	<0.001	< 0.001	0.003	0.01	0.003	< 0.001	0.008	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.44	0.85	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	1	0.7	1	1	0.5	0.5	0.4	0.6	0.5	0.6	0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.5
Sodium	mg/L	200	20.4	18	19.2	19.4	8.7	9.1	7.8	8.4	6.8	8.7	6.2	8.6	6.8	8.1	5.7	7.6	6.5	8.6
Sulphate	mg/L	500	45	44	46	45	60	71	53	58	55	62	51	57	44	52	42	43	40	54
TDS	mg/L	500	377	370	366	363	553	505	505	492	470	473	463	453	434	425	419	433	433	433
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.06	0.05	0.03	0.05	0.08	0.05	0.1	0.1	0.08	0.09	0.09	0.08	0.08	0.08	0.06	0.08	0.09
Antimony	mg/L	0.006	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0003	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0001	0.0001	<0.0001	<0.0001	< 0.0001	0.0004	0.0001	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.065	0.058	0.067	0.061	0.057	0.055	0.051	0.058	0.049	0.052	0.047	0.05	0.044	0.045	0.041	0.047	0.044	0.048
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.014	0.016	0.014	0.014	0.013	0.021	0.013	0.017	0.015	0.013	0.014	0.014	0.013	0.013	0.014	0.014	0.008	< 0.005
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.00002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0027	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0002	0.0002	0.0002	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	0.0006	0.012	0.014	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0005	0.0004	0.0004	0.0005	0.0004	0.0006	0.0023	0.0005	0.0005	0.0007	0.0007	0.0003	0.0008	0.0017	0.0007	0.0006	0.0005	0.0005
Lead	mg/L	0.01	<0.00002	<0.00002	<0.00004	<0.00002	< 0.00002	0.00004	0.00013	< 0.00002	0.00012	0.00006	0.00003	< 0.00002	0.00002	0.00005	< 0.00002	< 0.00002	0.00005	< 0.00002
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0005	0.0005	0.0005	0.0005	0.0001	0.0001	0.0001	0.0001	< 0.0001	0.0001	< 0.0001	0.0002	< 0.0001	0.0001	0.0001	0.0004	0.0006	0.0002
Nickel	mg/L	N/A	0.0009	<0.0002	0.0007	0.0008	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.265	0.248	0.253	0.25	0.336	0.316	0.318	0.28	0.288	0.281	0.291	0.282	0.267	0.257	0.27	0.266	0.268	0.27
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	0.001	0.0011	0.0036	0.0013	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91
			2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	12-May-16	13-Oct-16	24-May-17	16-Oct-17	7-May-18	9-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21
Alkalinity	mg/L	500	385	383	360	361	368	385	297	278	281	309	306	247	263	277	276	274	270	304
Unionized Ammonia	mg/L	N/A								< 0.01										
Ammonia	mg/L	N/A	0.78	1.23	0.45	0.34	0.4	0.54	0.08	0.06	0.05	0.05	0.03	0.02	0.08	0.03	< 0.01	0.1	0.05	0.04
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	151	131	138	144	141	143	91.2	113	109	127	109	108	115	107	110	110	109	105
COD	mg/L	N/A	< 5	5	50	60	48	35	< 5	< 5	49	14	< 5	< 5	27	10	5	5	18	< 5
Chloride	mg/L	250	4.6	9.1	1.2	2.1	1.6	2.1	9.5	14.9	16.7	43.6	23.7	17.1	23.3	37.9	23.7	32.6	55.3	42.7
Conductivity	umhos/cm	N/A	795	788	732	749	734	765	624	611	626	722	613	585	643	683	646	674	695	694
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2.5	3.2	2.7	2.7	1.5	3.9	0.9	1	0.7	1.5	1.3	1.9	1.9	1.9	2.4	2	2	1.6
Fluoride	mg/L	1.5	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	406	356	371	388	378	388	282	343	332	386	334	325	350	326	331	330	332	318
Ion Balance	%	N/A	2.75	8.51	0.803	0.693	1.29	2.97									3.19	3.5	0.2	4.23
Iron	mg/L	0.3	< 0.005	<0.005	<0.005	0.083	<0.005	0.01	0.063	0.033	0.135	0.045	0.036	0.072	0.032	0.062	0.016	0.061	0.068	0.297
Magnesium	mg/L	N/A	6.87	6.95	6.36	6.95	6.3	7.42	13	14.8	14.5	16.7	15	13.5	15.2	14.2	13.6	13.5	14.5	13.5
Manganese	mg/L	0.05	< 0.001	0.003	<0.001	0.009	<0.001	0.037	0.003	0.017	0.014	0.006	0.006	0.008	0.006	0.006	0.004	0.009	0.01	0.01
Nitrate	mg/L	10	1.27	0.72	0.43	0.4	0.38	0.83	0.1	0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.12	< 0.05	0.11	< 0.05
Nitrite	mg/L	1	< 0.05	<0.05	<0.05	<0.05	<0.05	0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08
Tot Kjel N	mg/L	N/A	1.1	0.7	0.5	0.5	0.4	0.8	0.3	0.3	0.4	0.3	0.2	0.2	0.4	0.4	0.3	0.2	0.4	0.8
pH-Lab	pH unit	6.5-8.5	7.64	7.39	7.62	7.74	7.47	7.53	7.86	7.91	7.96	7.84	7.87	7.93	7.96	7.82	7.82	7.78	7.96	7.82
Phenols	mg/L	N/A	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.004	< 0.001	0.002	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001
Phosphorus	mg/L	N/A	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2.44	1.33	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	0.5	0.6	0.4	0.7	0.3	0.6	1	1.1	0.7	1.5	1.1	1.3	1.1	1.6	1.1	1.4	1.3	1.6
Sodium	mg/L	200	5.3	8.5	4.8	6.7	4.4	6.6	11.2	9.4	6.9	13.5	8.3	13.6	10.5	15.3	12.1	14.9	14.3	13.2
Sulphate	mg/L	500	44	45	25	31	26	35	24	22	23	25	31	24	29	22	26	20	17	15
TDS	mg/L	500	443	413	382	391	383	400	329	342	340	413	372	326	352	364	352	356	374	374
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.04	0.05	0.08	0.08	0.08	0.02	0.07	0.03	0.05	0.07	0.06	0.07	0.06	0.07	0.07	0.07	0.05
Antimony	mg/L	0.006	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	0.0002	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.045	0.041	0.047	0.043	0.039	0.046	0.089	0.09	0.063	0.142	0.079	0.106	0.093	0.117	0.094	0.122	0.112	0.122
Beryllium	mg/L	N/A	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.013	0.011	0.011	0.012	0.013	0.012	< 0.005	0.014	0.006	0.014	0.009	0.012	0.012	0.013	0.008	0.014	0.011	0.012
Cadmium	mg/L	0.005	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0016	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.006	<0.0001	0.0002	0.0003	0.0003	0.0004	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.007	0.01	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0008	0.0007	0.0003	0.0007	0.0004	0.0005	< 0.0001	0.0005	0.0003	0.0003	0.0006	0.0004	0.0006	0.0003	0.0005	0.0017	0.0008	0.0004
Lead	mg/L	0.01	< 0.00002	<0.00002	<0.00002	0.00013	<0.00002	<0.00004	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	0.00005	0.00003
Mercury	mg/L	0.001	< 0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0001	0.0002	0.0001	0.0002	0.0001	0.0002	0.0005	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003	0.0005	0.0003	0.0004	0.0003	0.0004
Nickel	mg/L	N/A	< 0.01	0.0004	0.0003	0.0003	0.0004	0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.27	0.239	0.251	0.249	0.238	0.244	0.193	0.239	0.228	0.251	0.239	0.229	0.247	0.245	0.239	0.245	0.261	0.251
Thallium	mg/L	N/A	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	< 0.0001	0.0006	0.0018	0.0007	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91
			3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	12-May-16	13-Oct-16	24-May-17	16-Oct-17	8-May-18	9-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20
Alkalinity	mg/L	500	291	312	298	326	292	307	292	305	352	359	359	361	360	386	331	329	349	342
Unionized Ammonia	mg/L	N/A										< 0.01								
Ammonia	mg/L	N/A	0.16	0.3	2.54	0.87	0.2	0.4	0.48	0.22	0.02	0.06	0.03	0.09	0.08	0.03	0.05	0.02	< 0.01	0.1
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	120	114	117	110	116	106	109	127	111	133	129	133	136	139	136	134	130	135
COD	mg/L	N/A	8	27	< 5	9	39	23	70	44	< 5	14	6	201	5	5	9	8	5	9
Chloride	mg/L	250	64.7	72	66.6	58.2	46.5	34.1	36.9	43.5	6.3	3	5.6	3.9	7.2	5.4	13.7	17.9	11	14.6
Conductivity	umhos/cm	N/A	789	778	789	815	756	724	718	731	716	720	719	703	697	662	731	729	737	754
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.3	0.6	1.4	2	3.6	1.8	1.4	3.5	2	1.1	0.8	1.8	2.2	2.3	2.3	2.6	3	2.2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	357	343	349	336	346	315	325	368	347	410	396	407	419	424	412	400	393	403
Ion Balance	%	N/A	0.182	3.77	1.66	6.75	0.239	2.18	1.66	2.9									2.24	3.67
Iron	mg/L	0.3	1.32	0.068	0.054	0.445	0.006	0.01	0.012	0.321	0.258	0.451	0.345	0.401	0.285	< 0.005	0.164	0.604	0.211	0.494
Magnesium	mg/L	N/A	13.8	14.2	14.1	14.8	13.8	12.3	12.8	12.2	16.6	18.6	17.7	18.2	19.2	18.5	17.6	15.7	16.6	15.9
Manganese	mg/L	0.05	0.009	0.017	0.011	0.01	0.004	0.003	0.001	0.011	0.025	0.092	0.056	0.036	0.066	0.004	0.044	0.031	0.026	0.031
Nitrate	mg/L	10	0.08	0.05	< 0.05	0.1	<0.05	<0.05	<0.05	0.39	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.3	0.7	2.6	0.6	0.3	0.6	0.7	0.6	0.1	0.2	0.3	0.5	0.6	0.2	0.1	0.2	0.2	0.2
pH-Lab	pH unit	6.5-8.5	7.76	7.67	7.79	7.43	7.77	7.94	7.62	7.67	7.75	7.79	7.83	7.81	7.83	7.98	7.87	7.75	7.74	7.8
Phenols	mg/L	N/A	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	0.001	<0.001	< 0.001	0.002	< 0.001	0.005	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.37	0.36	< 0.1	< 0.1
Potassium	mg/L	N/A	1.4	1.9	1.7	1.7	1.3	1.8	1	1.7	1.2	1.4	1.2	1.5	1.6	1.7	1.5	1.8	1.5	1.6
Sodium	mg/L	200	17.9	26.8	23.9	16.5	18.7	19.7	15.6	18.2	7.1	6.3	6.7	6	7.1	6.5	8.2	8.6	8.4	9
Sulphate	mg/L	500	17	22	23	20	28	20	27	18	34	28	26	26	34	28	30	27	29	31
TDS	mg/L	500	411	439	425	429	395	377	374	381	389	407	403	406	421	431	406	403	406	413
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.08	0.07	0.04	0.05	0.04	0.03	0.07	0.08	0.05	0.04		0.07	0.08	0.07	0.08	0.08	0.08	0.08
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0002	0.0001		0.0003	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0002	< 0.0001	< 0.0001	0.0002	<0.0001	<0.0001	<0.0001	0.0001	0.0003	0.0002		0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001
Barium	mg/L	1	0.135	0.155	0.137	0.136	0.132	0.134	0.097	0.152	0.109	0.104		0.125	0.111	0.119	0.117	0.125	0.112	0.13
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.012	< 0.005	0.012	0.015	0.009	0.013	0.011	0.014	0.013	0.009		0.016	0.013	0.01	0.015	0.02	0.014	0.018
Cadmium	mg/L	0.005	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.000014		< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0018	0.001		< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.006	<0.0001	0.0002	0.0002	0.0003	0.0003	< 0.005	< 0.005		< 0.005	0.0016	< 0.005	< 0.005	< 0.005	0.0007	< 0.005
Copper	mg/L	1	0.0004	0.0004	0.0007	0.0005	0.0003	0.0008	0.0006	0.0004	0.0003	0.003		< 0.0001	0.0001	0.0005	0.0005	0.0002	0.0005	0.0014
Lead	mg/L	0.01	0.00004	< 0.00002	< 0.00002	0.0001	<0.00002	<0.00002	<0.00002	0.00009	< 0.00002	0.00022		< 0.00002	0.00003	0.00003	< 0.00002	< 0.00002	0.00002	0.00005
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0004	0.0003	0.0003	0.0003	0.0003	0.0005	0.0003	0.0003	0.0003	0.0003		0.0003	0.0003	0.0003	0.0002	0.0003	0.0002	0.0003
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	0.0003	0.0003	0.0003	0.0002	0.001	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002		< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.264	0.284	0.276	0.259	0.267	0.242	0.239	0.257	0.286	0.279		0.259	0.293	0.299	0.301	0.307	0.294	0.298
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0007	0.0026		0.0009	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I
			4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	24-May-16	13-Oct-16	23-May-17	16-Oct-17	7-May-18	8-May-19	5-May-20	13-Oct-20
Alkalinity	mg/L	500	333	329	334	334	339	361	340	331	336	324	320	316	326	351	393	324	355	306
Unionized Ammonia	mg/L	N/A												0.05						
Ammonia	mg/L	N/A	0.03	0.04	0.23	0.05	1.21	0.69	1	0.94	0.31	0.11	2.53	3.45	1.87	3.11	1.91	4.71	1.92	5.49
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	127	134	142	133	131	128	130	137	126	139	58.3	52.7	60.7	61.1	63.2	52	61	49.5
COD	mg/L	N/A	11	5	16	24	6	12	42	25	27	17	36	10	32	45	17	23	50	67
Chloride	mg/L	250	27.1	52.5	37.4	60.5	44.4	43	42.9	36.4	38.8	42.1	67.9	66.6	53.4	54.3	59.7	69.4	56.9	63.3
Conductivity	umhos/cm	N/A	736	791	842	839	856	863	849	822	821	779	797	804	774	825	838	863	836	801
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2.8	2.4	2.9	1.1	2.6	3.1	4	3	1.9	4.3	2.6	2.5	2.3	3.7	4.3	4.9	5.2	3.8
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.6	0.8	0.6	0.2	0.2	< 0.1	< 0.1
Hardness	mg/L	500	378	391	424	403	395	372	390	413	380	408	322	296	337	339	363	290	347	265
Ion Balance	%	N/A	0.812	0.772	3.68	2.95	1.26	1.46	0.0925	4.52	1.78	4.66							2.45	3.45
Iron	mg/L	0.3	0.066	0.53	0.747	0.72	0.347	0.437	0.268	0.69	0.345	0.722	0.064	0.549	0.228	0.526	0.296	0.949	0.342	0.259
Magnesium	mg/L	N/A	14.6	13.7	16.8	17.1	16.8	12.7	16.1	17	15.7	14.8	42.9	40	45.1	45.3	49.8	39	47.4	34.4
Manganese	mg/L	0.05	0.026	0.026	0.031	0.025	0.038	0.024	0.033	0.029	0.028	0.03	0.01	0.044	0.046	0.172	0.088	0.054	0.014	0.028
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	<0.05	<0.05	<0.05	<0.05	0.3	0.1	< 0.1	< 0.05	< 0.05	< 0.05	0.12	< 0.05
Nitrite	mg/L	1	< 0.05	0.12	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.2	0.2	0.7	0.3	1.2	0.9	1	1	0.5	0.3	2.9	3.6	2.2	3.2	2.2	5.1	2.6	6.3
pH-Lab	pH unit	6.5-8.5	7.93	7.77	7.75	7.69	7.76	7.54	7.78	7.9	7.68	7.69	7.74	8.11	8.03	7.98	8.05	8.01	7.86	7.87
Phenols	mg/L	N/A	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	0.001	<0.001	< 0.001	0.003	0.003	0.003	< 0.001	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.36	< 0.1	< 0.1
Potassium	mg/L	N/A	1.6	2	1.7	2	1.9	2	1.8	1.9	1.5	1.9	7.8	8.4	8.2	8.8	10.1	9.5	8.8	8.5
Sodium	mg/L	200	13.2	22.8	19	22.8	23.1	37.6	23.3	21.9	18.4	21	49.2	69.7	53.3	53.3	52.2	72.6	45.1	70
Sulphate	mg/L	500	29	33	48	63	56	48	46	41	45	32	5	5	3	7	6	4	6	5
TDS	mg/L	500	413	456	466	499	476	456	448	433	432	408	424	437	423	446	480	448	441	415
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.07	0.04	0.08	0.09	0.05	0.04	0.04	0.04	0.07	0.06	0.02	0.09	0.02	0.04	0.04	0.03	0.03	0.04
Antimony	mg/L	0.006	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	<0.0001	0.0001	0.0008	0.0007	0.0002	0.0003	< 0.0001	< 0.0001	< 0.0001	0.0001
Barium	mg/L	1	0.12	0.14	0.132	0.147	0.13	0.131	0.149	0.128	0.112	0.133	0.651	0.568	0.711	0.724	0.807	0.584	0.729	0.554
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.017	0.02	0.014	< 0.005	0.016	0.017	0.013	0.017	0.014	0.016	0.36	0.345	0.415	0.399	0.442	0.339	0.43	0.307
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000010	0.00001	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	0.005	0.0004	0.0012	0.0005	0.0008	0.0004	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.0001	< 0.005
Copper	mg/L	1	0.0008	0.0006	0.0003	0.0004	0.0008	0.0006	0.0005	0.0006	0.0004	0.0005	0.0015	0.0003	0.0003	0.0003	0.0004	0.0001	0.0001	0.0003
Lead	mg/L	0.01	0.00002	0.00002	< 0.00002	< 0.00002	0.00005	<0.00002	<0.00002	<0.00002	<0.00002	0.00006	< 0.00002	0.00004	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	0.00025	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0003	0.0004	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0004	0.0002	0.0001	0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	0.0003
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0008	0.0006	0.0004	0.0004	0.0011	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.314	0.322	0.323	0.337	0.321	0.292	0.319	0.31	0.289	0.295	4.3	3.69	4.61	3.79	4.82	3.64	4.88	3.38
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0015	0.0009	0.0023	0.0009	< 0.0001	< 0.0001	< 0.0001	0.0002
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I (DUP)	20-91-I	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II
			4-May-21	13-Oct-21	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	7-May-25	15-Oct-25	24-May-16	13-Oct-16	23-May-17	16-Oct-17	7-May-18	9-Oct-18	8-May-19	7-Oct-19
Alkalinity	mg/L	500	226	228	215	224	234	275	247	246	247	248	382	382	399	399	401	397	389	391
Unionized Ammonia	mg/L	N/A												< 0.01						
Ammonia	mg/L	N/A	2.93	1.38	2.71	7.96	6.52	4.52	8.56	1.42	1.34	3.55	0.74	0.83	0.7	0.73	0.57	1.71	1.32	0.76
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	42.2	53.3	44.2	46.5	28.8	44.2	35.8	49	51	57	95.5	95.4	94.3	103	97	98.4	105	108
COD	mg/L	N/A	53	9	9	17	13	40	25	26	22	53	49	20	47	36	39	46	50	40
Chloride	mg/L	250	73.2	85.3	94.8	79.8	53.7	58.2	55.4	75.2	74	73.5	70.6	70.5	69.4	82	88.8	104	97.2	107
Conductivity	umhos/cm	N/A	655	678	641	668	630	727	676	707	708	696	896	919	968	998	962	1090	1030	1030
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.4	1.2	0.4	0.7	3.3	4.6	3.2	1.6	1.6	3.1	5.5	5.6	7.4	7.7	8.6	8.3	8.2	8.6
Fluoride	mg/L	1.5	< 0.1	< 0.1	0.2	0.6	<0.1	0.4	<0.1	0.5	0.3	0.2	0.4	0.4	0.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	221	275	231	247	116	237	175	258	267	291	438	442	435	484	460	470	486	493
Ion Balance	%	N/A	0.203	1.53	2.71	2.17	8.47	1.05	3.48	3.58	1.82	1.68								
Iron	mg/L	0.3	0.481	0.138	0.501	0.09	0.873	0.131	0.796	0.17	0.176	0.107	0.557	0.973	0.677	0.691	0.749	0.423	0.573	0.665
Magnesium	mg/L	N/A	28.1	34.5	29.4	31.9	10.8	30.7	20.7	33	33.9	36.2	48.6	49.5	48.6	55	52.8	54.4	54.5	54.2
Manganese	mg/L	0.05	0.038	0.012	0.037	0.013	0.109	0.07	0.153	0.012	0.013	0.009	0.012	0.013	0.011	0.013	0.015	0.012	0.014	0.012
Nitrate	mg/L	10	0.11	< 0.05	< 0.05	< 0.05	0.07	<0.05	<0.05	<0.05	<0.05	0.2	0.1	0.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	0.09	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	3.5	1.5	2.8	9.2	6.5	4.5	9.2	1.6	1.5	3.8	1.2	1.5	2	1.7	4	2.7	2.5	1.6
pH-Lab	pH unit	6.5-8.5	8.16	7.89	7.86	7.92	7.7	7.9	8.04	7.76	8.09	8.01	7.6	8	7.94	7.8	7.75	8.13	7.85	7.7
Phenols	mg/L	N/A	< 0.002	0.002	< 0.001	< 0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	< 0.001	0.003	0.008	0.007	< 0.001	0.007	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.41	0.1
Potassium	mg/L	N/A	5.8	5.9	5.9	6	5.5	7.2	6.8	5.6	5.8	6.4	3.7	3.6	3.5	4.1	4.9	4.2	4.4	4.4
Sodium	mg/L	200	43.5	35.4	39.3	33.7	66.7	49.8	55.5	29.4	30.4	31	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	42.6	45.9
Sulphate	mg/L	500	7	6	4	5	12	8	6	4	4	5	1	35	2	2	2	2	1	< 1
TDS	mg/L	500	339	358	351	338	327	379	351	367	368	362	479	518	491	523	527	545	541	555
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.03	0.03	0.02	0.01	<0.01	0.02	0.01	0.04	0.04	0.02	0.03	0.02	0.03	0.06	0.06	0.05	0.06	0.07
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	0.0008	0.0003	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.205	0.181	0.163	0.214	0.112	0.472	0.267	0.191	0.199	0.301	1.94	1.91	1.86	2.15	1.98	1.86	1.89	1.93
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.158	0.189	0.153	0.193	0.081	0.258	0.167	0.201	0.208	0.212	0.125	0.127	0.127	0.155	0.143	0.15	0.154	0.163
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.000021	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	0.0001	<0.0001	0.0001	0.0001	0.0001	<0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.013	< 0.005	< 0.005
Copper	mg/L	1	0.0002	< 0.0001	0.0002	0.0004	0.0004	<0.0001	0.0007	0.0005	0.0005	0.0003	0.0007	0.0005	0.0024	0.0002	0.0005	0.0008	0.0004	0.0002
Lead	mg/L	0.01	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	0.00023	< 0.00002	< 0.00002	< 0.00002	< 0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	< 0.0001	0.0001	< 0.0001	0.0006	0.0001	0.0003	<0.0001	<0.0001	<0.0001	0.0002	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	0.0005	0.0006	0.0006	<0.0002	<0.0002	0.0005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	0.001	0.002	0.002	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001							< 0.0001	< 0.0001
Strontium	mg/L	N/A	2.11	2.49	2.08	2.39	0.889	3.03	1.89	2.38	2.45	2.72	2.28	2.17	2.3	2.15	2.35	2.31	2.3	2.31
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0018	0.0008	0.0024	0.0009	0.0001	0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	0.011	< 0.005	< 0.005	0.015	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III
			5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	24-May-16	13-Oct-16	23-May-17	16-Oct-17	7-May-18	9-Oct-18
Alkalinity	mg/L	500	402	376	376	339	284	321	292	331	333	341	349	355	383	390	390	386	386	344
Unionized Ammonia	mg/L	N/A														< 0.01				
Ammonia	mg/L	N/A	0.62	0.56	0.5	0.41	0.61	0.55	1.61	0.81	0.56	0.64	0.56	0.74	0.2	0.21	0.19	0.21	0.22	0.24
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	114	97.7	84.7	75.6	72.5	75.1	66.4	72.1	74.8	82.7	77.1	88.1	124	138	120	126	115	116
COD	mg/L	N/A	47	33	33	19	19	8	14	26	36	33	37	28	36	32	29	29	32	28
Chloride	mg/L	250	100	91.6	89.7	80.7	82.7	108	83.2	70.8	72.8	76.2	71.7	71.5	91	98.3	74.4	78.9	68.9	78.6
Conductivity	umhos/cm	N/A	1060	992	936	832	806	834	788	819	863	861	869	867	963	1050	982	974	893	927
Cyanide	mg/L	0.2																		
DOC	mg/L	5	10.5	6.7	5.5	2.9	2.8	2.1	1.7	5.2	6.5	6.6	4.7	7.8	7.3	7.3	9.1	8.1	7.9	9
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	0.5	<0.1	0.4	0.1	0.3	0.2	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	508	454	403	351	337	365	321	342	360	390	367	403	427	479	420	442	410	416
Ion Balance	%	N/A	7.57	4.56	0.223	1.33	3.3	2.32	1.12	1.37	1.05	2.28	1.13	2.86						
Iron	mg/L	0.3	< 0.005	0.529	0.841	0.273	0.506	0.36	0.393	0.336	0.119	0.295	0.046	0.323	2.74	3.42	2.9	2.61	2.4	2.79
Magnesium	mg/L	N/A	54.3	51	46.5	39.4	38	43.1	37.8	39.4	42	44.5	42.4	44.5	28.4	32.8	29.2	30.9	29.8	30.6
Manganese	mg/L	0.05	0.012	0.01	0.01	0.012	0.01	0.011	0.01	0.011	0.01	0.011	0.006	0.011	0.055	0.049	0.039	0.04	0.033	0.041
Nitrate	mg/L	10	0.09	< 0.05	0.1	< 0.05	< 0.05	< 0.05	< 0.05	0.07	<0.05	<0.05	<0.05	0.3	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	0.06	< 0.05	< 0.05	0.12	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1.8	1.4	1.2	0.8	0.9	1	1.9	1.4	1.4	1.5	1.5	1.3	0.8	0.9	0.8	0.7	1	0.8
pH-Lab	pH unit	6.5-8.5	7.71	7.88	8.08	7.78	7.74	7.72	7.9	7.57	7.9	7.98	7.76	7.74	7.43	7.96	7.78	7.73	7.68	8.07
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	0.001	<0.001	< 0.001	0.002	0.015	0.01	< 0.001	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	4.5	4	3.9	3.9	3.9	4.3	4.1	4.1	4.2	4.2	3.8	4.2	2.2	2.2	2.1	2.4	2.7	2.4
Sodium	mg/L	200	54.8	43.7	43.6	38.4	35.1	36.1	33.9	33.2	35.2	34.3	31	34.1	45	52.4	42.4	39.4	42.5	41.6
Sulphate	mg/L	500	2	2	2	< 1	< 1	< 1	< 1	4	<1	2	<1	2	2	3	7	8	10	7
TDS	mg/L	500	572	516	497	442	406	460	402	431	456	455	459	458	525	565	512	520	503	486
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.03	0.06	0.06	0.04	0.06	0.06	0.02	0.02	0.03	0.02	0.04	0.04	0.03	0.04	0.04	0.07	0.07	0.06
Antimony	mg/L	0.006	0.0002	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0009	0.001	0.0003	0.0004	< 0.0001	0.0001
Barium	mg/L	1	2.12	1.94	1.73	1.53	1.4	1.66	1.42	1.47	1.81	1.66	1.5	1.78	0.303	0.322	0.282	0.327	0.3	0.279
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.167	0.161	0.157	0.165	0.168	0.163	0.163	0.168	0.163	0.164	0.16	0.157	0.084	0.088	0.083	0.093	0.089	0.091
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	< 0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.000018	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.0002	0.0026	0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0001	0.0001	0.0002	0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.006
Copper	mg/L	1	0.0002	0.0053	< 0.0001	0.0005	0.0002	0.0004	0.0006	0.0002	0.0002	0.0009	0.0007	0.0006	0.0008	0.0002	0.0018	0.0002	0.0003	0.0003
Lead	mg/L	0.01	< 0.00004	0.00004	< 0.00004	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	0.00016	< 0.00002	< 0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0016	0.0023	0.0028	0.0023	0.0025	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	0.001	0.002	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.002	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	0.0008	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001
Strontium	mg/L	N/A	2.35	2.32	2.16	1.95	1.96	2.26	2.06	2.1	2.28	2.25	2.17	2.19	0.565	0.613	0.581	0.516	0.547	0.557
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0004	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.002	0.0009	0.0025	0.0009	0.0001	0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III (DUP)	21-91-I	21-91-I	21-91-I
			8-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	15-Oct-25	17-May-16	12-Oct-16	23-May-17
Alkalinity	mg/L	500	358	367	369	363	351	361	343	380	378	394	353	358	345	343	347	574	545	590
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.32	0.36	0.41	0.51	0.37	0.49	0.64	0.72	1.09	0.95	0.48	0.73	0.68	0.36	0.44	2.16	2.22	2.09
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	118	127	116	122	108	113	117	111	111	114	113	118	110	119	103	155	182	178
COD	mg/L	N/A	29	28	51	36	29	32	23	23	20	27	27	21	20	16	16	75	71	77
Chloride	mg/L	250	81	104	86.2	95.3	77.1	76.3	76.1	126	99.2	76.3	60.2	76.6	54.8	60.1	62.2	449	565	366
Conductivity	umhos/cm	N/A	955	1000	963	1000	888	885	933	987	1010	965	888	929	833	843	860	2510	4710	2450
Cyanide	mg/L	0.2																		
DOC	mg/L	5	8.7	9.4	9.2	7.9	6.3	4.8	6.2	4.1	6.6	7.7	6.8	7.7	3.8	7.2	6.2	7.2	5.6	10.2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	0.4	< 1
Hardness	mg/L	500	420	455	414	438	379	392	398	394	387	392	383	402	367	394	355	781	928	886
Ion Balance	%	N/A			2.81	6.47	1.76	1.45	5.07	3.04	1.75	2.55	0.673	1.83	2.12	2.41	2.42			
Iron	mg/L	0.3	2.5	3.55	2.46	3.4	1.82	2.04	1.98	2.43	2.44	1.85	1.45	1.59	1.15	1.43	1.3	0.559	0.367	0.178
Magnesium	mg/L	N/A	30.5	33.4	30.1	32.3	26.6	26.6	25.7	28.4	26.7	26.1	24.5	25.9	22.3	23.5	23.9	95.6	115	107
Manganese	mg/L	0.05	0.039	0.039	0.029	0.037	0.027	0.047	0.069	0.09	0.064	0.064	0.053	0.074	0.048	0.074	0.068	0.008	0.011	0.008
Nitrate	mg/L	10	< 0.05	< 0.05	0.09	< 0.05	0.11	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05	0.3	0.27	< 0.1	< 0.1	< 0.5
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.5
Tot Kjel N	mg/L	N/A	0.8	1	1.1	1.2	0.9	1	1.2	1.3	1.1	1.5	0.8	1.1	1.1	0.7	0.7	3.6	3.5	3.5
pH-Lab	pH unit	6.5-8.5	7.84	7.66	7.68	7.73	8.06	7.71	7.69	7.59	7.74	7.46	7.71	7.84	7.57	7.61	7.75	7.5	7.36	7.63
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	0.009	0.029
Phosphorus	mg/L	N/A	0.04	0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	2.6	2.9	2.7	2.8	2.6	2.7	2.7	3.2	3.1	2.8	2.6	2.8	2	2.4	2.6	8.9	10.3	9.9
Sodium	mg/L	200	43.9	52.6	47.5	56.6	45.9	44.8	47	57.3	50.6	40.2	32.7	38.2	24.2	30.5	32.4	141	158	151
Sulphate	mg/L	500	7	3	8	6	11	16	11	8	7	13	17	9	21	16	18	1	2	< 10
TDS	mg/L	500	501	547	515	536	484	499	488	565	527	514	470	493	439	445	454	1200	1360	1170
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.07	0.08	0.07	0.08	0.07	0.05	0.07	0.07	0.06	0.04	0.05	0.04	0.06	0.05	0.03	0.04	0.05	0.05
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Arsenic	mg/L	0.025	0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0023	< 0.0001	0.001
Barium	mg/L	1	0.287	0.335	0.285	0.332	0.264	0.28	0.285	0.35	0.315	0.272	0.286	0.272	0.202	0.245	0.23	0.781	0.93	0.907
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.107	0.125	0.122	0.144	0.121	0.127	0.119	0.136	0.122	0.109	0.078	0.085	0.058	0.062	0.068	0.408	0.533	0.515
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.00002	< 0.00002	< 0.000014
Chromium	mg/L	0.05	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	0.0037	0.002
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.0002	0.0002	0.0003	0.0002	0.0002	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0004	0.0002	0.0002	0.0036	0.0006	0.0002	0.0001	0.0002	0.0007	0.0002	< 0.0001	0.0006	0.0005	0.0009	0.0005	0.0002	0.0007	0.0008
Lead	mg/L	0.01	< 0.00002	< 0.00004	0.00003	0.00003	0.00002	0.00003	< 0.00002	< 0.00002	0.0005	< 0.00002	0.00005	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.004	0.0027	0.0039	0.0019	0.003	0.0029	< 0.01	< 0.01	0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.007	0.012	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.585	0.653	0.578	0.619	0.609	0.625	0.585	0.666	0.601	0.541	0.522	0.54	0.456	0.488	0.508	9.18	10.8	10.6
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0001	< 0.0001	0.0001	0.0002	0.0001	< 0.0001	0.0001	0.0002	0.0002	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0016	0.0015	0.0043
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-II
			17-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	17-May-16
Alkalinity	mg/L	500	542	543	573	542	537	533	529	550	557	505	510	496	528	509	467	530	544	382
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	2.07	2.1	2.07	2.18	2.19	2.08	2.23	2.2	2.15	2.35	2.28	3.35	2.57	2.37	1.61	2.4	2.22	1.24
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	243	173	185	179	189	173	178	172	183	178	184	161	168	169	190	169	192	60.8
COD	mg/L	N/A	72	76	82	86	74	93	106	81	71	65	79	63	69	80	88	90	83	26
Chloride	mg/L	250	93.7	556	498	531	520	481	495	476	535	489	598	581	535	0	297	497	497	174
Conductivity	umhos/cm	N/A	3920	2280	2380	2670	2390	2380	2370	2420	2360	2450	2750	2530	2570	2530	1920	2540	2450	1250
Cyanide	mg/L	0.2																		
DOC	mg/L	5	11.6	12.2	10.3	11.4	9.4	8.5	6.1	7	5.3	6.2	3.5	5.4	7.2	10.3	16.6	5.4	10.1	3.8
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	0.4	< 1	< 1	< 0.1	0.2	< 0.1	< 0.5	< 1	< 0.1	<0.7	0	<0.7	<0.1	<0.7	1.7
Hardness	mg/L	500	1220	893	927	900	953	889	905	907	918	889	881	818	847	879	699	866	949	328
Ion Balance	%	N/A						1.18	1.5	2.32	0.988	1.87	0.26	2.76	0.493	1.16	5.83	0.907	1.62	
Iron	mg/L	0.3	0.02	0.453	0.33	0.17	0.426	0.271	0.275	0.316	0.306	0.221	< 0.005	6.48	4.39	1.02	6.39	0.624	0.447	0.131
Magnesium	mg/L	N/A	149	112	113	110	117	111	112	116	112	108	116	101	104	111	54.5	108	114	42.9
Manganese	mg/L	0.05	0.016	0.01	0.01	0.011	0.009	0.008	0.008	0.009	0.01	0.009	0.015	0.034	0.023	0.011	0.033	0.005	0.01	0.012
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	0.17	< 0.5	0.82	< 0.05	0.11	< 0.05	< 0.3	< 0.5	< 0.05	<0.40	0	<0.40	<0.05	0.98	< 0.1
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.5	0.11	< 0.05	0.26	< 0.3	< 0.5	< 0.05	<0.40	0	<0.40	<0.05	<0.40	< 0.1
Tot Kjel N	mg/L	N/A	3.5	3.4	3.5	3.6	3.6	3.6	3.9	3.5	3.6	3.5	3.7	3.3	4.4	3.6	3.2	3.7	3.8	1.7
pH-Lab	pH unit	6.5-8.5	7.43	7.52	7.58	7.57	7.53	7.54	7.55	7.63	7.51	7.52	7.46	7.64	7.46	7.65	7.77	7.46	7.47	7.98
Phenols	mg/L	N/A	0.019	< 0.001	0.017	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	0.003	<0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	0.12	0.22	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1
Potassium	mg/L	N/A	16.7	12.8	11.2	11.9	12.4	11.3	11.3	11.2	11.6	10.8	11.7	11.7	11.6	12	6.4	10.9	11.6	5.5
Sodium	mg/L	200	355	166	161	175	173	153	159	161	160	151	184	182	176	164	132	145	146	97.8
Sulphate	mg/L	500	< 1	1	1	3	< 10	< 10	2	< 1	2	< 5	< 10	1	<2	2	14	<1	5	< 1
TDS	mg/L	500	1186	1350	1317	1338	1336	1252	1274	1269	1341	1243	1402	1342	1430	1410	1060	1410	1360	614
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.12	0.08	0.08	0.09	0.1	0.09	0.09	0.09	0.08	0.09	0.11	0.05	0.06	0.06	0.06	0.09	0.08	0.02
Antimony	mg/L	0.006	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0002	0.0002	0.0002	< 0.0001	0.0001	0.0002	<0.0001	0.0001	<0.0001	<0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0018	< 0.0005	< 0.0001	< 0.0001	< 0.0003	< 0.0003	< 0.0003	< 0.0005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	<0.0003	<0.0001	0.0002	<0.0001	<0.0001	0.0012
Barium	mg/L	1	0.976	0.958	0.978	0.946	1.03	0.936	0.992	0.92	1.03	0.979	0.846	0.883	0.868	1.08	0.96	0.892	1.06	3.26
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002
Boron	mg/L	5	0.565	0.531	0.524	0.552	0.574	0.552	0.55	0.545	0.566	0.539	0.547	0.578	0.601	0.576	0.258	0.561	0.558	0.405
Cadmium	mg/L	0.005	< 0.000014	0.000092	< 0.000015	< 0.000015	< 0.000029	< 0.000029	< 0.000029	< 0.000059	< 0.000029	< 0.000029	< 0.000029	< 0.000029	<0.000030	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002
Chromium	mg/L	0.05	< 0.001	< 0.001	0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002
Cobalt	mg/L	N/A	< 0.005	0.0001	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.001	0.0003	0.0003	0.0004	0.0003	< 0.005
Copper	mg/L	1	0.0006	0.0014	0.0002	0.0013	0.0006	< 0.0002	0.0028	0.0011	< 0.0002	0.0002	0.0005	0.0003	< 0.0002	<0.0001	0.0003	0.0002	0.0012	0.0001
Lead	mg/L	0.01	< 0.00002	< 0.0002	< 0.00002	0.00002	< 0.00009	0.00004	< 0.00009	< 0.0002	< 0.00009	< 0.00009	< 0.00009	< 0.00009	<0.00002	<0.00002	<0.00002	0.00002	<0.00004	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	0.00003
Molybdenum	mg/L	N/A	< 0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0002	< 0.0002	< 0.0002	< 0.0004	0.0003	< 0.0002	< 0.0002	0.0006	<0.0002	<0.0001	<0.0001	<0.0001	0.0002	0.0007
Nickel	mg/L	N/A	0.01	0.01	0.01	< 0.01	0.01	< 0.01	0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.007	0.0071	0.0124	0.0076	0.0073	< 0.01
Selenium	mg/L	0.01	0.002	< 0.002	0.006	0.005	0.006	0.003	0.004	0.005	0.006	< 0.02	< 0.02	< 0.001	0.005	0.007	0.003	< 0.001	< 0.001	0.003
Silver	mg/L	N/A	< 0.00002	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002
Strontium	mg/L	N/A	15.5	10.6	10.6	11.2	11.5	11	11.1	11.2	11.7	10.9	11.7	9.81	10.2	11.5	1.94	10.8	11.2	5.14
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0011	< 0.0007	0.0003	0.0002	< 0.0004	0.0003	< 0.0004	< 0.0007	< 0.0004	< 0.0004	< 0.0004	0.0004	< 0.0004	0.0002	0.0003	0.0002	0.0002	0.0009
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II
			12-Oct-16	23-May-17	17-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25
Alkalinity	mg/L	500	402	432	415	390	403	390	382	378	380	426	425	393	413	425	455	434	411	425
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	1.48	1.46	1.11	1.2	1.36	1.57	1.53	1.2	1.26	1.67	1.43	1.49	1.33	2.15	1.96	1.83	1.86	1.72
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	73.9	79.5	83	71.8	81.1	81.9	78.7	69.6	72.6	69.8	70.7	75.5	71.1	70.4	83.4	83.6	83.1	86.9
COD	mg/L	N/A	22	70	37	18	32	33	32	36	26	36	37	32	19	33	51	61	37	45
Chloride	mg/L	250	201	186	188	175	204	232	210	174	187	207	210	209	250	250	224	244	221	238
Conductivity	umhos/cm	N/A	1390	1450	1350	1220	1370	1410	1330	1260	1310	1390	1360	1410	1390	1500	1520	1570	1460	1510
Cyanide	mg/L	0.2																		
DOC	mg/L	5	4.3	6.1	5.5	5.9	6	7.3	5.9	3.6	3.8	4.3	3.3	4.2	1.8	2.2	6.6	9.5	8.1	4.2
Fluoride	mg/L	1.5	1.8	1.9	1.8	1.4	1.1	2.2	1.1	0.8	1.2	< 0.1	1.2	1.4	1.3	1.6	<0.7	<0.1	1.3	<0.1
Hardness	mg/L	500	410	416	455	396	443	446	429	386	399	396	390	410	409	396	454	470	455	470
Ion Balance	%	N/A								1.97	2.78	1.57	0.864	1.02	3.73	6.48	1	3.16	2.42	1.23
Iron	mg/L	0.3	0.474	0.313	1.27	0.02	0.961	1.26	1.23	0.092	2.32	0.717	2.31	0.327	2.71	0.302	2.46	2.09	2.46	1.25
Magnesium	mg/L	N/A	54.7	52.8	60.2	52.7	58.4	58.7	56.6	51.5	52.8	53.8	51.8	53.9	56.3	53.5	59.8	63.6	60.1	61.6
Manganese	mg/L	0.05	0.016	0.015	0.013	0.012	0.01	0.007	0.009	0.009	0.009	0.008	0.009	0.009	0.008	0.007	0.008	0.009	0.009	0.007
Nitrate	mg/L	10	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	0.18	< 0.05	0.09	0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.40	<0.05	<0.05	<0.05
Nitrite	mg/L	1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	< 0.05	0.19	< 0.05	< 0.05	< 0.05	<0.40	<0.05	<0.05	<0.05
Tot Kjel N	mg/L	N/A	1.9	2.1	1.7	1.6	2.1	2.2	2.1	1.7	1.9	2.5	2.5	2.2	2.3	2.4	3.3	2.8	2.6	2.5
pH-Lab	pH unit	6.5-8.5	7.94	7.97	7.69	7.95	7.91	7.93	7.89	7.95	7.93	8.04	7.81	7.97	7.73	7.87	7.7	7.89	7.92	7.82
Phenols	mg/L	N/A	0.02	0.025	0.011	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	0.001	<0.001	0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.05	0.04	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	N/A	6.8	6.9	7.9	8	8	8.3	8.1	7.2	7.3	7.4	7.4	7.2	7.7	7.6	8.4	8.8	7.9	8.1
Sodium	mg/L	200	120	126	126	123	135	141	131	116	124	131	139	129	130	129	141	154	132	133
Sulphate	mg/L	500	< 1	3	3	< 1	< 1	1	< 1	< 1	< 1	2	< 1	< 1	< 1	< 1	<2	<1	2	<1
TDS	mg/L	500	702	734	721	668	733	763	718	648	675	730	739	714	769	767	828	857	795	823
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.02	0.02	0.06	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.04	0.05	0.04	0.02	0.03	0.04	0.02	0.05
Antimony	mg/L	0.006	0.0003	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001
Arsenic	mg/L	0.025	0.0006	0.0009	0.0014	0.0004	0.0004	0.0003	0.0005	0.0004	0.0008	0.0006	0.001	0.0005	0.0014	0.0004	0.0004	0.0004	0.0006	0.0002
Barium	mg/L	1	4.25	3.9	4.6	3.81	4.49	4.85	4.59	3.89	4.18	4.04	4.26	4.18	4.36	3.96	4.75	5.44	4.2	4.06
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	5	0.53	0.525	0.581	0.513	0.527	0.552	0.572	0.526	0.54	0.52	0.536	0.516	0.549	0.512	0.566	0.554	0.544	0.57
Cadmium	mg/L	0.005	< 0.00002	< 0.000014	< 0.000014	0.00002	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000012	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.05	0.0024	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0002	0.0001	0.0002
Copper	mg/L	1	0.0007	0.0006	0.0006	0.0008	0.0002	0.0012	0.0004	< 0.0001	0.001	0.0013	0.0001	0.0007	0.0015	0.0001	0.0002	0.0008	0.0002	0.0001
Lead	mg/L	0.01	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00009	< 0.00002	0.00005	0.00117	< 0.00004	< 0.00004	0.00005	< 0.00004	<0.00002	<0.00002	<0.00002	<0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0004	0.0002	0.0004	0.0004	0.0004	0.0002	0.0005	0.0003	0.0003	< 0.0002	0.0003	0.0005	0.0004	0.0002	<0.0001	<0.0001	0.0002	0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0044	0.0047	0.0032	0.0038
Selenium	mg/L	0.01	0.006	< 0.001	< 0.001	< 0.001	0.003	0.003	0.003	0.002	0.002	0.003	0.003	0.004	0.004	0.003	0.003	0.003	0.003	<0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	5.7	6.07	5.8	5.58	6.2	6.86	6.31	5.64	5.9	6.07	5.93	5.93	6.26	5.98	6.71	7.23	6.29	6.71
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	0.0009	0.0027	0.0009	< 0.0001	0.0001	0.0002	< 0.0004	< 0.0001	< 0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0002	<0.0001	0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	<0.005	<0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	21-91-II	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III
			15-Oct-25	17-May-16	12-Oct-16	23-May-17	17-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	16-Oct-24
Alkalinity	mg/L	500	428	572	542	565	570	544	557	515	522	553	516	547	576	540	532	519	528	514
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	4.07	1.7	1.73	1.54	1.28	1.18	1.12	1.06	1.31	1.05	1.2	1.2	1.26	1.6	1.48	1.62	1.65	2.64
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	87.9	187	212	210	218	217	221	219	224	214	215	208	219	163	199	186	197	181
COD	mg/L	N/A	61	98	73	92	90	93	114	101	96	99	90	103	116	128	94	91	111	79
Chloride	mg/L	250	223	379	336	313	264	459	407	381	421	391	414	373	443	371	470	402	377	474
Conductivity	umhos/cm	N/A	1460	2210	2070	2120	2050	2110	2200	2140	2130	2150	2150	2160	2140	2130	2140	2100	2150	2490
Cyanide	mg/L	0.2																		
DOC	mg/L	5	7.6	9.7	8.6	14	13.5	16.4	12.5	13.3	11.5	10.9	8.8	9.7	8.3	8	5.5	6.7	11	11.3
Fluoride	mg/L	1.5	1	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 1	< 0.1	< 0.1	0.1	< 0.1	< 0.5	< 1	< 0.1	<0.7	<0.7
Hardness	mg/L	500	453	703	790	786	819	820	825	804	835	801	797	765	790	605	744	700	725	928
Ion Balance	%	N/A	0.38									2.67	2.71	3.15	0.434	5.59	2.06	0.753	2.6	4.61
Iron	mg/L	0.3	2.31	9.86	5.34	5.96	0.011	6.22	7.65	6.92	6.36	6.78	6.74	5.65	8.46	17	7.1	0.088	11.9	2.56
Magnesium	mg/L	N/A	56.7	57.1	63	63.7	66.7	67.5	66.3	62.5	66.9	64.7	63.1	59.6	58.9	48.1	60	56.9	56.5	116
Manganese	mg/L	0.05	0.012	0.038	0.035	0.032	0.032	0.037	0.038	0.036	0.034	0.035	0.037	0.035	0.042	0.103	0.035	0.035	0.047	0.016
Nitrate	mg/L	10	<0.05	< 0.1	< 0.1	< 0.05	0.9	< 0.05	< 0.05	0.17	< 0.5	0.08	0.69	0.17	< 0.05	< 0.3	< 0.5	< 0.05	<0.40	<0.40
Nitrite	mg/L	1	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	0.09	0.09	< 0.05	0.28	< 0.3	< 0.5	< 0.05	<0.40	<0.40
Tot Kjel N	mg/L	N/A	5.3	3.6	3.1	2.7	2.9	2.8	2.8	2.7	3	2.8	3.2	3.1	3.3	3.8	3.5	2.9	4.1	3.7
pH-Lab	pH unit	6.5-8.5	7.82	7.38	7.5	7.57	7.38	7.54	7.54	7.54	7.45	7.39	7.45	7.51	7.34	7.4	7.35	7.51	7.3	7.72
Phenols	mg/L	N/A	0.001	< 0.001	0.004	0.024	0.013	< 0.001	0.025	< 0.002	< 0.002	< 0.002	< 0.002	0.004	< 0.001	< 0.001	< 0.001	< 0.001	0.001	<0.001
Phosphorus	mg/L	N/A	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.04	0.04	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1
Potassium	mg/L	N/A	7.9	5.5	6.1	6.2	7.1	7.9	6.8	6.5	7.6	6.8	6.8	6.2	6.6	6	7.1	6.9	6.6	11.7
Sodium	mg/L	200	127	128	138	143	145	159	154	149	157	154	157	162	180	132	170	166	161	162
Sulphate	mg/L	500	1	< 1	< 1	< 1	< 1	< 1	< 1	1	< 10	< 1	< 1	< 1	4	< 5	< 10	< 1	<2	14
TDS	mg/L	500	798	1110	1090	1080	1045	1244	1199	1138	1197	1171	1173	1145	1267	1064	1234	1129	1190	1380
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.05	0.05	0.06	0.08	0.09	0.08	0.1	0.12	0.1	0.1	0.1	0.08	0.08	0.12	0.06	0.06	0.05
Antimony	mg/L	0.006	0.0002	< 0.0001	0.0003	0.0001	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0002	0.0001	0.0001	< 0.0001	< 0.0001	0.0001	<0.0001
Arsenic	mg/L	0.025	0.0005	0.0014	0.0001	0.0007	0.0015	< 0.0005	< 0.0001	< 0.0001	< 0.0003	< 0.0003	< 0.0003	< 0.0005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	0.0002	<0.0001
Barium	mg/L	1	4.13	0.993	1.05	1.06	1.11	1.15	1.06	1.04	1.26	1.05	1.12	0.916	1.02	0.819	1.08	0.959	1	0.943
Beryllium	mg/L	N/A	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001
Boron	mg/L	5	0.522	0.228	0.245	0.269	0.276	0.288	0.273	0.256	0.297	0.295	0.29	0.258	0.312	0.298	0.322	0.322	0.35	0.585
Cadmium	mg/L	0.005	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.000111	< 0.000015	< 0.000015	< 0.000029	< 0.000029	< 0.000029	< 0.000059	< 0.000029	< 0.000029	< 0.000029	< 0.000029	<0.000015	<0.000015
Chromium	mg/L	0.05	<0.001	< 0.0002	0.0035	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001
Cobalt	mg/L	N/A	0.0001	< 0.005	< 0.005	< 0.005	< 0.005	0.0001	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	0.0003
Copper	mg/L	1	0.0002	0.0002	0.0006	0.0007	0.0006	0.0009	0.0002	0.0012	0.0006	0.0003	< 0.0002	0.0008	< 0.0002	0.0004	0.0005	< 0.0002	0.0002	0.0002
Lead	mg/L	0.01	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0002	< 0.00002	< 0.00002	< 0.00009	0.00006	< 0.00009	0.00039	< 0.00009	< 0.00009	< 0.00009	< 0.00009	<0.00002	<0.00002
Mercury	mg/L	0.001	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0002	0.0001	< 0.0002	< 0.0004	< 0.0002	< 0.0002	< 0.0002	< 0.0002	<0.0001	<0.0001
Nickel	mg/L	N/A	0.0033	0.01	< 0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.019	0.0071
Selenium	mg/L	0.01	<0.001	0.004	0.007	< 0.001	< 0.001	< 0.002	0.004	0.003	0.003	0.002	0.003	0.003	0.004	0.005	0.006	0.006	0.003	0.006
Silver	mg/L	N/A	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	5.98	2.13	2.08	2.55	2.62	2.62	2.38	2.22	2.88	2.36	2.44	1.69	1.6	1.13	1.83	1.94	1.46	11
Thallium	mg/L	N/A	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00005	<0.00005
Vanadium	mg/L	N/A	<0.0001	0.0017	0.0013	0.004	0.0013	< 0.0007	0.0003	0.0003	< 0.0004	0.0003	< 0.0004	< 0.0007	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.0004	0.0002
Zinc	mg/L	5	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	21-91-III	21-91-III	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07
			7-May-25	15-Oct-25	24-May-16	13-Oct-16	24-May-17	16-Oct-17	7-May-18	9-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23
Alkalinity	mg/L	500	483	469	193	205	210	203	216	184	197	234	194	226	241	275	268	280	256	269
Unionized Ammonia	mg/L	N/A				< 0.01														
Ammonia	mg/L	N/A	1.08	1.08	0.05	0.09	0.19	0.05	0.04	0.07	0.05	0.05	0.04	0.08	0.07	0.09	0.68	0.05	1.13	0.76
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	186	206	77.8	85.9	83.2	82.1	84.4	77	88.8	99	85.6	91.7	95.1	110	112	107	97.1	99.8
COD	mg/L	N/A	103	87	26	< 5	31	9	< 5	15	20	12	22	34	23	15	16	17	< 5	21
Chloride	mg/L	250	364	344	8.4	9.4	8.3	8.5	11.1	9.1	9.6	12.1	9.5	15.1	16.1	26.1	27.2	37.8	23.6	19.9
Conductivity	umhos/cm	N/A	2000	1910	445	488	473	447	479	450	478	548	463	544	522	622	661	659	612	607
Cyanide	mg/L	0.2																		
DOC	mg/L	5	8.8	15	1	1.2	0.9	1.3	1.6	2	1.9	2.7	2.6	2.6	2.7	1.5	2.3	1.7	2.3	3.7
Fluoride	mg/L	1.5	<0.1	<0.1	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1
Hardness	mg/L	500	681	735	239	262	251	252	257	236	268	297	258	274	284	322	329	318	287	296
Ion Balance	%	N/A	0.197	0.62						3.9				6.33	2.18	0.447	0.0775	3.06	4.24	2.96
Iron	mg/L	0.3	9.37	7.04	0.023	0.322	0.034	0.239	0.044	< 0.005	0.011	0.032	0.072	0.021	0.193	0.551	0.198	0.206	0.012	0.029
Magnesium	mg/L	N/A	52.6	53.5	10.8	11.4	10.5	11.3	11.2	10.6	11.2	12	10.6	10.8	11.3	11.4	11.9	12.2	10.8	11.2
Manganese	mg/L	0.05	0.035	0.038	0.014	0.019	0.012	0.021	0.008	< 0.001	0.004	0.023	0.006	0.03	0.021	0.02	0.02	0.024	0.011	0.024
Nitrate	mg/L	10	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.16
Nitrite	mg/L	1	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	< 0.05	< 0.05	< 0.05	0.05
Tot Kjel N	mg/L	N/A	2.9	2.7	0.6	0.9	0.5	0.2	0.2	0.7	0.3	0.3	0.5	0.2	0.4	0.4	0.8	0.4	1.1	1
pH-Lab	pH unit	6.5-8.5	7.36	7.38	7.9	8	8.03	8.04	7.99	7.96	8.04	7.88	7.9	7.94	7.96	7.75	7.73	7.76	7.9	7.51
Phenols	mg/L	N/A	0.005	0.003	< 0.001	0.003	0.008	0.005	< 0.001	0.006	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	3.89	1.07	1.28	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1
Potassium	mg/L	N/A	5.6	6.1	1.6	1.7	1.3	1.7	1.8	1.9	1.5	1.8	1.6	1.5	1.4	1.5	1.4	1.5	1.6	1.7
Sodium	mg/L	200	132	129	4.3	5.7	4.8	4.4	6.5	5.1	5.2	8.1	4.4	7.7	6.1	8.7	11.2	11.3	8.3	9
Sulphate	mg/L	500	<1	<1	28	31	24	24	31	33	30	33	28	32	32	32	31	40	35	30
TDS	mg/L	500	1100	1050	247	269	259	254	276	247	265	306	256	294	307	355	357	378	330	315
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.1	0.07	0.02	0.07	0.02	0.04	0.05	0.05	0.05	0.06	0.06	0.05	0.06	0.04	0.06	0.07	0.03	0.03
Antimony	mg/L	0.006	<0.0001	0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001
Arsenic	mg/L	0.025	0.0001	0.0001	0.0003	0.0009	0.0003	0.0003	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002	0.0001	0.0001
Barium	mg/L	1	0.811	0.96	0.084	0.102	0.075	0.092	0.078	0.075	0.078	0.087	0.07	0.082	0.076	0.1	0.091	0.091	0.082	0.086
Beryllium	mg/L	N/A	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001
Boron	mg/L	5	0.267	0.243	0.015	0.014	0.01	0.017	0.013	0.009	0.011	0.014	0.014	0.014	0.01	0.011	0.008	< 0.005	0.01	0.011
Cadmium	mg/L	0.005	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015
Chromium	mg/L	0.05	<0.001	<0.001	< 0.0002	0.0011	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Cobalt	mg/L	N/A	0.0004	0.0004	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	< 0.005	0.007	< 0.005	0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	0.0003
Copper	mg/L	1	<0.0001	0.0012	0.0002	0.0002	< 0.0001	0.0001	0.0005	0.0007	0.0005	0.0002	0.0007	0.0019	0.0007	0.0002	0.0002	0.0005	0.0005	0.0004
Lead	mg/L	0.01	0.00009	<0.00004	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00016	0.00005	0.00003	< 0.00002	< 0.00002	0.00007	< 0.00002	<0.00002
Mercury	mg/L	0.001	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002
Molybdenum	mg/L	N/A	<0.0001	<0.0001	0.0009	0.0013	0.0009	0.001	0.0013	0.0012	0.001	0.0013	0.001	0.001	0.0006	0.0006	0.0006	0.0006	0.0007	0.0009
Nickel	mg/L	N/A	0.0141	0.012	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0008
Selenium	mg/L	0.01	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Silver	mg/L	N/A	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001
Strontium	mg/L	N/A	1.41	1.68	0.263	0.275	0.243	0.233	0.26	0.248	0.259	0.284	0.257	0.26	0.264	0.288	0.28	0.288	0.26	0.264
Thallium	mg/L	N/A	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005
Vanadium	mg/L	N/A	0.0003	0.0002	0.001	0.0005	0.0014	0.0004	0.0001	0.0005	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001
Zinc	mg/L	5	<0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	23-07	23-07	23-07	23-07 (DUP)	23-07	25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91
			6-May-24	16-Oct-24	7-May-25	7-May-25	15-Oct-25	11-May-16	24-May-17	17-Oct-17	7-May-18	11-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22
Alkalinity	mg/L	500	249	232	247	241	301	309	335	370	329	319	340	342	277	278	325	315	324	330
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	<0.05	0.52	<0.05	0.05	0.12	0.05	0.03	0.07	0.05	0.11	0.07	0.12	0.03	0.06	0.07	0.06	0.08	0.01
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	95	100	99.6	98.9	118	116	133	151	133	153	141	158	119	144	130	129	143	141
COD	mg/L	N/A	36	46	44	27	25	< 5	18	10	5	11	18	21	12	11	22	15	11	5
Chloride	mg/L	250	17.6	14.7	17.3	17.1	19.1	148	113	147	152	156	133	151	131	163	168	138	174	243
Conductivity	umhos/cm	N/A	585	550	580	562	649	1060	1070	1170	1060	1130	1030	1100	962	1110	1090	1020	1200	1230
Cyanide	mg/L	0.2																		
DOC	mg/L	5	3.1	2.3	2.2	1.5	4	1.5	3.9	2.8	2.9	2.8	3.4	3.5	3	1.7	2.6	2.5	2.2	< 0.2
Fluoride	mg/L	1.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	282	297	294	293	344	325	367	420	369	424	389	438	329	399	361	356	394	395
Ion Balance	%	N/A	0.931	5.21	1.26	2.22	1.02								3.41	3.44	1.01	2.33	2.41	8.11
Iron	mg/L	0.3	0.012	0.146	0.013	0.006	0.105	0.232	0.112	0.262	0.078	1.06	0.109	1.46	0.067	0.18	0.045	0.056	0.088	0.212
Magnesium	mg/L	N/A	10.8	11.2	11	11.1	11.9	8.32	8.21	10.4	8.88	10.1	8.94	10.5	7.58	9.4	8.64	8.2	8.84	10.3
Manganese	mg/L	0.05	0.004	0.026	<0.001	<0.001	0.027	0.02	0.037	0.033	0.047	0.042	0.06	0.064	0.031	0.011	0.016	0.011	0.019	0.024
Nitrate	mg/L	10	<0.05	<0.05	<0.05	<0.05	0.35	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.09	0.05	0.41	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	< 0.05	0.13	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.2	0.6	0.3	0.3	0.4	0.4	0.5	0.6	0.5	0.4	0.4	0.8	0.6	0.4	0.6	0.6	0.4	0.4
pH-Lab	pH unit	6.5-8.5	7.86	8.01	7.71	7.74	7.73	7.79	7.99	7.76	7.86	7.78	7.91	7.82	7.83	7.88	8.03	7.78	7.77	7.74
Phenols	mg/L	N/A	<0.001	<0.001	0.003	<0.001	<0.001	< 0.001	0.002	0.002	< 0.001	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.13	0.59	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	1.6	1.8	1.4	1.3	1.4	1.1	2	2.2	2.1	1.8	2.1	2.3	2.8	2.5	2.7	2.8	2.9	2.7
Sodium	mg/L	200	7.5	6	7.6	7.8	9.6	62.6	95.6	90.7	97.3	82.5	80.1	88.4	81.2	80.8	92.8	91.9	96.3	90.8
Sulphate	mg/L	500	31	29	32	31	29	14	9	24	11	35	9	12	13	30	13	23	8	27
TDS	mg/L	500	303	285	301	291	337	536	562	648	602	631	578	629	521	596	611	582	628	713
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.08	0.06	0.07	0.05	0.03	0.04	0.08	0.08	0.06	0.07	0.09	0.07	0.08	0.09	0.05	0.08	0.1
Antimony	mg/L	0.006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	0.0002	< 0.0001	0.0001	0.0001	< 0.0001	0.0002	0.0004	0.0002	0.0003	< 0.0001	0.0001
Arsenic	mg/L	0.025	0.0001	0.0002	0.0002	0.0001	0.0002	0.0004	0.0007	0.0009	0.0003	0.0003	0.0003	0.0008	0.0004	0.0003	0.0003	0.0003	0.0003	0.0005
Barium	mg/L	1	0.102	0.087	0.079	0.078	0.09	0.074	0.095	0.137	0.091	0.117	0.081	0.116	0.079	0.109	0.089	0.092	0.089	0.113
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.01	0.013	0.012	0.011	0.012	< 0.005	0.023	0.038	0.026	0.031	0.02	0.034	0.016	0.019	0.016	0.022	0.012	< 0.005
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	0.0003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0002	0.0004	0.0003	0.0003	0.0005	< 0.005	< 0.005	< 0.005	0.0002	< 0.005	0.011	< 0.005	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0002	0.0005	0.0005	0.0005	0.0024	0.0004	0.0019	0.0009	0.0008	0.0003	0.0005	0.0004	0.0011	0.0017	0.0009	0.0021	0.0003	0.0003
Lead	mg/L	0.01	<0.00002	0.00015	<0.00002	<0.00002	<0.00002	< 0.00002	0.00008	0.00003	0.00003	0.00003	0.00003	< 0.00004	0.0001	0.0001	0.00011	0.00008	0.00012	0.00004
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0008	0.0012	0.0009	0.0009	0.0007	0.0009	0.0007	0.0006	0.0004	0.0005	0.0003	0.0006	0.0004	0.0012	0.0004	0.0008	0.0004	0.0008
Nickel	mg/L	N/A	0.0006	0.0008	0.0008	0.0007	0.0008	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.27	0.272	0.249	0.25	0.262	0.3	0.359	0.371	0.366	0.392	0.364	0.423	0.314	0.387	0.371	0.359	0.381	0.432
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	0.0008	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0004	0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	25-91	25-91	25-91	25-91	25-91	25-91	25-96	25-96	25-96	25-96	25-96	25-96	25-96	25-96	25-96	25-96	25-96	25-96
			2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	11-May-16	13-Oct-16	24-May-17	16-Oct-17	7-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21
Alkalinity	mg/L	500	320	372	352	439	398	Dry	450	441	464	463	443	463	412	418	419	420	455	453
Unionized Ammonia	mg/L	N/A								0.11										
Ammonia	mg/L	N/A	0.54	2.64	<0.05	0.47	0.19		3.07	3.11	0.03	3.01	2.9	2.84	2.97	2.91	2.92	3.07	2.95	3.08
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	126	151	137	167	144		20.1	24.3	24.7	26.2	25.8	26.9	26.1	28.6	25.4	26.6	24.1	26.4
COD	mg/L	N/A	8	14	15	23	28		< 5	< 5	9	7	< 5	10	11	< 5	21	7	12	8
Chloride	mg/L	250	159	176	148	156	129		164	163	142	150	164	173	171	181	167	169	176	177
Conductivity	umhos/cm	N/A	1080	1280	1150	1350	1140		1340	1370	1350	1340	1290	1360	1340	1340	1330	1330	1350	1340
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.4	3	3.3	3.9	2		0.4	0.6	0.7	0.7	1.4	1	1.1	1.4	1.8	0.6	2	1.3
Fluoride	mg/L	1.5	< 0.1	<0.1	<0.1	<0.1	<0.1		2.3	2.4	2.6	2.5	1.9	1.8	2	2.2	1.5	2.2	< 0.1	2.1
Hardness	mg/L	500	349	418	381	466	398		133	152	153	165	163	158	163	175	158	162	154	161
Ion Balance	%	N/A	1.08	1.56	0.738	0.904	1.64										3.07	3.03	0.622	1.94
Iron	mg/L	0.3	0.058	0.11	0.209	0.193	0.354		0.015	0.023	0.035	0.207	0.021	0.126	0.007	0.05	0.021	0.455	0.02	0.418
Magnesium	mg/L	N/A	8.29	9.86	9.22	11.6	9.29		20	22.1	22.1	24.2	23.9	22.1	23.8	25.2	23.1	23.3	22.8	23.2
Manganese	mg/L	0.05	0.015	0.014	0.019	0.027	0.037		0.002	0.004	0.002	0.004	0.002	0.004	0.003	0.002	0.002	0.004	0.001	0.009
Nitrate	mg/L	10	< 0.05	0.09	<0.05	<0.05	<0.05		< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	< 0.05	0.2	< 0.05
Nitrite	mg/L	1	< 0.05	<0.05	<0.05	<0.05	<0.05		< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08	< 0.05	< 0.05	0.19
Tot Kjel N	mg/L	N/A	0.6	2.7	0.2	0.7	0.9		3.2	3.6	3.2	3.2	3.1	3.1	3.3	3.2	3.4	3.5	3.2	3.4
pH-Lab	pH unit	6.5-8.5	7.88	7.56	7.66	7.79	7.61		8.08	8.36	8.22	8.14	8.11	8.1	8.21	8.09	8.07	7.96	8.36	8.06
Phenols	mg/L	N/A	< 0.001	<0.001	<0.001	<0.001	0.001		< 0.001	< 0.001	0.001	0.003	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001
Phosphorus	mg/L	N/A	< 0.1	<0.1	<0.1	<0.1	<0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.04	0.03	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	2.9	2.7	2.4	3.1	2.1		9	10.1	10.4	11.5	13.5	11.1	11.9	12.7	11.7	11.5	11.4	11.9
Sodium	mg/L	200	89.2	93.6	90.2	101	78		195	235	244	239	262	236	243	262	238	243	246	252
Sulphate	mg/L	500	14	23	12	17	10		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2	< 1
TDS	mg/L	500	591	690	620	730	610		685	725	725	736	761	752	729	766	722	729	759	769
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.05	0.05	0.08	0.05	0.08		< 0.01	< 0.01	< 0.01	0.03	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Antimony	mg/L	0.006	0.0001	0.0003	<0.0001	0.0001	<0.0001		< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0003	0.0004	0.0004	0.0004	0.0004		0.0002	0.0002	0.0008	0.0012	0.0001	0.0002	0.0001	< 0.0003	< 0.0001	< 0.0001	< 0.0001	0.0001
Barium	mg/L	1	0.088	0.103	0.105	0.112	0.084		0.175	0.218	0.207	0.259	0.241	0.247	0.22	0.263	0.21	0.26	0.211	0.237
Beryllium	mg/L	N/A	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.015	0.021	0.015	0.027	0.023		1.09	1.31	1.36	1.48	1.45	1.29	1.41	1.52	1.4	1.4	1.36	1.41
Cadmium	mg/L	0.005	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015		< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	0.001	<0.001	<0.001	<0.001		< 0.0002	0.0024	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.005	0.0002	0.0004	0.0004	0.0006		< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	0.011	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0007	0.0006	0.0004	0.0004	0.0002		0.001	0.0012	0.0027	0.001	0.0018	0.0003	0.0005	0.0014	0.0004	0.0015	0.0007	0.0001
Lead	mg/L	0.01	0.00011	0.00003	0.00021	0.00003	0.00003		< 0.00002	< 0.00002	0.00009	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00009	0.00002	0.00006	0.00004	< 0.00004
Mercury	mg/L	0.001	< 0.00002	0.00003	<0.00002	<0.00002	<0.00002		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0004	0.0006	0.0004	0.0005	0.0003		0.001	0.0003	0.0005	0.0012	0.0005	0.001	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003
Nickel	mg/L	N/A	< 0.01	0.0015	0.0007	0.0007	0.0006		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	0.001	<0.001	<0.001	<0.001	<0.001		0.006	0.009	< 0.001	< 0.001	< 0.001	0.004	0.004	0.004	0.003	0.003	0.004	0.004
Silver	mg/L	N/A	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.355	0.407	0.398	0.461	0.38		2.52	2.98	3.24	3.01	3.43	3.15	3.36	3.7	3.35	3.45	3.38	3.51
Thallium	mg/L	N/A	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00006	< 0.00005	0.00007	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	0.0002	0.0002	<0.0001	<0.0001		< 0.0001	0.0008	< 0.0001	0.0009	< 0.0001	< 0.0001	< 0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	<0.005	<0.005	<0.005	<0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	25-96	25-96	25-96	25-96	25-96	25-96	25-96	25-96	27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93
			3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	12-May-16	13-Oct-16	24-May-17	16-Oct-17	7-May-18	9-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20
Alkalinity	mg/L	500	416	428	433	457	440	433	445	446	215	209	212	213	213	197	199	197	200	201
Unionized Ammonia	mg/L	N/A										< 0.01								
Ammonia	mg/L	N/A	3.11	3.14	3.03	3.63	3.03	3.51	3.24	2.86	0.11	0.18	0.09	0.11	0.11	0.12	0.13	0.11	0.11	0.13
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	25.3	25	24.5	25.6	25	26.6	25.6	28.9	58.9	70.9	68.4	71.4	66.4	67.6	69.6	74.6	69	69.1
COD	mg/L	N/A	14	< 5	9	23	39	14	24	12	< 5	< 5	< 5	< 5	< 5	15	5	< 5	13	10
Chloride	mg/L	250	175	238	195	172	177	194	180	172	4.9	< 0.5	5.9	5.1	6.3	5.8	5.4	2.4	6.1	5.5
Conductivity	umhos/cm	N/A	1380	1370	1380	1380	1400	1380	1390	1370	481	478	478	478	460	472	473	467	468	468
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.3	< 0.2	< 0.2	1.5	2.6	1.7	<0.8	3.1	1	1	1	0.9	1.2	1.4	1.7	2	1.9	2.2
Fluoride	mg/L	1.5	2.1	2.9	2.4	1.7	2	2.3	2.1	1.8	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	155	161	155	158	157	165	156	168	224	258	252	264	250	252	259	269	255	249
Ion Balance	%	N/A	2.18	3.48	1.33	2.95	1.37	1.05	3.74	1.02									5.39	3.41
Iron	mg/L	0.3	0.024	0.299	0.011	0.225	0.014	0.299	0.149	0.139	0.289	1.02	0.346	0.509	0.269	0.363	0.285	0.854	0.448	0.411
Magnesium	mg/L	N/A	22.4	23.9	22.8	22.9	23	24	22.5	23.4	18.8	19.7	19.8	20.8	20.5	20.3	20.7	20.1	20	18.6
Manganese	mg/L	0.05	0.004	0.004	0.003	0.004	0.004	0.003	<0.001	0.002	0.008	0.022	0.009	0.012	0.009	0.009	0.009	0.012	0.009	0.01
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	<0.40	<0.05	<0.05	<0.05	0.26	0.1	< 0.1	< 0.05	< 0.05	< 0.05	0.11	< 0.05	< 0.05	0.06	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	<0.40	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	3.2	3.6	3.5	4.2	3.3	3.5	4	3.4	0.2	0.2	0.4	0.2	0.2	0.3	0.2	0.2	0.2	0.2
pH-Lab	pH unit	6.5-8.5	8.1	8.01	8.12	7.91	7.98	8.14	8.1	8.11	7.99	8.19	8.06	8.03	8.05	8.26	8.06	7.96	7.91	7.93
Phenols	mg/L	N/A	< 0.001	< 0.001	0.01	<0.001	<0.001	<0.001	0.002	<0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.002	< 0.002	< 0.002	0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.01	0.01	< 0.1	< 0.1
Potassium	mg/L	N/A	11.2	12.1	11.8	11.8	12.2	11.9	11	11.8	1.7	1.8	1.8	2	2.3	2	2.1	2.1	2	1.9
Sodium	mg/L	200	243	244	242	237	247	235	220	227	5.9	6.1	5.6	5.2	5.6	5.3	5.3	6.2	5	4.9
Sulphate	mg/L	500	< 1	< 1	< 1	29	<1	<1	<1	<1	35	35	28	30	34	35	34	35	32	36
TDS	mg/L	500	729	807	758	751	761	747	754	742	255	260	260	263	264	254	257	259	255	257
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.02	0.03	< 0.01	<0.01	0.01	<0.01	0.01	0.02	0.01	0.02	0.02	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0001	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0003	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.218	0.26	0.236	0.238	0.279	0.26	0.226	0.274	0.07	0.088	0.083	0.094	0.086	0.081	0.082	0.091	0.081	0.083
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	1.37	1.47	1.37	1.45	1.42	1.44	1.4	1.36	< 0.005	0.033	0.036	0.043	0.042	0.036	0.041	0.037	0.039	0.034
Cadmium	mg/L	0.005	< 0.000015	< 0.000012	< 0.000012	<0.000015	0.000021	<0.000015	<0.000015	< 0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.008	< 0.005	< 0.005	< 0.0001	< 0.005
Copper	mg/L	1	0.0002	0.0005	0.0004	0.0003	0.0003	0.0002	0.0002	<0.0001	< 0.0001	0.0001	0.0031	0.0002	0.0002	0.0003	0.0004	0.0001	0.0006	0.0015
Lead	mg/L	0.01	< 0.00004	0.00005	< 0.00004	<0.00004	<0.00002	<0.00002	0.00003	< 0.00004	< 0.00002	< 0.00002	0.00021	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0019	0.0006	0.0003	0.0002	0.0002	0.0016	0.0008	0.0003	0.0003	0.0002	0.0003	0.0003	0.0002	0.0003	0.0002	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	0.0002	0.0004	0.0004	<0.0002	0.0003	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	0.005	0.006	0.005	0.003	0.004	0.003	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	3.36	3.57	3.43	3.38	3.53	3.55	3.27	3.4	0.389	0.453	0.496	0.426	0.491	0.449	0.497	0.463	0.48	0.44
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0004	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93
			4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	11-May-16	18-Oct-16	24-May-17	16-Oct-17	7-May-18	11-Oct-18	8-May-19	7-Oct-19
Alkalinity	mg/L	500	222	225	218	216	217	227	219	212	219	218	287	261	290	294	266	288	296	303
Unionized Ammonia	mg/L	N/A													4.55	3.92				
Ammonia	mg/L	N/A	0.12	0.14	1.46	0.1	1.96	0.37	0.14	0.59	0.39	0.22	3.42	2.85			4.75	3.77	4.72	4.55
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	67.8	76.4	74.4	70.3	67.9	67.9	66.3	71.9	66.3	78.1	64.1	49.5	93	82.9	104	92.3	127	116
COD	mg/L	N/A	< 5	5	< 5	< 5	< 5	5	<5	<5	5	5	< 5	8	19	13	42	< 5	18	17
Chloride	mg/L	250	6.8	8	8.9	15.1	9.5	8.5	7.8	8.4	9.6	10.7	478	537	634	732	1070	945	897	866
Conductivity	umhos/cm	N/A	485	498	509	509	515	503	508	499	505	506	2070	3340	2980	3480	3740	3350	3360	3000
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2.2	1.4	1.6	1	2.1	2.7	2.8	2	1.5	2.7	< 0.2	0.3	0.4	0.2	0.5	1.2	0.9	1.1
Fluoride	mg/L	1.5	< 0.1	0.2	< 0.1	< 0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	1.3	1.5	< 1	1.6	1.2	< 1	< 1	< 1
Hardness	mg/L	500	253	272	267	260	253	251	250	268	247	279	405	291	562	495	630	542	774	686
Ion Balance	%	N/A	0.0218	1.94	2.29	2.24	1.03	1.9	0.214	4.19	1.69	4.05								
Iron	mg/L	0.3	0.576	0.737	0.705	0.68	0.639	0.633	0.523	0.579	0.498	0.593	2.84	0.784	4.76	2.37	2.7	1.75	5.98	5.67
Magnesium	mg/L	N/A	20.3	19.6	19.6	20.4	20.2	19.7	20.5	21.4	19.8	20.3	59.6	40.6	80.1	70	90.1	75.7	111	96.4
Manganese	mg/L	0.05	0.01	0.011	0.012	0.01	0.011	0.011	0.01	0.01	0.004	0.011	0.075	0.055	0.107	0.087	0.099	0.099	0.141	0.113
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	<0.05	<0.05	<0.05	<0.05	< 0.1	0.1	< 0.5	< 0.05	< 0.5	< 0.5	< 0.5	< 0.5
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.5	< 0.05	< 0.5	< 0.5	< 0.5	< 0.5
Tot Kjel N	mg/L	N/A	0.2	0.2	1.4	0.2	0.5	0.5	0.1	0.4	0.5	0.4	3.7	3.2	4.9	4.1	5.2	4.3	5.1	5.1
pH-Lab	pH unit	6.5-8.5	8.14	7.99	7.82	7.85	7.96	7.45	7.76	8.04	7.7	7.83	7.91	7.86	8.02	7.91	7.79	7.85	7.92	7.91
Phenols	mg/L	N/A	< 0.002	< 0.001	< 0.001	< 0.001	0.003	<0.001	<0.001	<0.001	0.001	<0.001	< 0.001	< 0.001	0.003	0.004	< 0.001	0.003	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.02	0.01
Potassium	mg/L	N/A	2	2.1	2	2.1	2.3	2.2	2.2	2.2	2	2.2	12.6	11	16	15.3	19.5	16.6	19.3	19.3
Sodium	mg/L	200	5.2	5.3	5	5.3	5.4	5.5	5.6	5.4	4.9	5	259	252	365	302	370	346	384	395
Sulphate	mg/L	500	36	38	37	49	43	36	36	35	37	36	2	3	< 10	1	< 10	< 10	< 10	< 10
TDS	mg/L	500	272	286	279	293	279	260	263	258	261	262	1060	1060	1370	1389	1825	1655	1729	1686
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.05	0.03	0.05	0.04	0.02	0.02	0.03	0.02	0.04	0.04	0.02	0.02	0.03	0.05	0.06	0.04	0.07	0.07
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0006	0.004	0.0043	0.0007	0.0003	0.0013	0.0009
Barium	mg/L	1	0.08	0.094	0.088	0.095	0.092	0.087	0.104	0.09	0.082	0.096	0.809	0.541	1.25	1.2	1.55	1.28	1.99	1.71
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.04	0.036	0.04	0.022	0.041	0.042	0.042	0.039	0.042	0.037	0.792	0.671	1.07	0.983	1.01	1.02	1.1	1.15
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000029
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	< 0.0002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0001	<0.0001	0.0001	0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0007	0.0003	0.0002	0.0003	0.0004	0.0002	0.0002	0.0003	0.0004	0.0004	0.0011	0.0012	0.0031	0.0012	0.0023	0.0004	0.0004	0.0022
Lead	mg/L	0.01	0.00003	< 0.00002	< 0.00002	0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00003	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00009
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0003	0.0003	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002	0.0009	0.0004	0.0004	0.0005	0.0006	0.0004	0.0004	0.0004
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.0002	<0.0002	0.0005	<0.0002	0.0004	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.02	0.014	< 0.001	0.003	0.001	0.018	0.025	0.025
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	0.00002	0.0002	< 0.0001	< 0.0001	0.0007
Strontium	mg/L	N/A	0.478	0.478	0.475	0.497	0.518	0.49	0.544	0.513	0.492	0.482	8.3	6.1	13	9.33	13.7	11.3	17.6	15.3
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0007	< 0.0001	0.0005	< 0.0001	< 0.0001	< 0.0001	< 0.0004
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	29-93	29-93	29-93	29-93	29-93	29-93
			5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	24-May-16	18-Oct-16	24-May-17	17-Oct-17	7-May-18	9-Oct-18
Alkalinity	mg/L	500	270	277	289	279	284	270	304	305	293	276	312	308	349	360	343	312	376	316
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	3.17	4.44	4.64	4.55	4.4	4.17	5.27	5.73	3.96	4.99	1.74	3.54	0.06	0.05	0.18	0.07	0.08	0.08
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	67.4	117	82.7	93.9	98.6	109	86.6	86.4	78.9	95.9	26.8	75.6	113	126	193	165	181	204
COD	mg/L	N/A	60	25	18	24	18	60	10	14	57	62	29	33	15	24	47	19	7	5
Chloride	mg/L	250	669	854	900	925	729	845	760	762	717	663	262	669	83.4	101	305	215	331	360
Conductivity	umhos/cm	N/A	2560	3070	3310	3230	3040	3250	2850	2910	2810	2890	1430	2680	971	1090	1900	1350	1630	1910
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.2	0.2	0.8	0.9	0.8	< 0.2	0.4	1.6	1.8	1.6	<0.8	2.2	2	2.1	1.2	1.5	1.9	2.2
Fluoride	mg/L	1.5	< 1	< 1	0.6	2.1	< 1	< 1	1.7	<0.7	1.4	1.3	0.6	<0.7	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	393	697	510	563	585	569	534	529	486	575	156	434	311	346	527	452	498	559
Ion Balance	%	N/A	9.06	2.6	9.49	6.46	3.21	0.189	2.67	3.46	2.49	2.76	4.89	6.18						
Iron	mg/L	0.3	1.97	6.07	2.71	3.75	4.82	< 0.005	4.05	4.16	2.78	4.23	0.766	1.19	0.15	0.173	0.206	0.409	0.381	1.63
Magnesium	mg/L	N/A	54.6	98.3	73.8	79.8	82.3	98.2	77.2	76.1	70.2	81.5	21.6	59.6	6.6	7.49	10.9	9.72	11.1	11.9
Manganese	mg/L	0.05	0.062	0.111	0.072	0.078	0.085	0.098	0.079	0.072	0.057	0.105	0.017	0.066	0.269	0.235	0.572	0.193	0.377	0.416
Nitrate	mg/L	10	1.09	0.97	< 0.05	< 0.5	< 0.5	< 0.5	< 0.05	<0.40	<0.40	<0.40	0.17	<0.40	< 0.1	0.2	< 0.05	< 0.05	< 0.05	0.07
Nitrite	mg/L	1	< 0.5	< 0.5	< 0.05	1.46	< 0.5	< 0.5	< 0.05	<0.40	<0.40	<0.40	0.13	<0.40	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	0.07
Tot Kjel N	mg/L	N/A	3.7	5.5	4.9	5.3	5.1	5.4	5.3	6.5	4.4	5.3	2.4	4.4	0.4	0.6	0.6	0.7	0.6	0.5
pH-Lab	pH unit	6.5-8.5	7.81	7.85	8.19	7.79	7.82	7.71	7.94	7.63	7.93	7.98	8.01	7.87	7.68	7.98	7.96	7.99	7.95	8.02
Phenols	mg/L	N/A	< 0.002	< 0.002	0.019	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	0.002	0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.009
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.2	0.2	0.2
Potassium	mg/L	N/A	12.8	17.8	16.3	18.1	16.5	16.6	17.6	17.9	17	16.6	9.6	16.1	1.4	1.6	1.7	2	2	2.2
Sodium	mg/L	200	271	381	338	363	352	347	341	327	329	311	205	296	97.3	92	134	112	153	206
Sulphate	mg/L	500	< 10	< 10	< 1	< 10	< 10	< 10	< 1	<2	<2	14	<1	6	45	59	58	42	67	74
TDS	mg/L	500	1243	1640	1594	1659	1460	1583	1471	1620	1570	1610	778	1490	557	604	914	733	971	1050
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.07	0.05	0.04	0.06	0.08	0.03	0.03	0.03	0.02	0.01	0.03	0.03	0.05	0.07	0.09	0.09	0.09
Antimony	mg/L	0.006	0.0001	< 0.0001	0.0003	0.0003	0.0002	0.0002	< 0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	0.0001	< 0.0001	< 0.0002	0.0001
Arsenic	mg/L	0.025	0.0006	0.0025	0.0006	0.0006	0.0009	0.0007	0.001	0.0006	0.0019	0.0012	0.0003	0.0002	0.0005	0.0006	0.0005	0.001	< 0.0005	0.0007
Barium	mg/L	1	0.908	1.88	1.15	1.31	1.44	1.67	1.33	1.25	1.36	1.53	0.302	1.04	0.059	0.075	0.103	0.105	0.102	0.141
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.636	1.03	0.966	1.12	0.998	1.03	1.09	1.23	1.06	1.02	0.426	1.01	0.047	0.065	0.052	0.062	0.044	0.073
Cadmium	mg/L	0.005	< 0.000029	< 0.000029	< 0.000059	< 0.000029	< 0.000029	< 0.000029	< 0.000029	<0.000030	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000059	< 0.000015
Chromium	mg/L	0.05	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.0002	< 0.0002	0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0002	0.0002	<0.0001	0.0001	< 0.005	< 0.005	< 0.005	< 0.005	0.001	< 0.005
Copper	mg/L	1	0.0001	0.0022	0.0006	0.0002	0.0002	0.0008	0.0006	0.0002	0.0002	0.0003	0.0002	0.0002	0.0013	0.0011	0.0022	0.0006	0.0012	0.0008
Lead	mg/L	0.01	0.00004	0.00012	< 0.0002	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00002	<0.00002	<0.00002	<0.00002	<0.00004	< 0.00002	< 0.00002	0.0002	0.00002	< 0.0002	0.00006
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0006	0.0009	0.0007	0.0005	0.0006	0.0006	0.0005	0.0004	0.0005	0.0005	0.002	0.001	0.0005	0.0005	0.0004	0.0003	< 0.0004	0.0004
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.0002	<0.0002	0.0003	<0.0002	0.0006	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	0.007	0.042	<0.02	<0.02	<0.02	<0.03	< 0.001	<0.001	0.015	0.016	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0002	0.0005	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.0004	< 0.0001
Strontium	mg/L	N/A	8.7	16.2	11.9	13	13.4	15.9	12.6	12.4	11.7	13.2	3.3	9.46	0.355	0.38	0.638	0.458	0.587	0.586
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	0.00022	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0004	< 0.0004	< 0.0007	< 0.0004	< 0.0004	< 0.0004	< 0.0004	<0.0004	<0.0001	<0.0001	<0.0001	<0.0001	0.0017	0.0009	< 0.0001	0.0005	< 0.0007	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	0.026	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	29-93	29-93	29-93	29-93	29-93	29-93	29-93	29-93	29-93	29-93	29-93	29-93	28-93	28-93	30-93	30-93	30-93	30-93
			9-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	25-May-16	12-Oct-16	24-May-17	18-Oct-17
Alkalinity	mg/L	500	351	408	347	354	361	396	420	377	351	366	367	341	Damaged	Damaged	568	532	562	526
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.11	0.09	0.04	0.11	0.09	0.11	0.09	0.09	0.93	0.76	0.05	0.36			8.72	11.5	9.8	9.04
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	185	186	150	176	125	134	144	147	137	133	140	154			156	153	156	156
COD	mg/L	N/A	55	18	21	49	27	33	15	19	14	19	35	266			27	11	38	24
Chloride	mg/L	250	307	316	321	347	169	184	145	276	230	192	239	240			165	153	132	139
Conductivity	umhos/cm	N/A	1760	1760	1750	1830	1270	1290	1350	1510	1430	1360	1510	1460			1520	1490	1500	1430
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2.6	2.3	2.5	1.5	2.5	2.2	2.4	0.2	1.7	3	3.8	3.6			3.9	3.4	5.2	4.7
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1			0.2	0.1	< 0.1	< 0.1
Hardness	mg/L	500	505	508	412	480	344	366	393	405	376	364	383	421			541	539	540	549
Ion Balance	%	N/A			5.6	0.998	0.28	0.298	2.13	4.39	3.07	1.62	2.02	0.509						
Iron	mg/L	0.3	0.173	1.39	0.165	0.583	0.172	0.999	0.371	0.461	0.385	0.532	0.144	0.147			11.3	12	11.1	10.3
Magnesium	mg/L	N/A	10.4	10.4	9.05	9.79	7.76	7.48	8.11	9.02	8.16	7.77	8.35	8.6			36.8	37.8	36.3	38.8
Manganese	mg/L	0.05	0.364	0.331	0.189	0.388	0.214	0.49	0.297	0.217	0.258	0.156	0.28	0.282			0.545	0.528	0.503	0.498
Nitrate	mg/L	10	0.22	< 0.05	1.13	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.11	<0.05	<0.05			0.1	0.1	0.23	0.16
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.5	0.11	< 0.05	0.2	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05			< 0.1	< 0.1	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.8	0.7	0.4	0.6	0.8	1	0.5	0.5	0.9	1.2	0.2	1.1			12.4	11.5	10.8	10.8
pH-Lab	pH unit	6.5-8.5	7.89	7.9	7.64	7.87	8.15	7.76	7.73	7.76	7.87	7.66	7.78	7.88			7.23	7.64	7.77	7.59
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	0.001	<0.001	<0.001	<0.001			< 0.001	0.003	0.002	0.003
Phosphorus	mg/L	N/A	5.42	0.2	0.1	< 0.1	0.1	0.2	0.1	< 0.1	0.1	0.2	<0.1	<0.1			< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	1.9	2.3	1.7	2.1	1.5	2.3	1.5	2	1.8	2	1.8	2.2			3.7	3.5	3.6	4.3
Sodium	mg/L	200	163	215	170	215	142	158	146	163	148	138	154	139			112	109	109	107
Sulphate	mg/L	500	79	40	71	87	58	62	59	64	69	54	47	39			7	8	7	7
TDS	mg/L	500	957	1016	931	1050	720	787	755	888	805	741	824	794			833	811	806	791
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.09	0.1	0.08	0.09	0.07	0.07	0.08	0.09	0.04	0.04	0.05	0.04			0.04	0.04	0.04	0.08
Antimony	mg/L	0.006	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	<0.0001	<0.0001			< 0.0001	0.0003	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0004	0.0006	0.0003	0.0005	0.0004	0.0008	0.0005	0.0007	0.0003	0.0005	0.0003	0.0004			0.0106	0.01	0.0078	0.0067
Barium	mg/L	1	0.105	0.133	0.087	0.126	0.071	0.1	0.085	0.112	0.088	0.09	0.1	0.102			0.483	0.43	0.451	0.527
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001			< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.036	0.072	0.048	0.07	0.038	0.062	0.042	0.05	0.038	0.055	0.04	0.051			0.112	0.111	0.108	0.12
Cadmium	mg/L	0.005	0.000016	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	<0.000015	<0.000015	<0.000015			< 0.00002	< 0.00002	< 0.000014	< 0.000014
Chromium	mg/L	0.05	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001			< 0.0002	0.0034	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0004	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0006	0.0008	0.0009			0.006	0.008	< 0.005	< 0.005
Copper	mg/L	1	0.0016	0.0012	0.001	0.0021	0.0013	0.0005	0.0004	0.0006	0.0007	0.0003	0.0003	0.0002			0.0013	0.0005	0.0034	0.0007
Lead	mg/L	0.01	0.00005	< 0.00009	0.00002	0.00008	0.00007	< 0.00004	< 0.00004	< 0.00004	0.00005	<0.00004	<0.00002	<0.00002			< 0.00002	< 0.00002	0.0002	0.00003
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002	<0.00002			< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0062	0.0005	0.0003	0.0004	0.0003	0.0004	0.0006	0.0004	0.0003	0.0003	0.0003	0.0004			0.0005	0.0004	0.0004	0.0004
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0006	0.001	0.0006			< 0.01	0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001			0.004	0.003	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001			< 0.00002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.617	0.574	0.54	0.578	0.459	0.45	0.485	0.519	0.506	0.456	0.538	0.506			0.593	0.546	0.573	0.511
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005			0.00007	< 0.00005	0.00007	0.0001
Vanadium	mg/L	N/A	< 0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	<0.0001	<0.0001	0.0001			0.0035	0.0013	< 0.0001	0.0008
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005			< 0.005	< 0.005	< 0.005	0.012

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	31-93	31-93
			7-May-18	9-Oct-18	9-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	25-May-16	12-Oct-16
Alkalinity	mg/L	500	511	460	468	452	467	465	532	535	467	478	465	459	450	445	449	455	538	536
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	8.58	7.25	7.28	6.85	6.95	7.98	9.84	10.3	8.89	9.06	8.19	6.27	6.67	6.89	6.82	9	4.96	8.1
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	149	150	148	153	144	139	140	150	141	133	136	110	131	130	132	145	160	164
COD	mg/L	N/A	13	12	25	34	23	17	28	20	28	27	15	23	24	26	37	67	29	11
Chloride	mg/L	250	153	155	173	162	154	156	166	171	177	240	202	181	178	182	177	174	160	153
Conductivity	umhos/cm	N/A	1360	1380	1390	1360	1360	1370	1460	1450	1470	1470	1460	1410	1420	1390	1410	1390	1440	1480
Cyanide	mg/L	0.2																		
DOC	mg/L	5	5	5.5	5.7	4.6	4.5	3.1	4.7	3.7	3.6	1.3	3.2	4.4	5.9	5.4	2.6	5.9	3.3	3.2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	0.1	0.1
Hardness	mg/L	500	526	520	514	535	505	490	495	521	489	479	482	414	470	466	464	503	550	565
Ion Balance	%	N/A					5.56	3.15	1.36	3.44	3.93	2.33	0.801	5.06	1	1.63	1.32	2.36		
Iron	mg/L	0.3	9.65	0.009	8.19	9.72	8.58	8.14	9.35	8.77	9.61	8.73	8.73	3	8.75	3.06	8.46	9.56	12.8	11.5
Magnesium	mg/L	N/A	37.3	35.2	35.1	37.1	35.2	34.6	35.3	35.5	33.2	35.7	34.7	33.7	34.6	34.6	32.6	34.1	36.3	38
Manganese	mg/L	0.05	0.401	0.305	0.324	0.336	0.296	0.301	0.311	0.343	0.297	0.288	0.266	0.144	0.24	0.144	0.223	0.267	0.574	0.578
Nitrate	mg/L	10	< 0.05	0.17	0.24	0.94	0.09	< 0.05	< 0.05	0.15	0.58	0.07	0.09	< 0.05	< 0.05	< 0.05	< 0.05	0.1	0.2	0.1
Nitrite	mg/L	1	< 0.05	0.05	< 0.05	0.62	0.07	< 0.05	< 0.05	0.08	< 0.05	< 0.05	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1
Tot Kjel N	mg/L	N/A	9.7	8.3	8.1	8.6	8	9.2	11.4	11.5	11.9	10.3	7.4	8.4	7.1	6.6	8.9	9.1	7.6	9.2
pH-Lab	pH unit	6.5-8.5	7.75	8.06	7.67	7.63	7.54	7.59	7.88	7.5	7.58	7.35	7.7	7.44	7.48	7.75	7.54	7.74	7.28	7.69
Phenols	mg/L	N/A	< 0.001	0.008	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	0.22	0.98	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	4.2	3.6	3.5	3.6	3.4	3.5	3.7	4.2	3.6	3.9	3.6	3.6	3.5	3.5	3.2	3.8	3.4	3.9
Sodium	mg/L	200	111	108	105	105	99.9	102	108	116	108	114	109	106	106	98.9	92.9	98.7	101	105
Sulphate	mg/L	500	7	9	9	6	7	8	7	6	7	8	9	12	14	15	13	12	8	7
TDS	mg/L	500	790	747	772	757	742	730	801	826	772	842	783	767	775	754	768	753	807	816
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.07	0.06	0.08	0.09	0.08	0.08	0.08	0.06	0.09	0.09	0.03	0.03	0.06	0.03	0.06	0.07	0.04	0.06
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002
Arsenic	mg/L	0.025	0.0068	0.0061	0.0062	0.0054	0.0049	0.0046	0.0053	0.0045	0.0054	0.0057	0.0044	0.0021	0.0049	0.002	0.0049	0.0058	0.0039	0.0047
Barium	mg/L	1	0.455	0.381	0.416	0.467	0.427	0.416	0.426	0.492	0.418	0.455	0.417	0.334	0.481	0.374	0.39	0.468	0.488	0.499
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.002	< 0.002
Boron	mg/L	5	0.114	0.092	0.1	0.105	0.106	0.11	0.107	0.114	0.1	0.096	0.102	0.099	0.097	0.093	0.095	0.098	0.092	0.107
Cadmium	mg/L	0.005	< 0.000015	0.000029	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.00002	< 0.00002
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	0.0033
Cobalt	mg/L	N/A	0.0037	0.012	< 0.005	< 0.005	0.0029	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	0.0017	0.0028	0.0015	0.0029	0.0027	< 0.005	< 0.005
Copper	mg/L	1	0.0005	0.0034	0.0009	0.0004	< 0.0001	0.0011	0.0005	0.0003	0.0002	0.0006	0.0003	0.0004	0.0002	0.0004	0.0001	0.0002	0.0014	0.0006
Lead	mg/L	0.01	0.00004	0.00337	0.00003	< 0.00009	0.00005	0.00005	0.00004	0.00005	< 0.00004	< 0.00004	< 0.00004	< 0.00002	0.00003	< 0.00002	0.00002	0.00004	< 0.00002	0.00003
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0004	< 0.0001	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0004	0.0005	0.0004	0.0004	0.0005	0.0005	0.0005	0.0003	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0061	0.0059	0.005	0.0062	0.0056	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	0.001	0.001	0.002	< 0.001	0.001	0.001	0.002	0.002	0.002	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	0.003
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.558	0.527	0.561	0.556	0.529	0.529	0.537	0.575	0.518	0.557	0.528	0.494	0.555	0.518	0.503	0.53	0.573	0.551
Thallium	mg/L	N/A	0.00007	0.00016	< 0.00005	0.00008	0.00005	< 0.00005	< 0.00005	0.00006	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0001	0.0032	0.0001	< 0.0004	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0026	0.0013
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93
			24-May-17	18-Oct-17	7-May-18	9-Oct-18	9-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25
Alkalinity	mg/L	500	530	522	539	426	489	453	452	462	490	523	473	470	455	462	438	433	438	472
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	5.71	7.16	6.53	6.43	5.65	6.32	5.51	6.88	6.56	7.97	7.61	8.04	8.16	7.55	6.5	8.15	6.33	8.78
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	168	163	152	150	150	154	135	146	146	150	149	122	135	115	132	141	115	146
COD	mg/L	N/A	24	44	19	17	25	17	35	21	25	23	25	16	15	26	37	62	40	44
Chloride	mg/L	250	129	139	145	154	166	162	150	155	165	169	175	232	199	182	177	187	178	178
Conductivity	umhos/cm	N/A	1450	1410	1360	1320	1380	1360	1320	1370	1390	1430	1480	1460	1430	1420	1410	1400	1390	1420
Cyanide	mg/L	0.2																		
DOC	mg/L	5	4.6	4.6	4.7	4.8	5.2	5.1	4	3	4.4	3.3	3.5	1	2	4.2	6	5.7	2.3	5.9
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Hardness	mg/L	500	569	566	532	525	516	533	469	508	517	527	514	456	472	422	468	501	401	508
Ion Balance	%	N/A							2.13	4.31	3.79	3.63	4.93	4.84	1.51	5.7	1.53	2.49	9.05	1.18
Iron	mg/L	0.3	10.8	9.37	9.48	8.8	8.91	7.08	8.35	8.72	10.1	9.92	11.5	1.91	10.6	2.57	10.4	10.2	7.61	10.6
Magnesium	mg/L	N/A	36.5	38.6	37	36.6	34.2	36.1	32.1	34.8	37	37	34.5	36.7	32.9	32.7	33.5	36	27.5	34.9
Manganese	mg/L	0.05	0.511	0.573	0.436	0.468	0.409	0.382	0.393	0.404	0.418	0.417	0.425	0.201	0.375	0.175	0.361	0.36	0.266	0.357
Nitrate	mg/L	10	< 0.05	0.17	0.3	0.35	0.46	0.81	0.58	< 0.05	< 0.05	0.61	0.16	1.01	0.18	0.11	0.21	0.29	0.1	0.26
Nitrite	mg/L	1	0.42	< 0.05	0.06	0.24	< 0.05	< 0.05	0.14	< 0.05	0.5	0.41	< 0.05	< 0.05	0.09	0.66	< 0.05	0.11	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	6.6	9.4	8.3	7.5	6.7	8.2	6.3	7.9	8.4	9.7	10.9	9.4	8.3	9.6	6.3	9.8	8.9	8.9
pH-Lab	pH unit	6.5-8.5	7.81	7.6	7.62	7.94	7.67	7.64	7.54	7.54	7.88	7.56	7.57	7.37	7.68	7.43	7.49	7.79	7.56	7.56
Phenols	mg/L	N/A	< 0.001	0.003	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	0.004	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	0.29	1.19	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.5	4.5	4.4	4.1	3.7	4.4	3.3	4	3.7	4.6	3.8	4.6	3.8	4.1	3.8	4.1	2.7	4.2
Sodium	mg/L	200	100	103	106	101	96.2	101	86.6	98.8	100	111	104	110	101	101	102	98.7	74.3	96.8
Sulphate	mg/L	500	8	8	8	9	10	6	8	8	8	7	7	8	11	12	12	15	13	12
TDS	mg/L	500	782	788	794	728	769	750	703	734	772	812	779	808	766	770	764	759	753	773
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.09	0.07	0.07	0.08	0.09	0.08	0.08	0.08	0.06	0.08	0.09	0.04	0.04	0.05	0.04	0.08	0.06
Antimony	mg/L	0.006	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0028	0.0031	0.0025	0.0031	0.0025	0.0022	0.0017	0.0024	0.0023	0.0027	0.0026	0.0008	0.0023	0.001	0.0028	0.0039	0.0022	0.0038
Barium	mg/L	1	0.46	0.543	0.473	0.457	0.437	0.463	0.403	0.453	0.427	0.5	0.468	0.424	0.44	0.365	0.498	0.437	0.358	0.471
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Boron	mg/L	5	0.088	0.114	0.093	0.1	0.083	0.098	0.086	0.106	0.088	0.106	0.091	0.088	0.082	0.092	0.086	0.098	0.072	0.091
Cadmium	mg/L	0.005	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0019	< 0.005	< 0.005	< 0.005	0.0015	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0008	0.0017	0.0015	0.0015	0.0017
Copper	mg/L	1	0.0037	0.0008	0.0006	0.0008	0.0009	0.0005	0.0001	0.0023	0.0004	0.0004	0.0002	0.0005	0.0004	0.0005	< 0.0001	0.0003	0.0002	0.0003
Lead	mg/L	0.01	0.00021	0.00003	0.00002	0.00003	0.00003	< 0.00009	< 0.00004	0.00009	0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00002	< 0.00002	0.00003	0.00012	0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002	0.0003	0.0002	0.0002	0.0003	0.0019	0.0003	0.0003	0.0003	0.0003	0.0004	0.0003	0.0004
Nickel	mg/L	N/A	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0047	0.0044	0.0043	0.0039	0.0046
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	< 0.001	0.001	0.002	0.002	0.002	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.568	0.509	0.555	0.519	0.534	0.536	0.477	0.526	0.543	0.589	0.531	0.552	0.51	0.478	0.523	0.525	0.418	0.523
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	0.0008	< 0.0001	< 0.0001	< 0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

			32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I
Parameters	Units	ODWQS	17-May-16	12-Oct-16	24-May-17	19-Jul-17	17-Oct-17	8-May-18	24-Jul-18	11-Oct-18	8-May-19	15-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22
Alkalinity	mg/L	500	267	254	275	272	274	271	258	279	250	264	256	260	266	274	259	263	258	266
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Ammonia	mg/L	N/A	0.29	0.13	0.27	0.05	0.1	0.24	0.49	0.19	0.26	0.25	0.18	0.19	0.16	0.11	0.07	0.02	2.95	0.23
BOD	mg/L	N/A	4	< 3	< 3	< 3	< 3	< 3	< 2	4	< 3	< 3	< 3	< 3	< 3	< 3	9	< 3	< 3	< 3
Calcium	mg/L	N/A	113	112	111	112	122	120	107	111	114	117	111	113	124	125	105	123	117	120
COD	mg/L	N/A	421	< 5	5	8	9	22	66	< 5	310	69	61	70	18	19	14	6	23	23
Chloride	mg/L	250	83.1	81.8	69.2	75.6	78	96	94.3	91.1	97.1	96.8	106	100	101	107	98.6	117	105	108
Conductivity	umhos/cm	N/A	851	829	859	867	870	834	865	883	861	865	864	887	884	929	880	929	925	917
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.011	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	1.2	3.9	1.8	1.2	1.2	2	1.6	1.9	2.5	2.6	2	1.9	13	1	1.6	1.1	1.4	< 0.2
Fluoride	mg/L	1.5	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	424	416	401	410	447	448	408	416	428	430	426	425	458	466	390	448	427	457
Ion Balance	%	N/A												1.66	4.47	3.96	2.13	1.23	2.19	3.9
Iron	mg/L	0.3	0.322	0.226	0.03	0.005	0.013	0.428	0.336	0.214	0.241	0.389	0.246	0.202	0.473	0.122	0.025	0.01	< 0.005	0.415
Magnesium	mg/L	N/A	34.7	33	30.1	31.2	34.6	36	34.1	33.6	34.7	33.4	36.2	34.6	36.1	37.2	31.1	34.3	32.5	38.2
Manganese	mg/L	0.05	0.012	0.014	0.025	0.017	0.019	0.015	0.013	0.0115	0.011	0.013	0.008	0.012	0.013	0.005	0.009	0.004	0.016	0.013
Nitrate	mg/L	10	< 0.1	0.1	< 0.05	0.11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	0.07	0.12	< 0.05	0.08	< 0.05
Nitrite	mg/L	1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.09	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	3.4	0.4	0.3	0.3	0.2	1.1	1.4	3.6	20.3	1.1	1.7	1.2	0.5	0.9	0.7	0.5	3.5	0.7
pH-Lab	pH unit	6.5-8.5	7.93	7.94	7.95	8.01	7.95	7.81	7.8	7.8	7.67	7.58	7.84	7.91	7.73	7.84	7.99	7.87	7.6	7.76
Phenols	mg/L	N/A	< 0.001	0.004	< 0.001	< 0.001	0.004	< 0.001	0.014	0.021	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	13.1	2.17	2.31	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	2.4	2.4	1.8	2.4	2.5	2.8	2.7	2.6	2.8	2.5	2.8	2.7	2.6	3.4	2.1	3.1	2.4	3
Sodium	mg/L	200	16.7	16	17.3	20.5	18.2	18.7	17.6	16.9	17.3	17.2	18.3	17.9	18.4	21.4	16.7	20.6	17.5	20.5
Sulphate	mg/L	500	59	52	42	44	43	52	49	51	51	49	49	49	50	51	47	55	49	50
TDS	mg/L	500	469	451	436	449	463	489	461	474	468	475	478	474	492	510	456	511	482	499
TSS	mg/L	N/A	7200	40000	54	70	74	9000	6000	34000	25200	15600	8400	4100	4900	72	100	90	25	1540
Turbidity	NTU	N/A	5680	10900	26.8	25	43.1	3900	3420	14700	15600	6440	2420	1760	1160	27.1	34.2	37.9	9.7	700
Colour	TCU	5	3	7	< 2	< 2	2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.03	0.05	0.03	0.03	0.06	0.08	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.05	0.08	0.05	0.03	0.08
Antimony	mg/L	0.006	< 0.0001	0.0003	< 0.0001	0.0002	0.0002	< 0.0001	0.0002	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002
Arsenic	mg/L	0.025	< 0.0001	0.0003	0.0008	0.0007	0.0005	0.0001	< 0.0001	0.0002	0.0004	0.0001	0.0002	< 0.0001	< 0.0001	0.0003	0.0002	0.0002	0.0002	0.0002
Barium	mg/L	1	0.143	0.14	0.065	0.073	0.088	0.153	0.141	0.159	0.137	0.139	0.152	0.14	0.16	0.09	0.07	0.09	0.083	0.17
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.017	0.043	0.036	0.045	0.05	0.048	0.043	0.043	0.076	0.044	0.047	0.045	0.046	0.052	0.038	0.056	0.041	< 0.005
Cadmium	mg/L	0.005	< 0.00002	0.00002	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010
Chromium	mg/L	0.05	< 0.0002	0.0008	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.01	< 0.0001	0.009	0.0002	< 0.005	< 0.0001	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0001	< 0.0001	0.0009	0.0015	0.0004	0.0004	0.0004	0.0004	0.0009	0.0007	< 0.0001	0.0004	0.0006	0.0018	0.0014	0.0009	0.0006	0.0003
Lead	mg/L	0.01	0.0001	0.00009	0.00008	0.00011	< 0.00002	0.00003	0.00018	0.00012	0.00022	0.00008	0.00012	0.00007	0.00015	0.00007	0.00008	0.00006	0.00006	0.00009
Mercury	mg/L	0.001	0.00005	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0003	0.0001	0.0004	0.0005	0.0004	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0004	0.0003	0.0004	0.0003	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.799	0.805	0.641	0.804	0.669	0.884	0.809	0.822	0.803	0.819	0.855	0.852	0.869	0.936	0.736	0.879	0.767	0.929
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0006	0.0004	0.001	0.0013	0.0007	0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II
			2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	17-May-16	13-Jul-16	24-May-17	19-Jul-17	17-Oct-17	8-May-18	24-Jul-18	11-Oct-18	8-May-19
Alkalinity	mg/L	500	264	279	282	268	272	267	278	272	278	277	284	274	272	274	271	263	281	225
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	1.5	0.16	0.47	0.27	0.57	0.58	0.15	0.25	0.26	0.02	0.2	0.23	0.2	0.22	0.09	0.04	0.05	0.14
BOD	mg/L	N/A	< 3	< 3		<3	4	<3	<3	<3	<3	< 2	< 3	< 3	< 3	< 3	< 3	< 2	3	< 3
Calcium	mg/L	N/A	119	117	108	111	125	121	114	108	107	116	116	110	116	117	111	111	122	86.3
COD	mg/L	N/A	15	14	30	18	40	35	13	88	84	7	< 5	87	120	22	14	< 5	< 5	7
Chloride	mg/L	250	117	116	131	109	117	116	112	108	116	81.6	88.1	71.1	72.3	79.7	93.1	94.2	96.6	83.5
Conductivity	umhos/cm	N/A	922	951	935	932	956	942	930	962	943	849	865	872	863	862	832	883	946	762
Cyanide	mg/L	0.2	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	0.6	< 0.2	2.8	3.1	1.3	1.2	3.1	1.8	3.7	1	0.9	1.9	1.4	1.5	1.7	2	2	2.1
Fluoride	mg/L	1.5	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	448	426	406	419	475	451	428	421	413	421	430	410	428	441	405	408	441	313
Ion Balance	%	N/A	1.26	2.55	7.91	0.302	4.07	2.15	0.94	0.142	2.91									
Iron	mg/L	0.3	0.469	0.327	0.242	0.008	0.493	0.308	0.424	0.401	0.38	0.401	0.409	0.281	0.25	0.515	< 0.005	0.023	< 0.005	< 0.005
Magnesium	mg/L	N/A	36.4	32.6	33.1	34.2	39.5	36.1	34.9	36.5	35.2	32.1	34.2	32.6	33.7	36.1	31	31.7	33.2	23.7
Manganese	mg/L	0.05	0.018	0.01	0.012	0.017	0.014	0.012	0.008	0.012	0.011	0.058	0.012	0.012	0.013	0.014	0.008	0.024	0.0013	0.011
Nitrate	mg/L	10	< 0.05	0.06	<0.05	0.06	<0.05	0.18	<0.05	0.12	<0.05	0.2	< 0.1	0.07	< 0.05	< 0.05	< 0.05	< 0.05	0.05	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1.7	0.4	1.5	0.2	0.8	0.7	0.3	1.6	1	0.2	2.7	7.4	2.3	0.6	0.2	0.2	0.5	0.8
pH-Lab	pH unit	6.5-8.5	7.66	7.73	7.59	7.95	7.85	7.9	7.84	7.9	7.72	8.01	7.71	7.8	7.74	7.83	7.85	7.87	7.9	7.75
Phenols	mg/L	N/A	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	< 0.001	0.044	< 0.001	< 0.001	< 0.001	< 0.001	0.004	0.005	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.05
Potassium	mg/L	N/A	2.9	2.8	2.6	2.7	2.9	2.7	2.5	3	2.8	1.9	2.5	2.2	2.5	2.6	2	2.5	2.6	1.6
Sodium	mg/L	200	19.3	19.4	17.6	19.2	21.5	20	18.3	20.5	19	19.9	17.9	16.4	17.2	16.6	17.1	19.1	19.3	12
Sulphate	mg/L	500	51	52	57	45	49	48	45	44	44	51	55	42	42	43	51	49	58	42
TDS	mg/L	500	505	509	497	495	509	501	494	512	501	470	484	439	447	460	468	466	501	384
TSS	mg/L	N/A	1170	1680	2200	44	233	540	834	11700	3640	272	5600	25600	7900	14000	24	50	44	110
Turbidity	NTU	N/A	569	1260	819	24.3	181	423	264	1760	853	151	8600	12900	2900	910	11.8	15.3	18	74
Colour	TCU	5	< 2	< 2	<2	<2	<2	<2	<2	<2	<2	3	9	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.06	0.07	0.07	0.05	0.05	0.06	0.07	0.05	0.03	0.03	0.04	0.03	0.08	0.06	0.08	0.06	0.05	0.05
Antimony	mg/L	0.006	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	0.0001	0.0001	0.0001	< 0.0001	< 0.0001	0.0001	0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0005	0.0002	0.0007	0.0002	0.0004	0.0002	0.0002	0.0002	0.0001
Barium	mg/L	1	0.155	0.166	0.147	0.087	0.162	0.155	0.143	0.155	0.155	0.067	0.151	0.139	0.149	0.155	0.069	0.077	0.087	0.052
Beryllium	mg/L	N/A	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.048	0.044	0.041	0.046	0.05	0.053	0.048	0.047	0.047	0.01	0.045	0.038	0.044	0.046	0.038	0.047	0.042	0.033
Cadmium	mg/L	0.005	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0002	0.0003	<0.0001	0.0001	0.0002	0.0002	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.0001	0.01
Copper	mg/L	1	0.0002	0.0003	0.0004	0.0001	0.0003	0.0005	<0.0001	0.0007	0.0002	< 0.0001	< 0.0001	0.001	0.001	0.0003	< 0.0001	0.0002	0.0005	0.0006
Lead	mg/L	0.01	0.00008	0.00009	0.00006	0.00004	0.00006	<0.00002	0.00006	0.00013	0.00012	< 0.00002	0.00012	0.00012	0.0002	0.00005	0.00002	0.00005	0.00007	0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	<0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0001	0.0002	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0004	0.0001	0.0002	0.0002	0.0001	0.0003	0.0005	0.0005	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.897	0.875	0.826	0.86	0.931	0.877	0.853	0.906	0.858	0.725	0.878	0.794	0.878	0.749	0.701	0.732	0.775	0.532
Thallium	mg/L	N/A	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	< 0.0001	0.0011	0.0015	0.0005	0.0001	< 0.0001	0.0003	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-III	32-93-III	32-93-III	
			5-May-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	17-May-16	24-May-17	19-Jul-17
Alkalinity	mg/L	500	257	265	265	285	256	263	277	264	Dry	289	272	264	272	naccessible	Dry	269	294	423
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		0.01	<0.01	<0.01	0.01			< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.05	0.22	0.14	0.18	0.23	0.22	0.18	0.23		0.67	0.38	0.72	0.89			0.06	0.06	0.1
BOD	mg/L	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3			<3	<3	9			2	< 3	< 3
Calcium	mg/L	N/A	111	115	110	116	120	120	120	112		111	110	122	113			116	130	147
COD	mg/L	N/A	6	75	8	55	52	20	8	7		14	99	28	9			72	68	59
Chloride	mg/L	250	96.2	103	101	111	118	104	105	115		132	109	117	109			139	127	146
Conductivity	umhos/cm	N/A	863	891	898	904	918	919	889	910		948	935	940	908			939	1130	1410
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			<0.005	<0.005	<0.005			< 0.005	< 0.005	< 0.005
DOC	mg/L	5	2	0.8	1.6	3.1	0.8	1.3	1.1	1		2.4	2.9	1.2	3.2			1.4	3	3.3
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		<0.1	<0.1	<0.1	<0.1			0.1	< 0.1	< 0.1
Hardness	mg/L	500	411	440	415	433	446	445	447	414		407	415	448	415			338	386	441
Ion Balance	%	N/A	1.05	2.75	0.174	0.942	1.35	3.02	2.24	2.26		7.97	0.855	2.04	1.73					
Iron	mg/L	0.3	0.038	0.361	0.412	0.42	0.445	0.438	0.38	0.009		<0.005	0.516	0.005	0.015			0.006	< 0.005	0.015
Magnesium	mg/L	N/A	32.6	37.2	34.1	34.9	35.5	35.3	35.8	32.9		31.5	34.3	34.9	32.3			11.6	14.6	18.1
Manganese	mg/L	0.05	0.008	0.012	0.012	0.013	0.015	0.012	0.012	0.012		0.001	0.013	0.004	0.042			0.051	0.024	0.519
Nitrate	mg/L	10	0.08	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	< 0.05		0.15	0.06	0.14	0.06			0.2	0.36	0.06
Nitrite	mg/L	1	< 0.05	< 0.05	0.06	< 0.05	0.07	< 0.05	< 0.05	< 0.05		<0.05	<0.05	<0.05	<0.05			< 0.1	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.2	1.2	0.5	2.3	1.3	0.5	0.5	0.4		1	0.9	1.1	1			1.4	1.3	1.6
pH-Lab	pH unit	6.5-8.5	7.97	7.86	7.92	7.71	7.66	7.47	7.83	7.9		7.87	7.85	7.99	7.96			8	7.94	7.63
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001		<0.001	<0.001	<0.001	<0.001			< 0.001	< 0.001	0.003
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		<0.1	<0.1	<0.1	<0.1			< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	2.3	3	2.5	3	2.8	2.7	2.6	2.5		2.8	2.9	3	2.2			0.9	1.2	1.6
Sodium	mg/L	200	16.7	19.6	17.9	21	19.5	18.5	19.5	17.8		19.4	19.2	20.8	17.3			39.8	50.8	44
Sulphate	mg/L	500	47	49	48	51	56	50	46	50		55	44	49	45			19	19	18
TDS	mg/L	500	460	486	473	508	506	489	496	487		504	497	500	481			489	520	629
TSS	mg/L	N/A	45	12800	1090	1850	1840	1270	828	46		16	4860	206	34			6800	2040	690
Turbidity	NTU	N/A	25.6	1600	504	258	121	623	288	14.2		8.9	643	153	15.6			2910	1490	572
Colour	TCU	5	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2		2	<2	2	<2			4	5	7
Aluminum	mg/L	0.1	0.07	0.05	0.08	0.08	0.06	0.04	0.07	0.04		0.07	0.04	0.07	0.07			0.03	0.03	0.05
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001		<0.0001	<0.0001	0.0002	0.0002			< 0.0001	0.0001	0.0002
Arsenic	mg/L	0.025	0.0001	0.0004	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001	0.0001		0.0003	0.0001	0.0002	0.0002			< 0.0001	0.0007	0.0006
Barium	mg/L	1	0.075	0.166	0.138	0.157	0.162	0.16	0.149	0.081		0.083	0.15	0.092	0.08			0.06	0.068	0.081
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002		<0.0001	<0.0001	<0.0001	<0.0001			< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.039	0.05	0.045	0.051	0.049	0.049	0.043	0.039		0.042	0.048	0.054	0.039			< 0.005	0.024	0.04
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010		<0.000015	<0.000015	<0.000015	<0.000015			< 0.00002	0.000014	0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001		<0.001	<0.001	<0.001	<0.001			< 0.0002	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.0002	0.0002	0.0002	0.0007			< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0009	0.0023	0.0004	0.0005	0.0004	0.0005	0.0012	0.0004		0.0006	<0.0001	0.0011	0.0002			0.0004	0.0016	0.0015
Lead	mg/L	0.01	0.00005	0.00015	0.00013	0.00012	0.00015	0.00265	0.0001	< 0.00002		<0.00002	0.00005	0.00007	0.00008			< 0.00002	0.00004	0.00006
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002		<0.00002	<0.00002	<0.00002	<0.00002			< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0003	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003		0.0005	0.0002	0.0005	0.0004			0.0003	0.0003	0.0003
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		0.0006	<0.0002	0.0006	0.0006			< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001		<0.001	<0.001	<0.001	<0.001			< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001		<0.0001	<0.0001	<0.0001	<0.0001			< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.757	0.931	0.832	0.871	0.895	0.853	0.88	0.789		0.816	0.891	0.87	0.788			0.331	0.401	0.489
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005		<0.00005	<0.00005	<0.00005	<0.00005			< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001		<0.0001	<0.0001	<0.0001	<0.0001			0.0004	0.0011	0.0017
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	0.008	< 0.005	< 0.005	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005			< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	32-93-III	35-93-I	35-93-I	35-93-I	35-93-I
			17-Oct-17	8-May-18	8-May-19	5-May-20	4-May-21	3-May-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	11-May-16	12-Oct-16	24-May-17	16-Oct-17
Alkalinity	mg/L	500	259	209	267	255	277	292	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	185	180	188	179
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01												
Ammonia	mg/L	N/A	0.07	0.41	0.27	0.08	0.34	0.35									0.03	0.08	0.07	0.06
BOD	mg/L	N/A	< 3	< 3	< 3	< 3	3	4												
Calcium	mg/L	N/A	119	101	139	126	114	144									38	43.6	41	44.4
COD	mg/L	N/A	61	86	177	99	276	208									< 5	< 5	5	< 5
Chloride	mg/L	250	78.8	64.6	169	171	153	169									20	20.7	16.8	23.4
Conductivity	umhos/cm	N/A	834	633	1080	1070	1060	1160									451	443	455	444
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005												
DOC	mg/L	5	2.7	1.8	3	2	2.6	1.6									0.9	1.3	1.3	1.2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1									0.4	0.5	0.6	0.4
Hardness	mg/L	500	383	339	427	394	361	451									209	231	215	240
Ion Balance	%	N/A				0.399	3.02	3.52												
Iron	mg/L	0.3	0.005	< 0.005	< 0.005	0.035	0.029	1.24									< 0.005	0.018	0.011	0.009
Magnesium	mg/L	N/A	20.8	21	19.3	19.1	18.4	22.3									27.9	29.7	27.5	31.4
Manganese	mg/L	0.05	0.113	0.111	0.245	0.205	0.144	0.422									< 0.001	0.006	0.004	0.006
Nitrate	mg/L	10	0.11	0.82	0.05	0.11	0.33	0.1									0.2	0.1	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	0.09	< 0.05									< 0.1	< 0.1	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1.4	2.5	6.4	2.7	7.1	0.6									0.1	0.4	0.4	0.2
pH-Lab	pH unit	6.5-8.5	7.7	7.97	7.68	7.99	7.4	7.51									8.08	8.12	8.1	8.09
Phenols	mg/L	N/A	0.001	< 0.001	< 0.002	< 0.002	< 0.002	< 0.001									< 0.001	0.004	0.001	0.003
Phosphorus	mg/L	N/A	< 0.1	< 0.1	3.12	< 0.1	< 0.1	< 0.1									< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.5	1.2	1.8	1.5	2.1	1.9									3.1	3.5	3	3.7
Sodium	mg/L	200	19.8	15.8	62.2	60.9	56	61.1									7.7	8.9	7.7	7.8
Sulphate	mg/L	500	36	32	16	26	21	19									23	16	17	18
TDS	mg/L	500	434	361	569	558	532	595									232	232	227	237
TSS	mg/L	N/A	2080	10000	5050	1700	3850	4900												
Turbidity	NTU	N/A	1300	2050	2870	821	1530	2250												
Colour	TCU	5	7	2	6	< 2	9	4												
Aluminum	mg/L	0.1	0.06	0.06	0.07	0.08	0.08	0.04									0.01	0.05	< 0.01	0.03
Antimony	mg/L	0.006	0.0003	0.0001	0.0001	0.0001	0.0001	< 0.0001									< 0.0001	0.0003	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0003	< 0.0001	0.0002	0.0001	0.0002	0.0004									0.0004	0.0006	0.0005	0.0004
Barium	mg/L	1	0.073	0.053	0.072	0.069	0.063	0.08									0.115	0.132	0.144	0.164
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002									< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.038	0.032	0.025	0.022	0.023	0.024									0.082	0.134	0.113	0.146
Cadmium	mg/L	0.005	0.000016	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015									< 0.00002	< 0.00002	< 0.000014	< 0.000014
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001									< 0.0002	0.0008	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	0.0002	< 0.005	0.0002	< 0.005	< 0.005									< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0008	0.0001	0.0012	0.0005	0.0016	0.0004									< 0.0001	0.0003	0.0033	0.0005
Lead	mg/L	0.01	< 0.00002	< 0.00002	0.00005	0.00011	0.00008	0.00004									< 0.00002	0.00003	0.00133	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002									< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002									0.0004	0.0003	0.0005	0.0003
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01									< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001									< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001									< 0.00002	< 0.00002	0.00003	< 0.00002
Strontium	mg/L	N/A	0.353	0.39	0.483	0.504	0.477	0.548									0.868	1.02	0.927	0.93
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005									< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0003	0.0002	0.0002	0.0002	0.0003	< 0.0001									< 0.0001	0.0004	0.0006	0.0004
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005									< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-II	35-93-II
			7-May-18	10-Oct-18	10-May-19	9-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	11-May-16	12-Oct-16
Alkalinity	mg/L	500	181	175	191	169	175	169	183	182	177	175	176	188	180	180	192	180	326	319
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.1	0.15	0.11	0.07	0.13	0.12	0.11	0.26	0.11	0.21	0.2	0.32	0.1	0.39	0.06	0.18	0.06	0.08
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	43	44.8	41.4	44.3	42.3	41	38.4	40.2	40.2	36.9	41.5	40	42.7	45.4	44.8	43.2	101	191
COD	mg/L	N/A	< 5	< 5	5	< 5	15	6	18	7	5	< 5	< 5	16	<5	<5	12	14	58	< 5
Chloride	mg/L	250	22	24.4	24.8	24	22.2	21.9	19.1	20.1	21.1	26.8	24.2	21.3	22.1	25.4	28.9	21.8	11.3	95.6
Conductivity	umhos/cm	N/A	435	459	440	432	447	429	422	418	433	425	447	445	464	470	491	439	683	1010
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.5	2.2	2.8	2.2	2.2	2.2	2.8	1.6	1.9	1.1	1.9	2.9	3.1	2.2	1.7	3	1.4	1.4
Fluoride	mg/L	1.5	< 0.1	< 0.1	0.4	< 0.1	< 0.1	< 0.1	< 0.1	0.4	< 0.1	< 0.1	0.3	0.3	0.3	0.4	0.2	0.1	0.1	0.1
Hardness	mg/L	500	234	230	218	230	223	215	212	214	211	206	223	212	225	239	234	222	304	552
Ion Balance	%	N/A					2.95	4.17	1.5	1.53	1.36	1.31	1.15	1.24	1.86	4.43	1.04	3.02		
Iron	mg/L	0.3	0.022	0.015	0.021	0.012	0.045	0.008	0.021	0.118	0.032	0.039	< 0.005	<0.005	0.013	0.01	0.009	0.015	0.006	0.186
Magnesium	mg/L	N/A	30.7	28.8	27.9	29.1	28.6	27.3	28.2	27.5	27	27.7	28.9	27.3	28.8	30.5	29.7	27.7	12.7	17.8
Manganese	mg/L	0.05	0.001	0.001	0.004	0.002	0.005	0.002	0.008	0.015	0.007	0.006	0.001	<0.001	0.003	0.002	<0.001	0.005	0.008	0.017
Nitrate	mg/L	10	0.07	< 0.05	0.28	< 0.05	0.16	0.06	< 0.05	0.14	0.22	0.2	0.1	0.37	0.07	0.09	0.06	0.22	0.1	0.7
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.11	< 0.05	< 0.05	0.08	<0.05	<0.05	0.08	<0.05	0.11	< 0.1	< 0.1
Tot Kjel N	mg/L	N/A	0.2	0.1	0.2	0.2	0.6	0.2	0.3	0.4	0.2	0.3	0.2	0.4	0.1	0.5	0.3	0.4	0.5	1.8
pH-Lab	pH unit	6.5-8.5	8.12	8.01	8.12	8.05	7.97	8.04	8.16	7.9	7.86	7.96	8.03	7.5	7.86	8.11	7.88	8	7.63	7.69
Phenols	mg/L	N/A	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	0.13	0.07	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	4.1	3.5	3.5	3.5	3.4	3.3	3.1	3.3	3.1	3.3	3.4	3.4	3.4	3.8	3.5	3.4	0.9	1.2
Sodium	mg/L	200	8.2	7.8	7.9	8.1	7.2	7.7	7.3	7.6	7.2	7.4	7.2	7.1	7.3	7.2	6.9	7.3	15.5	40.6
Sulphate	mg/L	500	23	21	22	14	22	16	15	16	17	19	25	19	25	21	25	16	40	62
TDS	mg/L	500	239	235	243	225	231	219	221	224	222	227	236	230	240	243	254	227	377	603
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.04	0.04	< 0.01	0.01	0.02	<0.01	0.04	0.03	0.03	0.09
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002
Arsenic	mg/L	0.025	0.0004	0.0004	0.0004	0.0004	0.0003	0.0004	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	< 0.0001	0.0003
Barium	mg/L	1	0.147	0.134	0.139	0.169	0.14	0.163	0.169	0.207	0.188	0.199	0.181	0.18	0.207	0.167	0.153	0.182	0.069	0.122
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002
Boron	mg/L	5	0.131	0.122	0.118	0.121	0.121	0.12	0.106	0.113	0.107	0.1	0.11	0.119	0.114	0.138	0.142	0.117	< 0.005	0.02
Cadmium	mg/L	0.005	< 0.000015	< 0.00002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0025
Cobalt	mg/L	N/A	< 0.0001	0.006	< 0.005	< 0.005	0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0001	<0.0001	0.0001	0.0001	< 0.005	< 0.005
Copper	mg/L	1	0.0002	0.0004	0.0008	0.0002	0.0004	0.0018	0.0006	0.0003	0.0006	0.0003	0.0003	0.0005	0.0002	0.0006	0.0003	0.0004	< 0.0001	0.0006
Lead	mg/L	0.01	< 0.00002	0.00002	< 0.00002	< 0.00002	0.00002	0.00006	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	0.00031
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	< 0.00002
Molybdenum	mg/L	N/A	0.0005	0.0003	0.0004	0.0004	0.0003	0.0004	0.0004	0.0004	0.0005	0.0005	0.0004	0.0004	0.0005	0.0005	0.0002	0.0004	0.0003	0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0002	0.0003	0.0005	0.0002	0.0005	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002
Strontium	mg/L	N/A	1.06	0.958	1.02	0.969	0.972	0.939	0.931	0.983	0.939	0.963	1.01	0.974	1.05	1.06	1.02	0.928	0.246	0.424
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0001	0.0001	0.0001	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	< 0.0001	0.0011
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II
			24-May-17	16-Oct-17	7-May-18	10-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25
Alkalinity	mg/L	500	334	330	292	235	298	324	266	276	298	319	283	302	266	325	313	277	306	295
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.06	0.03	0.12	1.3	0.09	0.05	0.02	0.15	0.04	0.06	1.56	0.06	0.42	1.1	0.05	0.17	0.09	0.08
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	127	130	114	81.2	136	154	129	141	109	126	140	133	84.2	110	117	121	121	135
COD	mg/L	N/A	31	15	5	7	14	34	9	36	62	61	17	27	< 5	<5	36	135	43	55
Chloride	mg/L	250	28.1	28.9	17.3	25.2	51.8	63.5	105	148	74.4	121	156	239	40.6	148	104	147	202	263
Conductivity	umhos/cm	N/A	758	749	614	606	757	874	880	1050	808	977	1080	1240	639	1100	956	1030	1210	1400
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2	1.7	2.3	4.6	3.3	3	1.3	1.4	2.2	1.6	1.4	< 0.2	2.1	2.8	3.8	2.8	1.2	2.7
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	mg/L	500	369	382	340	300	380	447	360	399	306	360	388	384	225	312	339	360	363	398
Ion Balance	%	N/A							3.36	3.55	1.15	2.04	2.29	4.72	8.77	7.46	0.471	1.86	4.04	2.54
Iron	mg/L	0.3	< 0.005	< 0.005	0.028	0.013	< 0.005	0.006	0.025	0.007	0.006	0.03	< 0.005	< 0.005	< 0.005	0.005	0.03	<0.005	<0.005	<0.005
Magnesium	mg/L	N/A	12.7	13.8	13.3	23.6	9.76	15.1	9.18	11.2	8.05	11	9.34	12.6	3.54	9.04	11.5	13.7	14.6	14.8
Manganese	mg/L	0.05	0.002	0.009	0.003	0.019	< 0.001	0.014	0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	0.001	0.001	<0.001	<0.001	<0.001
Nitrate	mg/L	10	< 0.05	0.09	< 0.05	0.08	0.2	0.08	0.31	0.06	0.28	0.11	0.25	0.2	0.07	0.24	0.14	<0.05	0.1	0.33
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	0.24	0.1	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tot Kjel N	mg/L	N/A	1	0.3	0.5	1.6	0.4	0.9	0.5	0.4	1.7	1.4	2.5	0.7	0.8	0.9	0.6	0.5	0.6	0.6
pH-Lab	pH unit	6.5-8.5	7.95	7.87	7.9	7.77	7.88	7.79	7.76	7.72	7.87	7.9	7.74	7.72	7.9	7.49	7.79	7.91	7.6	7.69
Phenols	mg/L	N/A	< 0.001	0.002	< 0.001	0.02	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	0.57	2.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	N/A	0.9	1.2	1.6	1.9	0.8	1.4	0.7	1.1	0.7	1.4	0.9	1.5	0.4	1.5	1.4	1.9	1.5	1.8
Sodium	mg/L	200	24.6	25.3	16.6	8.3	23.8	27.6	49	67.4	50	81.1	71.5	104	25.4	77	65.8	75.6	92.4	118
Sulphate	mg/L	500	29	27	24	47	29	44	20	22	19	26	21	32	10	24	19	23	21	24
TDS	mg/L	500	423	424	362	330	430	500	473	557	440	558	570	703	324	589	509	552	655	761
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.03	0.07	0.07	0.06	0.08	0.09	0.08	0.08	0.07	0.06	0.08	0.09	0.04	0.03	0.06	0.03	0.06	0.04
Antimony	mg/L	0.006	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.025	0.0001	0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Barium	mg/L	1	0.08	0.109	0.086	0.236	0.078	0.121	0.074	0.1	0.061	0.094	0.085	0.112	0.04	0.08	0.099	0.102	0.118	0.121
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	5	0.014	0.025	0.011	0.043	< 0.005	0.018	0.014	0.018	0.011	0.022	0.012	0.009	0.007	0.02	0.017	0.028	0.017	0.025
Cadmium	mg/L	0.005	< 0.000014	< 0.000014	< 0.000015	< 0.00002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0002	0.0002	0.0003	0.0002
Copper	mg/L	1	0.0009	0.0004	0.001	0.0007	0.0004	0.0004	0.0011	0.0028	0.0009	0.0008	0.0011	0.0007	0.0009	0.0015	0.0006	0.0007	0.0006	0.0004
Lead	mg/L	0.01	< 0.00002	< 0.00002	0.00004	0.00013	< 0.00002	< 0.00002	0.00006	0.00009	< 0.00002	0.00006	0.00002	< 0.00004	< 0.00002	< 0.00002	0.00009	<0.00002	0.00002	<0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0003	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0004	0.0002	0.0002	0.0002	0.0003	0.0003	0.0002
Nickel	mg/L	N/A	< 0.01	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0003	0.0002	0.0002	0.0003	0.0002
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	0.317	0.296	0.3	0.753	0.322	0.376	0.281	0.326	0.271	0.359	0.345	0.418	0.195	0.32	0.389	0.422	0.453	0.436
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	< 0.0001	0.0008	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc	mg/L	5	< 0.005	< 0.005	0.009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

			36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93
Parameters	Units	ODWQS	11-May-16	18-Oct-16	24-May-17	16-Oct-17	7-May-18	10-Oct-18	10-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24
Alkalinity	mg/L	500	236	228	241	231	232	332	216	223	227	217	230	246	233	245	239	259	242	239
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.21	0.2	0.16	0.23	0.22	0.26	0.21	0.16	0.17	0.26	0.22	0.21	0.31	0.2	0.43	1.74	0.21	0.49
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	70	82.7	78.6	86.6	81.9	139	89.2	88	83.2	82.3	79.1	87.8	86.3	79.4	78	82.4	88.9	91.2
COD	mg/L	N/A	70	41	9	49	< 5	20	47	333	21	40	23	7	9	< 5	< 5	12	12	39
Chloride	mg/L	250	21.4	25.3	19.8	22.9	27.3	30.2	32.4	29.7	27	26.8	< 0.5	26.3	30	39.4	34	26.2	31.2	40
Conductivity	umhos/cm	N/A	590	602	614	593	588	810	600	597	595	591	591	600	624	620	631	627	645	660
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.4	1.8	1.8	2	2.2	2.7	3.1	2.9	2.6	2.7	2.6	1.4	2.2	1.3	1.1	3.8	3.5	2.6
Fluoride	mg/L	1.5	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1
Hardness	mg/L	500	268	307	292	324	313	403	327	329	311	299	300	323	320	307	299	308	329	346
Ion Balance	%	N/A									3.93	3.13	5.29	2.79	3.41	3.98	2.62	1.23	3.39	4.8
Iron	mg/L	0.3	0.865	0.866	0.852	0.873	0.987	0.016	1.21	1.25	1.04	1.14	0.733	1.18	0.881	1.22	1.26	1.25	2.11	1.12
Magnesium	mg/L	N/A	22.7	24.4	23.2	26.2	26.4	13.6	25.2	26.5	25.1	22.8	24.8	25.3	25.4	26.5	25.2	24.8	26	28.6
Manganese	mg/L	0.05	0.02	0.021	0.02	0.022	0.021	0.007	0.025	0.021	0.02	0.019	0.018	0.024	0.026	0.017	0.021	0.022	0.041	0.022
Nitrate	mg/L	10	0.2	0.2	< 0.05	0.13	0.14	0.52	0.29	< 0.05	0.23	0.12	< 0.05	0.06	0.11	0.19	0.17	0.28	0.37	<0.05
Nitrite	mg/L	1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	16.6	0.08	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05
Tot Kjel N	mg/L	N/A	0.7	0.6	0.3	0.4	2.2	0.6	0.6	4.2	0.5	0.6	0.5	0.3	0.5	0.4	0.5	1.3	0.2	0.7
pH-Lab	pH unit	6.5-8.5	7.83	8.07	7.89	7.98	8.01	7.56	8.02	7.99	7.88	7.94	8.09	7.92	7.8	7.83	7.94	7.47	7.84	8.03
Phenols	mg/L	N/A	< 0.001	0.003	< 0.001	0.003	< 0.001	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1.63	22.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1
Potassium	mg/L	N/A	1.4	1.6	1.3	1.8	1.9	1.5	1.8	2	1.6	1.8	1.6	2	1.7	2	1.9	2	1.8	2.1
Sodium	mg/L	200	8	9.5	8.3	8.2	9.4	20.7	9	9.1	8.4	8.6	8.7	8.9	9	8.8	9	8.5	9.4	12.2
Sulphate	mg/L	500	49	48	39	42	48	38	52	48	42	46	1	45	45	57	51	43	46	46
TDS	mg/L	500	316	330	316	327	335	443	340	339	325	320	255	344	338	362	344	325	335	343
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.02	0.04	0.02	0.05	0.05	0.08	0.06	0.06	0.06	0.05	0.05	0.04	0.07	0.06	0.02	0.03	0.06	0.03
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.025	0.0003	0.0002	0.0003	0.0003	0.0004	0.0002	0.0002	0.0002	0.0001	0.0002	0.0001	0.0002	0.0001	0.0002	0.0001	0.0002	0.0002	0.0001
Barium	mg/L	1	0.197	0.23	0.215	0.27	0.259	0.107	0.243	0.264	0.23	0.245	0.225	0.255	0.242	0.289	0.247	0.245	0.301	0.269
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001
Boron	mg/L	5	0.008	0.048	0.038	0.053	0.047	0.015	0.039	0.051	0.043	0.05	0.042	0.05	0.042	0.037	0.045	0.049	0.046	0.049
Cadmium	mg/L	0.005	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.00002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.05	< 0.0002	< 0.0002	< 0.001	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.006	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0002	0.0001
Copper	mg/L	1	< 0.0001	< 0.0001	0.0028	0.0001	0.0002	0.0004	0.0005	< 0.0001	< 0.0001	0.0061	0.0003	0.0004	0.0005	0.0002	0.0001	0.0003	0.0003	0.0004
Lead	mg/L	0.01	< 0.00002	0.00002	0.00021	0.00004	0.00003	0.00003	0.00014	< 0.00002	0.00005	0.00006	< 0.00002	0.00011	0.00008	< 0.00002	< 0.00002	0.00002	0.00021	0.00003
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	<0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0008	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.0002	<0.0002	0.0007
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	0.622	0.736	0.697	0.686	0.788	0.36	0.806	0.804	0.741	0.749	0.752	0.797	0.77	0.827	0.785	0.755	0.823	0.833
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	< 0.0001	0.0005	0.0012	0.0005	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	36-93	36-93	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I
			7-May-25	15-Oct-25	11-May-16	12-Oct-16	24-May-17	16-Oct-17	7-May-18	11-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23
Alkalinity	mg/L	500	269	280	236	207	238	220	239	216	229	203	230	224	248	260	244	231	251	260
Unionized Ammonia	mg/L	N/A								< 0.01										
Ammonia	mg/L	N/A	0.28	0.4	0.23	0.27	0.27	0.25	0.32	0.24	0.28	0.21	0.25	0.28	0.26	0.31	0.33	0.23	0.4	0.68
BOD	mg/L	N/A								9										
Calcium	mg/L	N/A	96.3	96	94.6	72.4	103	108	111	92.6	113	75	113	113	103	115	115	96.8	108	102
COD	mg/L	N/A	34	24	< 5	< 5	< 5	< 5	8	< 5	8	< 5	22	< 5	9	9	10	< 5	9	12
Chloride	mg/L	250	73	86.4	185	49.5	150	140	185	116	191	59.4	170	173	168	175	173	205	215	183
Conductivity	umhos/cm	N/A	813	869	1110	645	1120	973	1060	876	1090	647	1070	1070	1070	1090	1140	1020	1190	1160
Cyanide	mg/L	0.2								< 0.005										
DOC	mg/L	5	1.8	3.4	0.6	1.4	1.3	1.3	1.5	2.4	2.3	2.3	1.4	1.4	1.5	0.7	1.2	< 0.2	1	2.2
Fluoride	mg/L	1.5	<0.1	<0.1	0.2	0.3	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1
Hardness	mg/L	500	360	371	414	316	435	470	482	415	478	323	482	465	451	479	473	429	454	430
Ion Balance	%	N/A	2.09	1.16									4.04	2.02	0.0396	1.76	2.83	6.66	5.09	4.13
Iron	mg/L	0.3	1.19	1.36	0.754	0.491	0.711	0.716	0.965	4.24	0.966	0.65	1.11	1.12	0.827	1.33	1.25	0.976	1.16	1.02
Magnesium	mg/L	N/A	29	31.9	43.2	32.7	43.3	48.6	49.7	44.7	47.6	32.9	48.5	44.5	47	46.7	45.1	45.5	44.5	42.7
Manganese	mg/L	0.05	0.028	0.024	0.018	0.012	0.016	0.02	0.019	0.021	0.018	0.011	0.019	0.019	0.016	0.02	0.023	0.016	0.019	0.018
Nitrate	mg/L	10	0.1	0.3	0.1	< 0.1	< 0.05	< 0.05	< 0.05	0.07	0.2	< 0.05	0.09	< 0.05	0.24	< 0.05	0.07	< 0.05	0.07	0.06
Nitrite	mg/L	1	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.11	< 0.05	< 0.05	0.2	< 0.05	< 0.05	< 0.05	<0.05
Tot Kjel N	mg/L	N/A	0.5	0.6	0.4	0.7	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.6	0.7
pH-Lab	pH unit	6.5-8.5	7.74	7.86	7.74	8.04	7.8	8.02	7.87	7.93	7.96	8.02	7.8	7.75	8.18	7.88	7.81	7.81	7.9	7.52
Phenols	mg/L	N/A	<0.001	<0.001	< 0.001	0.001	0.002	0.001	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.04	0.22	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1
Potassium	mg/L	N/A	1.8	2.4	2.3	2.3	2.4	2.8	3.3	3.2	3	2.6	2.9	2.9	2.8	3.1	2.9	3.1	3.1	3.1
Sodium	mg/L	200	18.5	29.1	27.1	16.6	28.7	28	38.2	29.5	38.2	19.1	36.3	34.8	40.6	45.9	45.7	38.1	46.7	43.1
Sulphate	mg/L	500	49	47	59	49	45	46	57	53	62	45	52	56	58	58	57	70	66	55
TDS	mg/L	500	428	459	554	348	516	506	588	473	594	356	562	560	569	601	587	599	635	622
TSS	mg/L	N/A								660										
Turbidity	NTU	N/A								219										
Colour	TCU	5								2										
Aluminum	mg/L	0.1	0.06	0.03	0.02	0.03	0.03	0.07	0.07	0.06	0.07	0.05	0.06	0.07	0.07	0.06	0.08	0.07	0.03	0.03
Antimony	mg/L	0.006	<0.0001	<0.0001	< 0.0001	0.0002	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	<0.0001
Arsenic	mg/L	0.025	<0.0001	0.0001	0.0003	0.0003	0.0008	0.0005	0.0001	0.0006	0.0001	0.0001	0.0001	0.0002	0.0002	0.0001	0.0001	0.0002	0.0002	0.0002
Barium	mg/L	1	0.289	0.34	0.197	0.135	0.209	0.257	0.26	0.219	0.257	0.148	0.25	0.258	0.228	0.284	0.274	0.255	0.278	0.252
Beryllium	mg/L	N/A	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001
Boron	mg/L	5	0.045	0.051	0.015	0.064	0.05	0.063	0.052	0.067	0.05	0.066	0.055	0.057	0.051	0.054	0.047	0.044	0.05	0.054
Cadmium	mg/L	0.005	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.000043	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000012	<0.000015
Chromium	mg/L	0.05	<0.001	<0.001	< 0.0002	0.0012	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Cobalt	mg/L	N/A	0.0002	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	0.008	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.007	<0.0001
Copper	mg/L	1	0.0005	0.0007	< 0.0001	0.0001	0.0017	0.0003	0.0004	0.001	0.0006	0.0003	0.0005	0.0012	0.0005	0.0002	0.0006	0.0002	< 0.0001	0.0002
Lead	mg/L	0.01	0.00003	0.00002	< 0.00002	< 0.00002	0.00007	< 0.00002	0.00006	0.00009	< 0.00002	< 0.00002	< 0.00004	0.00004	< 0.00002	< 0.00004	0.0001	0.00002	< 0.00004	<0.00002
Mercury	mg/L	0.001	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Nickel	mg/L	N/A	<0.0002	0.0007	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.0002
Selenium	mg/L	0.01	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	<0.001
Silver	mg/L	N/A	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001
Strontium	mg/L	N/A	0.875	0.97	1.1	0.928	1.26	1.19	1.39	1.31	1.46	0.943	1.38	1.37	1.32	1.41	1.33	1.34	1.32	1.27
Thallium	mg/L	N/A	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005
Vanadium	mg/L	N/A	<0.0001	<0.0001	< 0.0001	0.0004	0.0012	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001
Zinc	mg/L	5	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	37-93-I	37-93-I	37-93-I	37-93-I	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II
			6-May-24	16-Oct-24	7-May-25	15-Oct-25	11-May-16	12-Oct-16	24-May-17	16-Oct-17	7-May-18	10-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22
Alkalinity	mg/L	500	253	250	250	229	304	319	316	303	338	305	301	315	302	313	344	325	346	304
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.29	0.87	0.28	0.25	0.15	0.15	0.15	0.22	0.14	0.15	0.16	0.11	0.12	0.28	0.07	0.13	1.67	0.19
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	113	122	116	73.4	125	160	147	166	147	138	149	160	154	160	129	143	176	180
COD	mg/L	N/A	9	7	19	15	65	< 5	14	35	< 5	121	90	19	128	51	26	18	29	33
Chloride	mg/L	250	190	223	218	87	187	221	177	198	193	258	240	252	210	316	186	299	271	482
Conductivity	umhos/cm	N/A	1190	1240	1220	789	1260	1480	1360	1350	1240	1510	1350	1400	1340	1620	1230	1530	1620	1890
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2.4	2.5	<0.8	3	0.6	1	1.8	1.8	1.8	1.5	2.2	2	2	1.4	3.1	1.3	1.5	< 0.2
Fluoride	mg/L	1.5	<0.1	<0.1	<0.1	<0.1	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1
Hardness	mg/L	500	471	508	482	319	401	500	459	521	465	419	464	501	482	492	373	429	537	559
Ion Balance	%	N/A	1.41	0.757	1.72	0.801									3.65	1.52	0.224	2.4	1.27	8.26
Iron	mg/L	0.3	1.12	1.45	1.16	0.784	1.8	0.695	0.981	1.78	1.65	0.015	0.81	2.19	1.01	1.44	0.335	0.368	0.98	1.83
Magnesium	mg/L	N/A	46.2	49.1	46.6	32.9	21.6	24.7	22	25.8	23.8	18.1	22.3	24.5	23.5	22.4	12.3	17.5	23.6	26.5
Manganese	mg/L	0.05	0.02	0.021	0.018	0.012	0.043	0.055	0.05	0.06	0.05	0.02	0.046	0.051	0.047	0.055	0.075	0.057	0.119	0.069
Nitrate	mg/L	10	<0.05	<0.05	<0.05	0.25	0.1	0.1	< 0.05	< 0.05	< 0.05	< 0.05	0.2	< 0.05	0.12	< 0.05	0.26	< 0.05	< 0.05	< 0.5
Nitrite	mg/L	1	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.12	< 0.05	< 0.05	0.17	< 0.05	< 0.5
Tot Kjel N	mg/L	N/A	0.3	0.9	0.4	0.4	0.7	1.5	0.4	0.6	1.3	1.7	2.2	0.5	0.7	0.6	0.7	0.6	2.3	0.8
pH-Lab	pH unit	6.5-8.5	7.79	7.96	7.67	7.9	7.62	7.87	7.67	7.87	7.89	7.63	7.87	7.83	7.75	7.66	8	7.8	7.71	7.59
Phenols	mg/L	N/A	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	0.003	0.001	< 0.001	0.021	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	4.3	0.94	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.1	3.3	2.9	2.6	1.4	2.1	1.5	2.2	1.9	2.9	2	2.4	1.9	2.6	1.5	2.5	1.9	2.8
Sodium	mg/L	200	50.8	52.1	48.1	32.4	68	120	90.3	100	90.3	158	106	120	102	159	117	153	114	145
Sulphate	mg/L	500	51	55	55	48	69	68	53	64	62	64	70	63	57	58	20	54	45	56
TDS	mg/L	500	640	667	660	414	657	789	682	741	723	823	771	813	731	908	672	865	843	1077
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.04	0.06	0.02	0.03	0.05	0.04	0.1	0.07	0.06	0.08	0.09	0.08	0.08	0.07	0.06	0.09	0.12
Antimony	mg/L	0.006	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0003	0.0001	0.0001	< 0.0001	0.0001	< 0.0001	0.0002	0.0001	< 0.0001	0.0002	0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0002	0.0002	0.0002	0.0002	0.0003	0.0005	0.0012	0.001	0.0003	0.0002	0.0003	0.0004	0.0002	0.0004	0.0003	0.0003	0.0004	0.0005
Barium	mg/L	1	0.329	0.308	0.276	0.177	0.26	0.351	0.287	0.392	0.318	0.302	0.298	0.372	0.308	0.386	0.157	0.315	0.322	0.442
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.048	0.051	0.048	0.058	< 0.005	0.044	0.024	0.039	0.028	0.044	0.027	0.041	0.031	0.048	0.03	0.048	0.029	0.027
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.000049	< 0.00002	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.000014
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0018	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0002	0.0002	0.0002	0.0001	< 0.005	< 0.005	< 0.005	< 0.005	0.0001	0.013	0.01	< 0.005	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0002	0.0008	0.0009	0.0005	0.0004	0.0008	0.0039	0.0008	0.0005	0.0015	0.0012	0.0004	0.0007	0.0017	0.0007	0.0004	0.0004	0.0007
Lead	mg/L	0.01	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	0.00006	0.00022	< 0.00002	< 0.00002	0.00003	0.00003	< 0.00009	< 0.00002	0.00017	< 0.00004	0.00006	< 0.00004	0.0003
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0002	0.0002	0.0008	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0002	0.0003	0.0002	0.0002	0.0002
Nickel	mg/L	N/A	<0.0002	0.001	<0.0002	0.0005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.4	1.42	1.34	0.956	0.531	0.686	0.594	0.623	0.621	0.527	0.672	0.698	0.644	0.698	0.441	0.583	0.684	0.784
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00008	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0006	0.0016	0.0006	< 0.0001	< 0.0001	< 0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002
Zinc	mg/L	5	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93
			2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	11-May-16	12-Oct-16	24-May-17	16-Oct-17	7-May-18	10-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21
Alkalinity	mg/L	500	299	299	314	387	338	298	285	286	290	279	286	280	272	284	286	272	286	304
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	2.05	0.29	0.16	0.32	0.25	0.19	0.06	0.09	0.07	0.09	0.08	0.12	0.08	0.08	< 0.01	0.17	0.06	0.09
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	166	126	172	161	159	158	95.6	117	98.6	115	106	113	112	118	107	104	101	110
COD	mg/L	N/A	62	23	114	309	108	53	77	< 5	16	< 5	< 5	32	6	12	9	39	13	8
Chloride	mg/L	250	329	242	306	231	269	334	11.4	10.4	11	12.9	13	11.9	14.7	11.7	12.9	12.7	12.2	12.8
Conductivity	umhos/cm	N/A	1660	1400	1650	1520	1520	1610	633	650	652	633	614	646	641	640	641	628	625	640
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.1	2.7	2.6	3.2	1.1	2.3	1.4	2	1.9	1.7	2.4	3.1	3.1	3.1	3.2	2.7	3.4	1.8
Fluoride	mg/L	1.5	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	517	375	528	479	499	505	302	364	308	359	334	350	349	369	335	328	322	344
Ion Balance	%	N/A	2.83	1.91	1.18	2.29	2.56	3.78									2.07	2.54	0.039	0.82
Iron	mg/L	0.3	1.78	0.092	1.89	1.94	3.17	0.061	0.006	0.35	5.53	0.372	0.089	0.687	0.125	0.513	0.011	0.367	0.008	0.309
Magnesium	mg/L	N/A	24.6	14.7	23.9	18.7	24.6	26.5	15.4	17.4	15.1	17.5	16.8	16.5	16.8	18	16.5	16.5	16.8	16.7
Manganese	mg/L	0.05	0.097	0.022	0.135	0.162	0.192	0.068	0.03	0.057	0.226	0.047	0.054	0.05	0.051	0.049	0.005	0.039	0.014	0.058
Nitrate	mg/L	10	< 0.05	0.08	<0.05	<0.05	<0.05	0.33	< 0.1	0.1	< 0.05	< 0.05	< 0.05	< 0.05	0.2	< 0.05	0.11	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	2.2	1	<1.0	1.6	1.1	1.1	0.5	0.7	0.6	0.3	0.5	0.4	0.2	0.5	0.2	0.4	0.4	0.4
pH-Lab	pH unit	6.5-8.5	7.83	7.55	7.67	7.89	7.61	7.74	7.77	7.9	7.82	8.04	7.9	7.76	7.99	7.93	7.84	7.84	8.02	7.9
Phenols	mg/L	N/A	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.002	0.002	0.001	< 0.001	0.003	< 0.002	< 0.002	0.003	< 0.002	< 0.002	< 0.001
Phosphorus	mg/L	N/A	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	0.38	1.22	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	2.2	2.1	2	2.6	1.9	2.5	0.7	0.9	0.8	1	1.2	1	0.9	1.1	0.9	0.9	0.9	1.1
Sodium	mg/L	200	118	132	121	140	100	119	8.1	9.5	7.9	8.4	9.5	8.8	8.6	9	8.1	6.9	9	9.1
Sulphate	mg/L	500	59	51	49	43	47	55	42	38	32	34	39	37	43	37	34	37	38	37
TDS	mg/L	500	881	758	902	831	828	882	344	366	345	356	357	357	360	366	351	341	350	369
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.05	0.04	0.07	0.05	0.1	0.05	0.02	0.04	0.79	0.06	0.07	0.06	0.07	0.08	0.06	0.06	0.07	0.05
Antimony	mg/L	0.006	0.0002	0.0004	<0.0001	0.0001	<0.0001	0.0001	< 0.0001	0.0003	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0003	0.0002	0.0004	0.0007	0.0007	0.0001	0.0002	0.0005	0.0023	0.0003	0.0001	0.0003	0.0001	0.0003	< 0.0001	0.0002	< 0.0001	0.0002
Barium	mg/L	1	0.356	0.255	0.365	0.258	0.312	0.407	0.111	0.147	0.154	0.159	0.132	0.148	0.134	0.154	0.126	0.138	0.12	0.151
Beryllium	mg/L	N/A	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.03	0.035	0.031	0.053	0.033	0.036	< 0.005	0.028	0.022	0.03	0.023	0.026	0.018	0.031	0.023	0.031	0.022	0.029
Cadmium	mg/L	0.005	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	0.000022	< 0.000014	< 0.000015	< 0.00002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0017	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	0.0001	0.0006	0.0008	0.001	0.0005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.007	0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0001	0.0012	0.0002	0.0004	0.0002	0.0005	0.0002	0.0002	0.0031	0.0002	0.0009	0.0004	0.0006	0.0001	0.0005	0.0016	0.0006	0.0004
Lead	mg/L	0.01	< 0.00004	<0.00004	0.00005	0.00003	0.00003	0.00004	< 0.00002	< 0.00002	0.0041	< 0.00002	< 0.00002	0.00002	0.00002	< 0.00002	< 0.00002	0.00005	< 0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0003	0.0002	0.0002	0.0003	0.0003	0.0006	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Nickel	mg/L	N/A	< 0.01	0.0007	0.0007	0.0008	0.0006	0.0005	< 0.01	< 0.01	< 0.01	0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.703	0.477	0.714	0.585	0.674	0.712	0.353	0.434	0.604	0.388	0.408	0.427	0.454	0.465	0.414	0.422	0.407	0.454
Thallium	mg/L	N/A	< 0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	0.0002	0.0001	<0.0001	0.0001	0.0001	< 0.0001	0.0007	0.0041	0.0006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	0.008	< 0.005	0.011	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I
			3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	11-May-16	12-Oct-16	24-May-17	16-Oct-17	7-May-18	10-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20
Alkalinity	mg/L	500	282	297	302	320	300	301	300	305	262	231	254	247	251	243	239	237	242	235
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.59	0.34	11.4	0.46	0.06	0.65	0.31	0.34	0.2	0.31	0.24	0.23	0.27	0.23	0.24	0.27	0.22	0.25
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	111	92	101	98.7	108	111	109	100	77	86.4	74.6	86.6	81.1	84.7	84.4	91.9	82.9	79.9
COD	mg/L	N/A	12	< 5	< 5	8	24	18	57	30	< 5	< 5	< 5	< 5	< 5	9	9	< 5	7	5
Chloride	mg/L	250	12.6	18	15	12.3	13	11.5	12.8	11.5	95.3	123	75	87	96.8	112	107	141	101	108
Conductivity	umhos/cm	N/A	651	651	667	669	671	661	657	646	842	885	828	818	788	887	828	917	844	852
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2.3	1.5	2.5	4.1	3.7	3.2	2.2	4.1	0.8	0.9	1.4	1.3	1.6	1.9	2.5	1.8	1.7	1.5
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.4	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	345	299	321	314	339	348	341	319	360	429	354	413	390	400	396	443	395	374
Ion Balance	%	N/A	3.92	7.22	3.3	5.29	0.791	2.83	0.632	2.18									3.34	0.8
Iron	mg/L	0.3	0.012	0.115	0.045	0.249	0.061	0.566	0.102	0.501	0.923	0.952	0.919	1.06	0.936	1.2	1.04	1.2	1.01	1.1
Magnesium	mg/L	N/A	16.5	16.9	16.9	16.4	17.1	17.2	16.6	16.7	40.7	51.7	40.7	47.8	45.6	45.7	44.9	52	45.7	42.4
Manganese	mg/L	0.05	0.016	0.018	0.036	0.026	0.096	0.049	0.048	0.05	0.014	0.016	0.013	0.016	0.013	0.016	0.014	0.016	0.014	0.015
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	0.16	<0.05	<0.05	<0.05	0.32	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	0.18	< 0.05	0.09	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	0.11	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08	< 0.05
Tot Kjel N	mg/L	N/A	0.8	0.5	10.8	0.7	0.1	0.7	0.6	0.5	0.4	0.5	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.4
pH-Lab	pH unit	6.5-8.5	7.87	7.79	7.93	7.54	7.79	7.96	7.79	7.93	7.82	7.91	7.91	8.03	7.96	7.81	8.02	7.97	7.87	7.94
Phenols	mg/L	N/A	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.001	0.001	0.003	< 0.001	0.002	< 0.002	< 0.002	0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.07	0.05	< 0.1	< 0.1
Potassium	mg/L	N/A	0.9	1	1	1.1	1	1.2	0.8	1.1	2.1	2.6	2.1	2.6	2.8	2.7	2.7	2.9	2.6	2.4
Sodium	mg/L	200	8	8.2	8.3	8.2	8.2	7.8	7	7.8	21.6	21	20.3	22.1	22.5	25.1	24.4	24.4	23	19.3
Sulphate	mg/L	500	37	45	39	33	33	30	34	31	41	35	31	34	38	42	43	41	36	40
TDS	mg/L	500	356	360	362	347	348	343	341	335	436	460	398	430	438	459	452	497	438	434
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.07	0.07	0.03	0.04	0.05	0.04	0.07	0.03	0.02	0.02	0.02	0.06	0.05	0.04	0.05	0.06	0.05	0.05
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0001	0.0001	< 0.0001	0.0001	<0.0001	0.0003	0.0002	0.0002	0.0002	0.0004	0.0004	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.134	0.135	0.134	0.132	0.164	0.15	0.131	0.145	0.209	0.219	0.2	0.255	0.232	0.223	0.236	0.235	0.222	0.211
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.021	0.017	0.025	0.028	0.022	0.029	0.024	0.028	0.029	0.082	0.067	0.08	0.073	0.071	0.067	0.08	0.074	0.071
Cadmium	mg/L	0.005	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.00002	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0012	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	<0.0001	0.0003	0.0002	0.0004	0.0003	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	0.0001	< 0.005
Copper	mg/L	1	0.0007	0.0006	0.0004	0.0006	0.0006	0.0006	0.0007	0.0004	< 0.0001	0.0003	0.0012	0.0001	0.0002	0.0004	0.0004	0.0002	0.0005	0.0017
Lead	mg/L	0.01	< 0.00002	0.00006	< 0.00002	<0.00002	0.00003	<0.00002	0.00008	0.00002	< 0.00002	< 0.00002	0.00005	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	< 0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	0.0002	0.0002	0.0008	0.0003	0.0008	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.425	0.431	0.426	0.423	0.454	0.446	0.419	0.436	1	1.47	1.19	1.18	1.24	1.33	1.37	1.55	1.31	1.26
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0004	0.0009	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	
			4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	11-May-16	24-May-17	16-Oct-17	7-May-18	10-Oct-18	10-May-19	5-May-20	13-Oct-20	
Alkalinity	mg/L	500	262	261	243	247	255	268	256	246	265	249	303	354	299	364	241	320	297	289	
Unionized Ammonia	mg/L	N/A																			
Ammonia	mg/L	N/A	0.22	0.26	0.38	0.27	0.95	0.43	0.77	0.59	0.33	0.54	0.05	0.03	0.04	0.03	0.09	0.06	0.01	0.04	
BOD	mg/L	N/A																			
Calcium	mg/L	N/A	84.9	86.8	89	84.3	85.4	86.2	94.3	97.7	95.4	94.4	151	128	146	166	191	133	113	216	
COD	mg/L	N/A	10	< 5	5	< 5	< 5	7	9	8	9	10	46	14	13	9	13	36	20	35	
Chloride	mg/L	250	115	122	129	176	153	139	157	148	161	199	318	208	259	337	489	241	193	542	
Conductivity	umhos/cm	N/A	891	910	947	945	983	986	1050	998	1060	1150	1590	1470	1460	1530	2090	1320	1220	2220	
Cyanide	mg/L	0.2																			
DOC	mg/L	5	1.3	1	1.3	< 0.2	1.2	2.2	2.9	2.5	1	2.4	0.8	2.5	1.7	2.1	1.6	4	2.3	1.1	
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	
Hardness	mg/L	500	409	411	416	412	410	414	444	463	445	483	430	358	411	468	534	373	316	608	
Ion Balance	%	N/A	0.55	0.0891	1.63	7.09	4.07	1.96	0.312	4.51	1.55	0.472							3.1	3.4	
Iron	mg/L	0.3	1.23	1.21	1.26	1.1	1.14	1.29	1.48	1.22	1.3	1.18	< 0.005	< 0.005	0.006	0.007	0.014	0.025	0.02	< 0.005	
Magnesium	mg/L	N/A	47.8	47.1	47.2	48.9	48	48.3	50.5	53.3	50.2	60	12.6	9.37	11.2	13	13.7	9.9	8.19	16.5	
Manganese	mg/L	0.05	0.016	0.02	0.016	0.016	0.019	0.017	0.02	0.019	0.017	0.017	0.004	0.005	< 0.001	0.007	0.001	0.031	0.011	< 0.001	
Nitrate	mg/L	10	0.21	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	< 0.05	< 0.05	< 0.05	0.26	0.1	< 0.05	< 0.05	< 0.05	< 0.05	0.2	0.11	< 0.05
Nitrite	mg/L	1	< 0.05	0.11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	0.06	< 0.05	0.14	0.16	
Tot Kjel N	mg/L	N/A	0.3	0.3	0.4	0.6	0.8	0.6	0.7	0.6	0.2	0.7	0.5	0.5	0.5	0.7	0.4	0.7	0.6	0.6	
pH-Lab	pH unit	6.5-8.5	8.2	7.9	7.88	7.79	7.94	7.56	7.81	7.96	7.75	7.87	7.7	7.85	7.94	7.87	7.76	7.98	7.88	7.77	
Phenols	mg/L	N/A	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	< 0.001	0.003	0.002	< 0.001	0.016	< 0.002	< 0.002	< 0.002	
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.38	< 0.1	< 0.1	
Potassium	mg/L	N/A	2.6	2.8	2.7	2.8	3	2.9	3	3	2.7	3.3	5.4	5.6	8.3	6.8	8	5.6	5	6.6	
Sodium	mg/L	200	26.2	26.7	26.8	26.6	28	28.4	31.2	30.3	28.8	32.1	109	164	150	166	217	156	140	193	
Sulphate	mg/L	500	41	42	40	52	46	38	39	35	39	36	22	11	28	16	33	16	18	52	
TDS	mg/L	500	476	485	483	541	517	526	560	532	566	619	801	739	782	924	1097	753	656	1199	
TSS	mg/L	N/A																			
Turbidity	NTU	N/A																			
Colour	TCU	5																			
Aluminum	mg/L	0.1	0.05	0.03	0.06	0.06	0.03	0.03	0.03	0.03	0.06	0.03	0.03	0.04	0.08	0.07	0.09	0.08	0.07	0.1	
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0002	0.0001	0.0001	0.0001	0.0002	
Arsenic	mg/L	0.025	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0012	0.0008	< 0.0005	0.0001	0.0002	0.0001	< 0.0003	
Barium	mg/L	1	0.234	0.253	0.247	0.255	0.256	0.239	0.317	0.261	0.257	0.276	0.099	0.096	0.14	0.131	0.186	0.099	0.079	0.208	
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	
Boron	mg/L	5	0.068	0.075	0.069	0.064	0.072	0.075	0.071	0.074	0.071	0.083	< 0.005	0.033	0.053	0.03	0.043	0.026	0.026	0.047	
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.00002	< 0.000014	< 0.000014	< 0.000059	< 0.00002	< 0.000015	< 0.000015	< 0.000029	
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	0.0003	0.0003	0.0004	0.0004	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	0.005	< 0.0001	< 0.005	
Copper	mg/L	1	0.0006	0.0002	0.0005	0.0002	0.0004	0.0002	0.0001	0.0006	0.0005	0.0005	0.0007	0.0026	0.0017	0.0012	0.0014	0.0018	0.0006	0.0019	
Lead	mg/L	0.01	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00008	0.00003	< 0.0002	0.0001	0.00005	0.00004	< 0.00009	
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	< 0.0001	0.0002	0.0003	0.0002	< 0.0004	0.0002	0.0003	0.0002	
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0002	< 0.0002	0.0007	< 0.0002	0.0007	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	0.001	< 0.001	< 0.001	< 0.001	
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	
Strontium	mg/L	N/A	1.32	1.41	1.37	1.43	1.42	1.42	1.51	1.48	1.42	1.83	0.416	0.372	0.371	0.469	0.529	0.391	0.311	0.616	
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0019	0.0014	< 0.0007	0.0005	0.0002	< 0.0004	
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I
			4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	16-May-16	12-Oct-16	24-May-17	17-Oct-17	8-May-18	11-Oct-18	8-May-19	9-Oct-19
Alkalinity	mg/L	500	304	370	321	380	289	399	350	454	345	Dry	226	215	233	234	226	243	217	229
Unionized Ammonia	mg/L	N/A											< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.07	0.04	0.69	0.03	1.53	0.31	0.19	0.79	<0.05		0.31	0.23	0.21	0.21	0.16	0.21	0.27	0.21
BOD	mg/L	N/A											2	< 3	< 3	< 3	< 3	2	< 3	< 3
Calcium	mg/L	N/A	127	161	137	167	99.8	153	108	182	104		83.4	74	81.3	85.5	85.8	79.7	83.6	89.8
COD	mg/L	N/A	14	11	19	17	19	13	49	49	31		6	< 5	7	5	48	< 5	10	< 5
Chloride	mg/L	250	255	404	246	524	212	438	182	273	158		53	47.9	46.5	46	60.5	52.6	57.4	56.2
Conductivity	umhos/cm	N/A	1410	1760	1390	2040	1190	1860	1280	1790	1180		689	640	704	687	680	697	684	690
Cyanide	mg/L	0.2											< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	2.2	1.7	2	< 0.2	2.2	2.7	4.3	4.1	1.8		1.3	1.4	1.6	1.4	1.7	1.7	2.1	2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 1	< 0.1	<0.1	<0.1	<0.1	0.6		0.2	0.2	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	358	451	383	476	280	430	304	509	291		347	305	334	360	357	336	348	375
Ion Balance	%	N/A	0.874	4.05	1.34	9.33	5.14	7.08	1.34	2.99	4.8									
Iron	mg/L	0.3	0.339	0.025	0.176	< 0.005	0.079	0.013	0.051	0.278	0.091		0.18	0.147	0.146	0.193	0.045	0.219	0.127	0.279
Magnesium	mg/L	N/A	9.93	11.7	9.78	14.2	7.51	11.6	8.31	13.4	7.58		33.8	29.1	31.9	35.5	34.6	33.3	33.7	36.6
Manganese	mg/L	0.05	0.047	0.005	0.057	< 0.001	0.026	0.007	0.024	0.034	0.016		0.008	0.008	0.008	0.008	0.01	0.0071	0.007	0.008
Nitrate	mg/L	10	0.46	< 0.05	< 0.05	< 0.5	< 0.05	0.09	<0.05	<0.05	<0.05		0.1	0.2	< 0.05	0.08	0.15	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.5	< 0.05	<0.05	<0.05	<0.05	<0.05		0.2	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.8	0.5	1.4	0.7	1.9	0.9	0.7	1	0.5		0.5	0.5	0.3	0.3	0.4	0.3	0.3	0.4
pH-Lab	pH unit	6.5-8.5	8.06	7.83	7.79	7.64	7.92	7.59	7.78	7.82	7.72		8.06	8.02	8.02	7.85	7.93	7.91	7.8	7.9
Phenols	mg/L	N/A	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001		< 0.001	0.005	< 0.001	< 0.001	< 0.001	0.002	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.16	0.12
Potassium	mg/L	N/A	5.2	7	4.8	4.9	4.6	5.7	4.9	6.7	4		2.6	2.4	2.4	2.9	3	2.8	2.8	3
Sodium	mg/L	200	151	202	142	227	121	200	138	184	110		11	9.5	10.5	10.1	11.5	10	9.9	9.8
Sulphate	mg/L	500	16	34	13	56	19	45	19	26	19		49	49	41	41	47	48	47	53
TDS	mg/L	500	747	1041	747	1220	638	1020	693	983	633		370	343	354	361	378	373	366	387
TSS	mg/L	N/A											455	750	198	670	650	118	215	116
Turbidity	NTU	N/A											701	492	225	620	715	222	411	168
Colour	TCU	5											< 2	16	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.08	0.07	0.08	0.1	0.06	0.04	0.04	0.06	0.04		0.02	0.05	0.02	0.04	0.05	0.05	0.05	0.07
Antimony	mg/L	0.006	0.0001	0.0002	0.0001	0.0003	0.0001	0.0002	<0.0001	<0.0001	<0.0001		< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0001	0.0001	0.0002	< 0.0003	0.0001	<0.0001	0.0002	0.0003	0.0001		< 0.0001	0.0002	0.0003	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.085	0.145	0.094	0.191	0.073	0.158	0.098	0.145	0.069		0.055	0.049	0.053	0.063	0.057	0.057	0.053	0.062
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.026	0.049	0.027	0.039	0.028	0.048	0.028	0.049	0.024		0.026	0.048	0.049	0.061	0.057	0.054	0.054	0.062
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015		< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	0.001	<0.001	<0.001	<0.001	<0.001		< 0.0002	0.0007	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0003	0.0005	0.0004		< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.0001	< 0.005	< 0.005
Copper	mg/L	1	0.0007	0.0011	0.0005	0.0009	0.0009	0.0008	0.0004	0.0004	0.0002		< 0.0001	< 0.0001	0.001	0.0002	0.0001	0.0003	0.0004	< 0.0001
Lead	mg/L	0.01	< 0.00004	0.0001	< 0.00004	< 0.00009	0.00015	< 0.00004	0.00003	0.00005	0.00002		< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	0.00003	0.00003	0.00003
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0001	< 0.0002	0.0002	0.0002	0.0001	0.0001	0.0001		0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0003	0.0004	0.0004	0.0003		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	0.001	0.003	0.001	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.382	0.495	0.384	0.545	0.296	0.466	0.337	0.513	0.29		0.881	0.835	0.86	0.831	0.959	0.929	0.879	0.99
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	0.0003	0.0001	0.0006	0.0003	0.0008	0.0002	0.0001	0.0002		0.0004	0.0003	0.0009	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.022	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I (DUP)
			5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	24-Jul-25
Alkalinity	mg/L	500	228	239	237	228	244	229	237	250	251	246	260	273	259	266	267	286	303	302
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ammonia	mg/L	N/A	0.2	0.2	0.23	0.19	0.24	0.23	0.82	1.77	0.3	0.31	0.23	0.34	0.26	0.58	0.69	0.41	0.3	0.3
BOD	mg/L	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3		<3	<3	<3	20	<3	<3
Calcium	mg/L	N/A	85.8	90.2	86.9	79.8	87.2	90.5	91.8	95.5	97.4	95.9	97.4	90.5	90.7	104	104	101	99.5	98.9
COD	mg/L	N/A	< 5	15	< 5	< 5	16	5	10	< 5	12	5	8	16	29	10	22	7	18	23
Chloride	mg/L	250	54.6	57.3	58.8	59.8	67.5	74.3	70.5	70.6	76.3	82.6	87.3	95.6	81.9	88.4	89.1	89.7	83.5	83.8
Conductivity	umhos/cm	N/A	694	693	724	714	722	746	756	741	796	798	830	830	838	853	863	880	934	921
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DOC	mg/L	5	2.1	8.8	1.2	1.9	4.6	1.3	1.3	1.1	< 0.2	0.8	< 0.2	2.4	3	1.3	1.4	3.1	1.8	1.7
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	mg/L	500	363	376	381	340	363	380	384	398	417	404	394	383	388	445	437	429	443	440
Ion Balance	%	N/A	3.78	3.33	4.2	0.287	0.895	1.46	2.02	3.18	3.38	1.07	2.7	7.05	1.13	3.57	2.08	1.29	0.272	0.0609
Iron	mg/L	0.3	0.165	0.224	0.259	0.182	0.246	0.31	0.252	0.311	0.38	0.301	0.339	0.556	0.37	0.359	0.504	0.248	0.411	0.412
Magnesium	mg/L	N/A	36.1	36.6	39.8	34.3	35.4	37.4	37.6	38.8	42.2	40	36.5	38.2	39.3	45.2	43	43	47.3	46.9
Manganese	mg/L	0.05	0.008	0.009	0.007	0.01	0.008	0.01	0.008	0.009	0.01	0.014	0.009	0.01	0.011	0.01	0.01	0.01	0.011	0.011
Nitrate	mg/L	10	0.14	0.12	< 0.05	0.14	0.12	< 0.05	0.07	0.07	< 0.05	< 0.05	0.08	0.08	0.11	<0.05	0.05	0.05	0.13	0.09
Nitrite	mg/L	1	0.06	0.06	< 0.05	0.11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tot Kjel N	mg/L	N/A	0.4	0.6	0.4	0.4	0.5	0.4	1.1	2.2	0.4	0.7	0.4	0.5	0.5	0.7	0.7	0.5	0.6	0.6
pH-Lab	pH unit	6.5-8.5	8.02	7.81	7.92	7.97	7.79	7.72	7.46	7.8	7.81	7.78	7.77	7.47	7.8	7.93	7.93	7.95	7.94	7.95
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	N/A	2.9	3	3.3	2.6	2.8	3.1	3	2.9	3.4	3.2	3.1	2.9	3.3	3.3	3.2	3	3.5	3.5
Sodium	mg/L	200	9.7	9.9	10.2	9.4	9.6	10	9.5	10	10.3	10	9.9	8.9	10.1	11.1	10.2	9.5	10.7	10.5
Sulphate	mg/L	500	53	53	53	52	54	59	56	52	56	57	58	60	50	52	54	53	48	48
TDS	mg/L	500	379	394	394	375	404	413	412	422	437	436	449	437	442	450	456	466	496	489
TSS	mg/L	N/A	404	2400	176	196	900	530	184	296	252	350	590	236	726	76	334	242	285	261
Turbidity	NTU	N/A	342	1240	177	113	934	159	183	128	214	234	222	382	348	124	187	243	233	163
Colour	TCU	5	< 2	< 2	< 2	< 2	< 2	< 2	2	< 2	< 2	< 2	< 2	<2	<2	<2	<2	<2	<2	<2
Aluminum	mg/L	0.1	0.05	0.05	0.03	0.05	0.06	0.05	0.02	0.06	0.07	0.03	0.06	0.06	0.06	0.04	0.06	0.07	0.04	0.04
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Barium	mg/L	1	0.058	0.062	0.063	0.054	0.06	0.064	0.066	0.066	0.074	0.068	0.073	0.067	0.066	0.075	0.074	0.07	0.075	0.074
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	5	0.057	0.058	0.068	0.055	0.059	0.063	0.062	0.056	< 0.005	0.062	0.056	0.056	0.064	0.067	0.068	0.063	0.067	0.067
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	N/A	< 0.0001	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0001	0.0002	<0.0001	0.0001	0.0002	0.0002	0.0001
Copper	mg/L	1	< 0.0001	0.0008	0.0015	0.0012	0.0002	0.0004	0.0005	0.0025	0.0017	0.0002	0.0002	0.0003	0.0003	0.0002	0.0003	<0.0001	0.0005	0.0005
Lead	mg/L	0.01	0.00004	0.00008	0.00007	0.00006	0.00004	0.0001	0.00003	0.00006	0.00009	0.00003	0.00003	0.00002	0.0001	0.00003	0.00005	0.00003	0.00003	0.00003
Mercury	mg/L	0.001	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	N/A	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0008	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	0.994	0.99	1.12	0.931	0.976	1.05	1.01	1.07	1.14	1.1	1.1	1.06	1.14	1.2	1.17	1.17	1.3	1.28
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc	mg/L	5	< 0.005	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	43-93-I	43-93-I (DUP)	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II
			15-Oct-25	15-Oct-25	16-May-16	24-May-17	17-Oct-17	8-May-18	11-Oct-18	8-May-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22
Alkalinity	mg/L	500	329	330	264	238	265	259	271	241	269	241	250	252	240	264	256	283	328	336
Unionized Ammonia	mg/L	N/A	<0.01	<0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.34	0.29	0.04	0.02	0.04	0.03	0.02	0.05	0.02	0.01	0.03	0.02	< 0.01	0.01	0.01	0.51	0.14	0.03
BOD	mg/L	N/A	<3	<3	< 2	< 3	< 3	< 3	< 2	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	106	106	122	110	123	114	110	109	121	101	115	107	110	131	128	145	152	159
COD	mg/L	N/A	17	19	13	7	9	9	< 5	< 5	< 5	9	6	< 5	5	14	< 5	13	< 5	22
Chloride	mg/L	250	94.9	94.7	45.5	31.9	33.8	31.5	28.3	20.9	22.4	22.8	28.2	24.8	54.9	67	57.8	57.5	40.7	43.3
Conductivity	umhos/cm	N/A	986	986	671	601	643	587	620	569	624	537	555	587	679	708	698	795	765	832
Cyanide	mg/L	0.2	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	3.8	3.9	1.4	1.9	1.7	1.6	2.3	2.3	2.7	2.4	4.4	1.7	2.3	2.1	1.8	1.8	3	0.9
Fluoride	mg/L	1.5	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	474	476	341	307	339	321	309	306	344									
Ion Balance	%	N/A	1.07	0.976								2.48	5.85	3.29	1.54	1.6	1.5	2.66	2.86	3.56
Iron	mg/L	0.3	0.458	0.461	< 0.005	< 0.005	0.025	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	0.007	0.01	0.006	< 0.005	0.011	0.006
Magnesium	mg/L	N/A	51	51.1	8.86	7.9	7.78	8.64	8.32	8.19	10.2	6.63	8.35	7.48	7.57	9.08	7.32	9.9	9.51	11.2
Manganese	mg/L	0.05	0.011	0.011	< 0.001	< 0.001	0.001	< 0.001	0.0002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001
Nitrate	mg/L	10	<0.05	<0.05	0.1	0.15	0.14	0.1	0.12	0.07	< 0.05	0.16	0.13	0.13	0.13	0.19	0.1	0.07	0.11	< 0.05
Nitrite	mg/L	1	<0.05	<0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.4	0.5	0.2	< 0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.7	0.5	0.3
pH-Lab	pH unit	6.5-8.5	7.89	7.95	7.95	7.96	7.83	7.96	7.82	7.81	7.88	7.91	7.82	7.92	7.96	7.77	7.73	7.49	7.71	7.71
Phenols	mg/L	N/A	0.001	<0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.14	0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.6	3.6	0.4	0.5	0.8	0.5	0.6	0.5	0.8	0.5	0.6	0.8	0.4	0.6	0.8	0.6	0.8	0.7
Sodium	mg/L	200	10.6	10.6	10	11.5	11.4	9.6	9.9	9.4	11	9.3	10.1	11.1	10.2	12.2	11.4	12.5	14	14.7
Sulphate	mg/L	500	51	51	15	15	14	16	18	15	25	12	15	15	20	19	25	45	38	45
TDS	mg/L	500	526	526	361	319	350	335	338	308	351	297	328	318	347	398	384	441	452	475
TSS	mg/L	N/A	382	386	300	342	146	300	670	245	410	160	820	532	230	166	368	93	93	288
Turbidity	NTU	N/A	115	132	315	669	156	141	635	356	171	206	950	250	116	353	182	76.5	124	271
Colour	TCU	5	<2	<2	2	< 2	5	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.03	0.03	0.03	0.03	0.06	0.06	0.06	0.06	0.08	0.06	0.06	0.04	0.08	0.09	0.05	0.04	0.08	0.09
Antimony	mg/L	0.006	<0.0001	<0.0001	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001
Arsenic	mg/L	0.025	<0.0001	<0.0001	< 0.0001	0.0004	0.0003	0.0001	0.0001	< 0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001
Barium	mg/L	1	0.088	0.089	0.067	0.075	0.116	0.075	0.082	0.068	0.095	0.076	0.084	0.09	0.074	0.09	0.101	0.091	0.109	0.116
Beryllium	mg/L	N/A	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.076	0.076	< 0.005	< 0.005	0.006	0.005	0.006	0.006	0.008	< 0.005	0.008	0.009	0.006	0.009	0.009	< 0.005	< 0.005	< 0.005
Cadmium	mg/L	0.005	<0.000015	<0.000015	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010
Chromium	mg/L	0.05	<0.001	<0.001	< 0.0002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0002	0.0002	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.0001	0.013	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0005	0.0011	0.0002	0.0015	0.0003	0.0002	0.0002	0.0008	0.0002	0.0002	0.0014	0.0004	0.0015	0.0012	0.0008	0.0007	0.0017	0.0017
Lead	mg/L	0.01	0.00003	<0.00002	< 0.00002	0.00005	< 0.00002	< 0.00002	< 0.00002	0.00003	0.00002	0.00003	0.00005	< 0.00002	0.00011	0.00005	0.00004	0.00005	0.00005	0.00006
Mercury	mg/L	0.001	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	<0.0001	<0.0001	0.0002	0.0003	0.0005	0.0003	0.0003	0.0002	0.0004	0.0003	0.0003	0.0003	0.0002	0.0002	0.0003	0.0002	0.0003	0.0002
Nickel	mg/L	N/A	0.0007	0.0008	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.001	< 0.001
Silver	mg/L	N/A	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.4	1.42	0.244	0.267	0.3	0.256	0.244	0.23	0.277	0.252	0.251	0.284	0.264	0.273	0.336	0.292	0.356	0.355
Thallium	mg/L	N/A	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	<0.0001	<0.0001	0.0006	0.0009	0.0007	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	0.0001
Zinc	mg/L	5	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	0.006	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I
			2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	17-May-16	13-Jul-16	12-Oct-16	24-May-17	19-Jul-17	17-Oct-17	8-May-18	24-Jul-18	11-Oct-18
Alkalinity	mg/L	500	460	490	513	574	603	479	494	568	557	254	252	247	258	249	254	244	235	261
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	2.36	0.22	0.14	<0.05	0.25	0.27	8.11	0.08	0.06	0.16	0.15	0.17	0.15	0.15	0.21	0.15	0.22	0.17
BOD	mg/L	N/A	< 3	< 3		8	11	7	3	<3	<3	< 2	< 3	4	< 3	6	< 3	< 3	2	7
Calcium	mg/L	N/A	208	215	193	218	252	196	201	205	208	103	104	99.6	103	103	109	104	93	103
COD	mg/L	N/A	< 5	11	15	34	22	58	18	49	25	6	< 5	< 5	7	8	< 5	14	< 5	6
Chloride	mg/L	250	43.4	44.8	45.1	37	36.2	16.1	24	26.1	40.7	83.9	87.6	91.5	71.2	69.7	78.8	88.5	87.6	91.4
Conductivity	umhos/cm	N/A	1070	1110	1100	1240	1260	990	1020	1170	1190	833	831	847	851	829	844	792	812	871
Cyanide	mg/L	0.2	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	2.5	0.3	5.8	6.9	4.5	3	4.6	4.4	7.3	1.3	0.9	1.3	1.8	1.4	1.6	1.7	1.5	2
Fluoride	mg/L	1.5	< 0.1	< 1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	581	593	538	616	710	535	556	578	588	412	410	385	402	406	433	416	381	407
Ion Balance	%	N/A	3.16	1.5	5.26	1.06	4.32	3.47	2.74	1.02	1.35									
Iron	mg/L	0.3	< 0.005	< 0.005	<0.005	0.013	0.407	0.015	0.199	0.035	0.277	0.521	0.546	0.455	0.527	0.361	0.596	0.058	0.493	0.69
Magnesium	mg/L	N/A	15	13.4	13.4	17.5	19.4	10.9	13.1	15.6	16.5	37.3	36.4	33.1	35.4	36.1	39	37.9	36.1	36.4
Manganese	mg/L	0.05	< 0.001	< 0.001	0.001	0.016	0.025	0.011	0.012	0.02	0.032	0.013	0.013	0.013	0.012	0.014	0.013	0.012	0.012	0.0122
Nitrate	mg/L	10	< 0.05	< 0.5	0.07	<0.05	<0.05	<0.05	0.05	0.09	<0.05	< 0.1	< 0.1	0.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.1	< 0.05	0.06	< 0.05	< 0.05	< 0.05	0.05
Tot Kjel N	mg/L	N/A	2.1	0.7	0.4	1.7	0.7	2.6	9.9	0.9	0.4	0.3	0.3	0.6	0.2	0.3	0.3	0.2	0.4	0.4
pH-Lab	pH unit	6.5-8.5	7.57	7.53	7.47	7.61	7.53	7.75	7.74	7.71	7.47	7.97	7.85	7.9	7.88	7.87	7.82	7.93	7.87	7.83
Phenols	mg/L	N/A	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.034	0.002	< 0.001	0.004	0.003	< 0.001	0.004	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	0.8	0.9	0.8	1	1.3	0.7	0.5	1.1	1.1	2.5	2.5	2.3	2.4	2.6	2.8	2.9	2.8	2.7
Sodium	mg/L	200	17.6	18.6	17.7	24.2	29.7	20.9	20.6	26.5	25.3	15.6	16.2	16.6	15.8	15.4	15.6	15.1	14.8	16.6
Sulphate	mg/L	500	58	60	62	55	57	40	40	44	47	54	55	57	45	44	46	55	52	56
TDS	mg/L	500	618	647	593	672	679	528	543	632	641	450	454	450	428	421	445	450	428	463
TSS	mg/L	N/A	120	350	130	334	231	285	114	1900	390	70	85	960	320	170	310	140	540	1080
Turbidity	NTU	N/A	115	188	174	142	127	149	147	694	270	83.5	112	947	326	150	196	169	663	57.9
Colour	TCU	5	< 2	< 2	<2	<2	<2	<2	<2	<2	<2	2	4	8	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.06	0.09	0.12	0.07	0.08	0.08	0.1	0.07	0.07	0.03	0.02	0.04	0.03	0.03	0.07	0.06	0.05	0.06
Antimony	mg/L	0.006	< 0.0001	< 0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	0.0001	0.0001	0.0002	0.0004	0.0002	0.0002	0.0003	0.0005	0.0001	< 0.0001	0.0002	0.0004	0.0002	0.0003	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.134	0.162	0.146	0.156	0.19	0.138	0.127	0.158	0.17	0.188	0.183	0.166	0.172	0.182	0.198	0.18	0.165	0.185
Beryllium	mg/L	N/A	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.009	0.009	0.006	0.011	0.016	0.008	0.008	0.014	0.018	0.055	0.027	0.046	0.05	0.055	0.06	0.061	0.053	0.053
Cadmium	mg/L	0.005	< 0.000012	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0014	< 0.0002	0.0007	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0003	0.0006	0.0004	0.0004	0.0006	0.0006	0.0009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.006	< 0.0001
Copper	mg/L	1	0.0004	0.0004	0.0008	0.0003	0.0006	0.0006	0.0003	0.0006	0.0004	0.0002	< 0.0001	< 0.0001	0.0008	0.001	0.0002	0.0001	0.0015	0.0003
Lead	mg/L	0.01	< 0.00004	< 0.00004	0.00003	0.00002	0.00005	0.00004	0.00003	<0.00004	0.00003	0.00004	< 0.00002	0.00003	0.00007	0.00008	0.00005	< 0.00002	0.0001	0.00008
Mercury	mg/L	0.001	< 0.00002	< 0.00002	<0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0003	0.0002	0.0003	0.0002	0.0002	0.0003	0.0002	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	0.0005	0.0006	0.001	0.0006	0.0009	0.0009	0.0008	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.432	0.449	0.43	0.51	0.541	0.461	0.446	0.495	0.49	0.959	0.87	0.886	0.884	0.95	0.822	0.932	0.867	0.928
Thallium	mg/L	N/A	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	0.0001	<0.0001	0.0002	0.0001	0.0002	0.0001	0.0002	0.0005	0.0004	0.0003	0.0008	0.0013	0.0004	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I
			8-May-19	15-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25
Alkalinity	mg/L	500	233	238	246	240	418	250	242	260	234	242	256	247	246	257	262	253	243	255
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	<0.01	<0.01	<0.01
Ammonia	mg/L	N/A	0.2	0.2	0.16	0.15	0.04	0.17	0.14	0.14	0.15	0.17	0.23	0.19	0.41	0.18	0.95	<0.05	0.68	0.25
BOD	mg/L	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	4	< 3	< 3		<3	<3	7
Calcium	mg/L	N/A	102	106	116	102	238	107	96.2	106	105	106	107	109	106	109	96.3	98.5	108	105
COD	mg/L	N/A	6	< 5	< 5	< 5	27	8	< 5	9	8	< 5	< 5	9	< 5	13	11	13	<5	<5
Chloride	mg/L	250	88.7	90	101	90.7	370	98.3	92.7	102	107	97.6	98.8	102	112	112	125	109	113	115
Conductivity	umhos/cm	N/A	815	819	860	828	1860	865	838	854	844	864	833	879	879	900	885	909	893	912
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		<0.005	<0.005	<0.005
DOC	mg/L	5	2.2	4.6	2.1	1.8	4.4	1.4	1.5	1.7	1.1	1.3	0.9	< 0.2	0.6	< 0.2	2.4	2.7	1.3	2.9
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1
Hardness	mg/L	500	407	408	452	410	656	433	393	421	419	420	428	441	426	417	386	403	429	423
Ion Balance	%	N/A				2.78	1.76	3.41	0.0653	0.118	1.41	2.32	2.03	3.81	0.321	1.84	8.23	1.83	1.38	0.723
Iron	mg/L	0.3	0.37	0.789	0.761	0.462	< 0.005	0.636	0.541	0.665	0.785	0.573	0.644	0.755	0.618	0.997	0.814	0.618	0.636	0.639
Magnesium	mg/L	N/A	36.9	34.9	39.4	37.7	14.9	40.5	37	38	38	38	39.1	41.1	39.3	35.1	35.3	38	38.8	39
Manganese	mg/L	0.05	0.012	0.013	0.014	0.013	0.001	0.012	0.013	0.013	0.014	0.012	0.013	0.014	0.013	0.014	0.012	0.013	0.013	0.009
Nitrate	mg/L	10	< 0.05	0.05	< 0.05	0.07	3.91	< 0.05	0.06	0.05	< 0.05	0.07	< 0.05	< 0.05	< 0.05	0.09	<0.05	<0.05	<0.05	<0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	0.05	<0.05	<0.05
Tot Kjel N	mg/L	N/A	0.3	0.2	0.3	0.4	0.5	0.4	0.3	0.3	0.4	0.3	0.6	0.4	0.5	0.6	0.5	0.3	0.7	0.4
pH-Lab	pH unit	6.5-8.5	7.76	7.66	7.87	7.94	7.59	7.86	7.98	7.81	7.67	7.46	7.76	7.77	7.78	7.72	7.55	7.86	7.96	7.84
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	N/A	0.12	0.11	0.23	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	N/A	2.7	2.6	3	2.8	1.3	3	2.5	2.7	2.8	2.8	2.8	3	3	2.8	2.6	2.9	2.8	2.7
Sodium	mg/L	200	14.2	15.3	17.8	14.9	166	17.9	14.1	15.9	15.3	14.6	15.3	16.9	15.4	15.5	13.8	16	14.9	15.3
Sulphate	mg/L	500	50	51	58	52	29	55	52	54	57	55	51	56	56	56	57	50	52	50
TDS	mg/L	500	435	444	484	446	1070	472	441	475	467	460	468	477	480	486	468	482	473	484
TSS	mg/L	N/A	216	260	1070	456	1710	595	80	40	112	57	97	124	64	520	276	14	10	12
Turbidity	NTU	N/A	202	129	1020	233	812	563	138	84.3	93.7	97.8	85.7	249	67.4	457	277	7.4	11.6	9.5
Colour	TCU	5	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2	<2	<2
Aluminum	mg/L	0.1	0.06	0.05	0.07	0.06	0.1	0.04	0.06	0.07	0.05	0.03	0.06	0.07	0.03	0.06	0.06	0.05	0.05	0.08
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Barium	mg/L	1	0.171	0.163	0.198	0.179	0.14	0.19	0.169	0.189	0.186	0.192	0.18	0.204	0.188	0.208	0.179	0.189	0.192	0.186
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	5	0.059	0.054	0.059	0.059	0.015	0.062	0.056	0.06	0.058	0.061	0.056	< 0.005	0.06	0.055	0.049	0.06	0.058	0.061
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	N/A	< 0.005	0.0001	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	0.0002	0.0001	0.0002
Copper	mg/L	1	0.0003	0.0009	< 0.0001	< 0.0001	0.0013	0.0016	0.0031	0.0003	0.0009	0.0005	0.0005	0.0002	0.0002	0.0002	0.0004	0.0001	0.0004	0.0002
Lead	mg/L	0.01	0.00003	0.00018	0.00009	0.00005	0.00007	0.00009	0.0001	0.00005	0.00004	0.00003	0.00003	0.00003	0.00002	0.00003	<0.00002	0.00004	<0.00002	<0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0009	0.0009	<0.0002	<0.0002
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	0.867	0.873	0.971	0.956	0.587	1.03	0.907	0.954	0.97	0.923	0.973	1.01	0.978	0.951	0.89	1	0.955	0.964
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc	mg/L	5	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	44-93-I	44-93-I	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II
			24-Jul-25	15-Oct-25	17-May-16	13-Jul-16	12-Oct-16	24-May-17	19-Jul-17	17-Oct-17	8-May-18	24-Jul-18	11-Oct-18	8-May-19	15-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21
Alkalinity	mg/L	500	256	259	367	390	310	350	352	337	355	351	391	198	249	345	363	246	368	356
Unionized Ammonia	mg/L	N/A	<0.01	<0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.27	0.17	0.03	0.1	0.03	0.04	0.03	0.15	0.05	0.22	0.06	0.11	0.08	0.03	0.04	0.16	0.03	< 0.01
BOD	mg/L	N/A	<3	<3	< 2	< 3	< 3	< 3	< 3	< 3	< 3	< 2	2		< 3	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	99.1	102	170	203	151	182	148	126	212	238	172	93.9	129	202	207	106	187	166
COD	mg/L	N/A	19	<5	31	< 5	41	< 5	7	8	15	61	10	19	18	8	9	< 5	8	< 5
Chloride	mg/L	250	108	118	181	219	162	155	175	43.4	278	395	119	64.1	141	367	315	91.4	310	273
Conductivity	umhos/cm	N/A	917	930	1330	1520	1220	1320	1340	815	1470	1860	1180	622	964	1560	1690	821	1690	1530
Cyanide	mg/L	0.2	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	1.6	3.2	1	0.6	1	1.5	1.5	3.1	1.6	1.7	3.2	3.1	2	1.9	2	2.3	1.1	2.2
Fluoride	mg/L	1.5	<0.1	<0.1	0.1	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1
Hardness	mg/L	500	413	420	510	574	440	510	458	366	606	674	485	272	384	587	578	421	549	473
Ion Balance	%	N/A	0.156	1.27													1.39	3.29	0.513	5.06
Iron	mg/L	0.3	0.607	0.669	< 0.005	< 0.005	0.018	< 0.005	< 0.005	0.005	0.005	0.113	0.119	0.138	0.016	0.008	< 0.005	0.661	< 0.005	0.008
Magnesium	mg/L	N/A	40.3	40	20.7	16.3	15.3	13.5	21.6	12.4	18.4	19.2	13.4	9.04	15	19.9	14.6	37.9	19.8	14.1
Manganese	mg/L	0.05	0.012	0.013	< 0.001	< 0.001	0.002	< 0.001	0.012	0.414	0.013	0.039	0.0248	0.36	0.194	0.176	0.002	0.013	< 0.001	0.001
Nitrate	mg/L	10	<0.05	<0.05	7.6	5.2	2.8	4.48	3.78	0.17	2.33	2.36	1.36	0.21	1.06	1.71	3.03	< 0.05	2.03	2.03
Nitrite	mg/L	1	<0.05	<0.05	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5
Tot Kjel N	mg/L	N/A	0.4	0.2	0.5	0.5	0.8	0.3	0.4	0.5	0.5	0.6	0.8	0.6	0.8	0.8	0.6	0.4	0.4	0.3
pH-Lab	pH unit	6.5-8.5	7.94	7.96	7.7	7.56	7.64	7.78	7.58	7.67	7.74	7.63	7.69	7.99	7.6	7.78	7.78	7.74	7.73	7.86
Phenols	mg/L	N/A	<0.001	<0.001	< 0.001	0.048	0.002	0.001	0.004	0.003	< 0.001	0.016	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	N/A	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.63	1.24	0.9	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.1	3.1	1.2	1.2	1.2	0.9	1.5	1.2	1.3	1.7	1.7	1.5	1.6	2.3	1.3	2.7	2.1	1.1
Sodium	mg/L	200	17	18.1	72.6	99.3	74.8	84.1	58.4	34.1	96.5	121	53.8	17.3	45	118	133	14.9	138	104
Sulphate	mg/L	500	45	52	25	27	28	22	20	19	27	27	41	10	17	24	25	53	29	25
TDS	mg/L	500	487	494	724	824	631	667	636	439	846	1012	636	316	499	940	914	454	908	797
TSS	mg/L	N/A	8	28	1160	1440	2060	544	1160	1200	3000	1550	1220		2600	1490	3200	120	1280	575
Turbidity	NTU	N/A	5.5	10.9	800	1060	1290	476	795	435	1300	1730	1010		1140	2890	1250	216	581	214
Colour	TCU	5	<2	<2	10	19	6	< 2	2	4	< 2	2	5		4	8	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.04	0.03	0.05	0.04	0.06	0.05	0.04	0.06	0.1	0.11	0.1	0.06	0.07	0.1	0.09	0.06	0.07	0.09
Antimony	mg/L	0.006	<0.0001	<0.0001	< 0.0001	< 0.0001	0.0004	0.0001	0.0001	0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	<0.0001	<0.0001	0.0004	0.0001	0.0004	0.001	0.0006	0.0004	0.0001	0.0003	0.0002	0.0012	0.0009	0.0003	0.0001	< 0.0001	0.0001	0.0001
Barium	mg/L	1	0.185	0.196	0.132	0.109	0.104	0.09	0.113	0.078	0.119	0.151	0.097	0.041	0.073	0.167	0.115	0.189	0.152	0.098
Beryllium	mg/L	N/A	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.06	0.06	0.016	< 0.005	0.014	0.008	0.027	0.028	0.017	0.023	0.031	0.014	0.02	0.022	0.011	0.057	0.023	0.013
Cadmium	mg/L	0.005	<0.000015	<0.000015	< 0.00002	< 0.00002	0.00002	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	<0.001	<0.001	0.0027	< 0.0002	0.0011	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0001	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.0001	0.005	0.0002	0.005	0.0009	< 0.005	< 0.0001	< 0.005	0.006	< 0.005
Copper	mg/L	1	0.0003	0.0003	0.0009	0.0007	0.0006	0.0025	0.0017	0.0012	0.0006	0.0015	0.0018	0.0006	0.001	0.0005	0.0005	0.0003	0.0006	0.0008
Lead	mg/L	0.01	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005	0.00008	< 0.00002	< 0.00002	0.00035	0.00025	0.00003	0.00005	< 0.00009	< 0.00004	0.00006	< 0.00004	0.00004
Mercury	mg/L	0.001	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0003	0.0005	0.0004	0.0002	0.0007	0.0005	0.0003	0.0003	0.0003	0.0005	0.0006	0.0005	0.0003	0.0002	0.0004	0.0003
Nickel	mg/L	N/A	<0.0002	0.0008	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.01	0.996	0.641	0.612	0.533	0.453	0.666	0.338	0.611	0.676	0.471	0.266	0.445	0.672	0.55	0.92	0.687	0.479
Thallium	mg/L	N/A	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	<0.0001	<0.0001	0.001	0.0007	0.0005	0.0012	0.0017	0.0008	< 0.0001	0.0003	0.0002	< 0.0001	0.0001	< 0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	45-93	45-93	45-93	45-93
			5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	17-May-16	13-Jul-16	18-Oct-16	24-May-17
Alkalinity	mg/L	500	396	376	349	379	391	363	379	404	364	428	376	378	405	380	362	338	297	350
Unionized Ammonia	mg/L	N/A		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.04	0.05	0.15	0.62	0.07	0.92	0.09	0.05	<0.05	0.15	0.97	0.07	0.09	0.14	< 0.01	< 0.01	0.25	0.03
BOD	mg/L	N/A	< 3	< 3	< 3	< 3	< 3	< 3	< 3		<3	<3	<3	12	<3	<3	< 2	< 3	< 3	< 3
Calcium	mg/L	N/A	215	186	202	180	176	173	182	163	166	227	162	150	168	155	203	227	219	243
COD	mg/L	N/A	19	< 5	24	8	11	8	11	13	40	36	43	15	37	44	28	< 5	< 5	12
Chloride	mg/L	250	349	300	279	303	254	296	376	387	343	420	254	236	288	299	270	296	362	286
Conductivity	umhos/cm	N/A	1890	1680	1670	1670	1620	1660	1790	1760	1850	2060	1560	1450	1860	1660	1620	1630	1710	1810
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	2.4	1.3	1.3	0.4	< 0.2	0.6	< 0.2	3.1	2.8	1.2	1.2	2.9	1.3	3.2	0.5	0.4	0.4	0.7
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 1	<0.1	<0.7	<0.1	<0.1	<0.1	<0.7	<0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	604	529	573	543	502	498	531	450	488	628	467	448	487	444	571	638	624	677
Ion Balance	%	N/A	0.375	1.36	2.95	3.1	4.5	3.85	9.74	12.3	8.45	2.36	1.12	4.6	0.649	1.43				
Iron	mg/L	0.3	0.005	0.016	< 0.005	0.023	0.009	< 0.005	< 0.005	<0.005	<0.005	0.082	<0.005	<0.005	<0.005	0.011	< 0.005	0.066	< 0.005	< 0.005
Magnesium	mg/L	N/A	16.1	15.5	16.3	22.7	15	15.8	18.6	10.3	18.1	15	15.2	17.7	16.1	13.6	15.2	16.8	18.5	16.9
Manganese	mg/L	0.05	0.001	0.002	< 0.001	0.045	0.001	0.001	0.001	<0.001	0.001	0.008	<0.001	<0.001	<0.001	<0.001	< 0.001	0.006	0.002	< 0.001
Nitrate	mg/L	10	3.85	0.17	3.02	2.57	2.34	3.5	3.94	2.6	2.16	3.34	1.07	0.9	2.84	2.18	0.5	0.4	0.5	0.65
Nitrite	mg/L	1	< 0.05	0.29	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	<0.05	<0.40	<0.05	<0.05	<0.05	<0.40	<0.05	< 0.1	< 0.1	< 0.1	< 0.05
Tot Kjel N	mg/L	N/A	0.6	0.4	0.4	1.3	0.4	1.2	0.5	0.3	0.3	0.8	1.2	0.4	0.5	0.7	0.3	1.2	0.8	0.4
pH-Lab	pH unit	6.5-8.5	7.61	7.53	7.52	7.6	7.59	7.6	7.61	7.49	7.7	7.66	7.82	7.79	7.84	7.82	7.6	7.55	7.71	7.54
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.044	0.026	0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	1.5	1.6	1.3	1.8	1.5	1.4	1.6	1.2	1.5	1.7	1.4	1.2	1.7	1.7	1.2	1.5	1.6	1.2
Sodium	mg/L	200	152	149	118	113	164	120	116	148	119	222	142	103	169	169	107	113	113	115
Sulphate	mg/L	500	27	29	28	28	27	27	30	29	29	29	24	23	47	27	21	26	26	20
TDS	mg/L	500	997	907	854	876	872	851	952	963	1020	1140	853	790	1020	910	837	885	922	892
TSS	mg/L	N/A	384	645	498	346	238	376	480	660	466	395	2140	687	318	2340	1260	9000	550	1280
Turbidity	NTU	N/A	26.3	350	346	167	232	201	311	417	322	209	1520	857	233	1370	945	5680	235	780
Colour	TCU	5	< 2	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2	<2	<2	<2	<2	<2	< 2	9	8	7
Aluminum	mg/L	0.1	0.11	0.07	0.05	0.09	0.1	0.05	0.08	0.09	0.07	0.09	0.09	0.1	0.05	0.05	0.11	0.06	0.05	0.06
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0002	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0002	0.0002	0.0001	0.0003	0.0002	0.0001	0.0002	0.0001	0.0001	0.0002	0.0002	0.0001	0.0002	0.0002	0.0003	0.0002	< 0.0001	0.0016
Barium	mg/L	1	0.135	0.133	0.123	0.133	0.132	0.109	0.138	0.106	0.118	0.144	0.115	0.103	0.12	0.127	0.114	0.092	0.098	0.112
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.018	0.021	0.01	0.019	< 0.005	0.012	0.019	0.009	0.017	0.015	0.019	0.017	0.017	0.018	0.01	0.017	< 0.005	0.007
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.00002	< 0.000014
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0026	< 0.0002	< 0.0002	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0003	0.0003	<0.0001	0.0002	0.0003	0.0003	0.0003	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0011	0.0008	0.0007	0.0027	0.0004	0.0006	0.0006	0.0009	0.0004	0.0011	0.0023	0.0007	0.0017	0.001	0.001	0.001	0.0007	0.0019
Lead	mg/L	0.01	0.00007	0.00006	< 0.00004	0.00008	< 0.00004	< 0.00004	< 0.00004	<0.00004	0.00004	0.00017	0.00002	0.00003	0.00002	0.00002	0.00014	< 0.00002	< 0.00002	0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0003	0.0004	0.0003	0.0006	0.0003	0.0003	0.0005	0.0002	0.0004	0.0002	0.0004	0.0004	0.0003	0.0004	0.0003	0.0005	0.0004	0.0003
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0018	0.0004	0.0005	0.0004	0.0004	0.0004	0.0004	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.614	0.592	0.541	0.677	0.549	0.52	0.618	0.439	0.604	0.598	0.535	0.531	0.584	0.516	0.579	0.554	0.464	0.545
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.001	0.0029	0.0008	0.0015
Zinc	mg/L	5	0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93
			20-Jul-17	17-Oct-17	8-May-18	24-Jul-18	11-Oct-18	8-May-19	5-Jun-19	15-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22
Alkalinity	mg/L	500	295	375	411	366	370	391		335	367	334	377	405	336	355	371	365	437	402
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.02	0.32	0.02	0.25	0.04	0.06	0.1	0.05	0.05	0.03	0.03	0.03	0.03	0.01	0.04	0.42	0.33	< 0.01
BOD	mg/L	N/A	< 3	< 3	< 3	< 2	< 2		4	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	237	203	298	254	255	230		227	231	184	172	158	145	158	168	163	161	167
COD	mg/L	N/A	< 5	34	13	45	< 5	77		< 5	30	12	15	27	5	9	6	< 5	< 5	12
Chloride	mg/L	250	274	252	490	461	406	364		289	348	250	230	209	199	226	256	217	209	227
Conductivity	umhos/cm	N/A	1720	1820	2160	2070	2010	1910		1700	1750	1460	1430	1380	1300	1360	1450	1420	1440	1500
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	0.5	1	0.9	1	1.8	1.6		0.3	1.9	1.9	2.8	1	1.9	3	1.5	1.1	1.1	< 0.2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	659	582	827	711	715	648		636	645	519	475	446	410	444	470	458	453	475
Ion Balance	%	N/A										6.32	3.94	1.57	2.5	1.96	0.304	3.59	0.302	3.7
Iron	mg/L	0.3	< 0.005	0.08	< 0.005	0.006	< 0.005	0.007		< 0.005	0.007	< 0.005	< 0.005	< 0.005	0.006	< 0.005	0.009	< 0.005	0.032	0.005
Magnesium	mg/L	N/A	16.5	18.2	19.9	18.6	18.8	17.7		16.6	16.5	14.4	10.9	12.3	11.6	11.9	12.2	12.3	12.3	14
Manganese	mg/L	0.05	< 0.001	0.001	< 0.001	0.001	< 0.0002	< 0.001		0.001	0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	0.003	< 0.001
Nitrate	mg/L	10	0.69	0.61	0.85	0.72	0.55	0.59		0.45	0.43	0.51	0.54	0.49	0.6	0.68	< 0.05	0.2	0.53	0.39
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	0.17	< 0.05		< 0.05	< 0.05	< 0.05	0.05	< 0.05	0.11	< 0.05	0.25	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.2	0.3	0.2	0.6	0.3	0.4		0.2	0.9	0.3	0.2	0.3	0.3	0.3	0.2	0.8	0.8	0.2
pH-Lab	pH unit	6.5-8.5	7.61	7.56	7.67	7.55	7.58	7.81		7.41	7.76	7.73	7.73	7.82	7.86	7.73	7.63	7.57	7.62	7.51
Phenols	mg/L	N/A	< 0.001	0.003	< 0.001	0.016	0.003	< 0.002		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1.53		0.5	2.95	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	1.3	1.6	1.6	1.7	1.6	1.5		1.9	1.7	1.5	1	1.5	1.1	1.3	1.3	1.3	1.4	1.5
Sodium	mg/L	200	109	126	153	140	128	137		136	150	134	141	139	121	129	134	134	140	152
Sulphate	mg/L	500	18	19	23	24	27	24		28	26	25	19	23	21	21	23	27	22	25
TDS	mg/L	500	880	845	1231	1119	1058	1009		899	994	810	800	786	701	760	818	773	808	828
TSS	mg/L	N/A	1560	1760	780	3350	2780		900	1030	4200	2100	1100	2520	2760	1000	440	1850	940	352
Turbidity	NTU	N/A	932	1370	665	3120	2320		1060	1330	887	405	378	828	586	1190	242	1360	290	508
Colour	TCU	5	8	10	< 2	< 2	< 2		< 2	< 2	< 2	< 2	< 2	2	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.06	0.17	0.11	0.1	0.09	0.11		0.09	0.12	0.09	0.08	0.05	0.08	0.09	0.07	0.04	0.09	0.1
Antimony	mg/L	0.006	0.0001	0.0002	< 0.0001	0.0002	< 0.0001	< 0.0001		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0008	0.0013	< 0.0001	< 0.0001	< 0.0001	< 0.0001		0.0001	< 0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Barium	mg/L	1	0.115	0.122	0.152	0.139	0.137	0.115		0.12	0.124	0.095	0.096	0.09	0.077	0.085	0.098	0.092	0.09	0.106
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.009	0.012	0.011	0.007	0.011	0.009		0.01	0.011	0.009	0.009	0.011	0.009	0.011	0.012	0.006	0.007	< 0.005
Cadmium	mg/L	0.005	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015		< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012
Chromium	mg/L	0.05	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	0.002	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.0001	0.005		0.0004	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0013	0.0008	0.0003	0.0007	0.0007	0.0006		0.0026	< 0.0002	0.0007	0.0006	0.0004	0.0008	0.0006	0.0007	0.0008	0.0018	0.001
Lead	mg/L	0.01	0.00006	0.00004	< 0.00002	0.00004	0.00002	0.00002		0.00011	< 0.00009	< 0.00004	0.00006	< 0.00004	< 0.00004	0.00005	< 0.00004	< 0.00004	0.00009	< 0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002		< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0003	0.0002	0.0003	0.0002	0.0002	0.0003		0.0004	0.0003	0.0004	0.0002	0.0003	0.0003	0.0003	0.0004	0.0004	0.0004	0.0003
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	< 0.001
Silver	mg/L	N/A	0.00003	0.00004	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.598	0.582	0.67	0.608	0.588	0.545		0.526	0.54	0.449	0.375	0.404	0.363	0.391	0.408	0.377	0.394	0.426
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0022	0.0006	0.0001	0.0002	0.0002	0.0001		0.0002	< 0.0004	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.011	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I
			2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	25-May-16	11-Oct-16	24-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	5-May-20	13-Oct-20
Alkalinity	mg/L	500	400	426	426	383	396	377	412	412	390	330	341	351	298	358	358	331	340	333
Unionized Ammonia	mg/L	N/A	0.01	< 0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01									
Ammonia	mg/L	N/A	3.63	0.43	0.13	<0.05	0.83	0.14	0.11	0.17	0.22	0.61	1.81	0.88	1.66	0.77	0.95	0.7	0.79	0.73
BOD	mg/L	N/A	< 3	< 3		<3	<3	<3	11	<3	<3									
Calcium	mg/L	N/A	192	188	140	113	120	114	130	119	118	201	187	191	115	190	188	178	175	163
COD	mg/L	N/A	< 5	11	8	53	14	22	32	64	45	19	13	21	10	13	22	16	8	11
Chloride	mg/L	250	338	345	321	152	150	187	172	138	148	123	121	102	66.4	119	116	118	107	107
Conductivity	umhos/cm	N/A	1840	1760	1620	1220	1220	1340	1310	1250	1200	1590	1620	1600	896	1440	1450	1410	1350	1300
Cyanide	mg/L	0.2	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005									
DOC	mg/L	5	0.5	< 0.2	3.2	2.7	1.4	1.1	3.1	1.4	3.8	4	3.8	5.4	5.1	5.2	6.2	5.7	4.2	3
Fluoride	mg/L	1.5	< 0.1	< 1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	542	521	390	322	330	316	365	337	336	668	616	635	326	643	618	596	588	543
Ion Balance	%	N/A	1.08	2.01	12.3	2.68	3.64	2.81	1.87	1.48	0.492								4.99	2.26
Iron	mg/L	0.3	< 0.005	< 0.005	0.082	<0.005	0.016	<0.005	0.017	0.042	<0.005	2.93	3.89	3.23	0.548	2.85	3.86	2.49	2.82	2.47
Magnesium	mg/L	N/A	15.5	12.4	9.76	9.45	7.28	7.45	9.81	9.6	9.91	40	36.2	38.2	9.36	40.8	36	36.8	36.5	33
Manganese	mg/L	0.05	< 0.001	0.001	0.002	<0.001	0.001	<0.001	<0.001	0.002	<0.001	0.072	0.333	0.109	0.696	0.069	0.169	0.069	0.127	0.105
Nitrate	mg/L	10	0.75	0.89	0.66	0.38	0.41	0.36	0.13	0.25	0.08	0.4	< 0.1	< 0.05	1.65	< 0.05	< 0.05	0.23	0.17	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	3.8	1	0.5	0.9	1	0.3	0.5	1.6	0.6	1.1	2.1	1.3	2.2	1.2	1.3	1	1.2	1.2
pH-Lab	pH unit	6.5-8.5	7.59	7.71	7.59	7.77	7.9	7.89	7.89	7.9	7.86	7.53	7.68	7.56	7.71	7.76	7.74	7.79	7.71	7.65
Phenols	mg/L	N/A	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.005	0.002	0.002	< 0.001	< 0.002	< 0.002	0.003	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.02	< 0.1	< 0.1
Potassium	mg/L	N/A	1.7	1.6	1.2	1.3	1.2	1	1	1.3	1.5	2.6	2.6	2.4	3.2	3.1	2.9	2.7	2.6	2.7
Sodium	mg/L	200	176	175	146	151	154	141	131	141	134	104	89.3	98	43.5	103	90.2	94.5	87	83.8
Sulphate	mg/L	500	26	25	27	18	13	16	21	18	22	354	359	291	12	284	255	258	215	210
TDS	mg/L	500	989	1003	888	660	657	724	708	678	646	1030	1010	938	432	958	908	890	831	802
TSS	mg/L	N/A	1590	4680	1060	3050	323	3150	1030	3620	1920									
Turbidity	NTU	N/A	823	1160	510	1600	325	1680	1910	1420	753									
Colour	TCU	5	< 2	3	<2	<2	<2	<2	<2	<2	<2									
Aluminum	mg/L	0.1	0.06	0.09	0.08	0.05	0.04	0.06	0.07	0.08	0.04	0.05	0.05	0.05	0.06	0.09	0.08	0.09	0.09	0.08
Antimony	mg/L	0.006	0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	0.0001	<0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.03	0.0005	0.0008	0.0007	0.0002	0.0004	0.0002	0.0003	0.0002
Barium	mg/L	1	0.116	0.117	0.09	0.07	0.074	0.07	0.073	0.072	0.077	0.034	0.031	0.028	0.031	0.032	0.033	0.03	0.031	0.032
Beryllium	mg/L	N/A	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.01	0.008	<0.005	0.011	0.011	0.007	0.01	0.009	0.013	0.101	0.13	0.13	0.034	0.145	0.14	0.129	0.135	0.136
Cadmium	mg/L	0.005	< 0.000012	< 0.000012	0.0000114	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	< 0.0002	< 0.001	< 0.001	0.003	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0003	0.0002	<0.0001	0.0002	0.0002	0.0002	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	< 0.005	0.007	0.0004	< 0.005
Copper	mg/L	1	0.0006	0.0007	0.0008	0.0005	0.001	0.002	0.0004	0.0015	0.0007	0.0006	0.0011	0.0034	0.0024	0.0006	0.0003	0.001	< 0.0001	0.001
Lead	mg/L	0.01	< 0.00004	< 0.00004	< 0.00004	0.00002	0.00005	< 0.00002	0.00005	0.00008	< 0.00002	0.00009	< 0.00002	0.00019	< 0.00002	0.00007	0.00006	0.00004	0.00002	0.00005
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0003	0.0003	0.0003	0.0004	0.0002	0.0003	0.0004	0.0003	0.0005	0.0002	0.0003	0.0001	0.0002	0.0001	0.0001	0.0002	0.0001	0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	0.0018	0.0006	0.0005	0.0004	0.0005	0.0006	0.0005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.479	0.439	0.336	0.312	0.269	0.265	0.314	0.314	0.31	0.555	0.592	0.556	0.285	0.572	0.475	0.558	0.501	0.481
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.002	0.0018	0.0017	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.012	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	46-95-I	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II
			4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	25-May-16	11-Oct-16	24-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19
Alkalinity	mg/L	500	352	363	338	337	337	351	332	321	328	635	325	358	388	349	363	324	332	278
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	1.1	0.68	0.94	0.67	1.86	0.96	0.81	1.03	0.82	29.8	2.31	4.94	5.6	1.39	5.69	3.25	3.52	0.37
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	155	164	153	137	129	131	134	135	128	156	117	133	162	185	170	131	138	118
COD	mg/L	N/A	18	17	13	9	21	12	27	15	23	62	40	14	21	11	38	49	22	15
Chloride	mg/L	250	109	109	111	148	119	105	109	113	113	220	76.6	97.3	84.5	89.1	94.9	104	96.6	103
Conductivity	umhos/cm	N/A	1290	1300	1280	1210	1180	1170	1200	1140	1130	1830	925	1110	1240	1530	1230	984	1010	864
Cyanide	mg/L	0.2																		
DOC	mg/L	5	3.8	2.6	3.3	1.4	2.6	5	5.4	5.7	3.2	8.8	4.2	4.6	5.8	4.2	5.6	5.2	6.3	5.1
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	0.7	<0.1	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	526	551	514	468	440	443	455	458	429	549	338	398	493	613	543	371	410	334
Ion Balance	%	N/A	0.0837	1.6	1.91	6.69	3.11	1.35	1.12	2.46	1.43	4.35								
Iron	mg/L	0.3	3.03	2.85	2.42	2.44	2.35	2.27	2.51	2.29	2.22	13.9	1.22	3.51	0.882	4.53	7.24	1.03	1.34	0.679
Magnesium	mg/L	N/A	33.8	34.2	31.9	30.6	28.4	28	28.9	29.1	26.6	38.4	11.2	16.1	21.3	36.7	28.6	10.5	15.7	9.57
Manganese	mg/L	0.05	0.141	0.069	0.054	0.069	0.076	0.046	0.081	0.044	0.039	0.084	0.759	1.09	1.24	0.321	1.12	0.595	0.767	0.403
Nitrate	mg/L	10	0.22	< 0.05	< 0.05	< 0.05	< 0.05	0.07	<0.05	<0.05	<0.05	0.07	0.6	0.3	0.43	0.1	0.47	0.18	0.68	0.72
Nitrite	mg/L	1	< 0.05	0.1	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.3	0.4	0.52	< 0.05	0.08	0.06	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1.5	1	1.3	1	1.8	1.4	1.2	1.4	1.2	30.5	3	5.3	6.7	1.7	6.3	4.4	4.2	1
pH-Lab	pH unit	6.5-8.5	7.97	7.71	7.74	7.62	7.82	7.54	7.73	7.91	7.6	7.64	7.54	7.63	7.48	7.69	7.74	7.82	7.81	7.8
Phenols	mg/L	N/A	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	0.001	< 0.001	< 0.001	0.003	< 0.001	< 0.001	0.022	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	0.23
Potassium	mg/L	N/A	2.6	2.9	2.5	2.7	2.8	2.7	2.6	2.8	2.4	9.3	3	3.7	3.6	3.4	3.8	3.7	3.5	4.4
Sodium	mg/L	200	81.3	86.8	79.9	74.7	74.3	72.8	75.6	70.4	63.6	123	49	52.3	54.1	92	77	65	56.3	65.3
Sulphate	mg/L	500	202	203	173	181	140	124	126	107	100	1	52	72	109	209	165	29	59	4
TDS	mg/L	500	800	822	757	780	698	628	645	612	609	1000	509	603	676	832	773	543	575	472
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.08	0.07	0.08	0.09	0.04	0.04	0.05	0.04	0.07	0.05	0.03	0.05	0.05	0.09	0.09	0.06	0.08	0.07
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0004	0.0002	0.0002	0.0003	0.0003	0.0002	0.0003	0.0002	0.0002	0.0001	0.0004	0.0086	0.0007	0.0011	0.001	0.0005	0.0003	0.0003
Barium	mg/L	1	0.03	0.035	0.034	0.042	0.038	0.04	0.049	0.044	0.043	1.15	0.031	0.043	0.048	0.04	0.067	0.038	0.043	0.036
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.125	0.138	0.122	0.119	0.115	0.13	0.117	0.125	0.111	0.101	0.043	0.059	0.094	0.145	0.12	0.044	0.071	0.048
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0059	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	0.006	0.0001	0.0004	0.0003	0.0004	0.0008	< 0.005	< 0.005	< 0.005	< 0.005	0.0018	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0016	0.0002	0.0004	0.0011	0.0017	0.0002	0.0011	0.0004	0.0002	<0.0001	0.0007	0.0007	0.0025	0.0008	0.0008	0.0006	0.0014	0.0011
Lead	mg/L	0.01	0.00007	< 0.00004	< 0.00004	0.00006	< 0.00004	<0.00002	0.00009	0.00002	0.00008	<0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	0.00002	< 0.00002	0.00003	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	<0.0001	0.0002	0.0002	0.0003	0.0002	0.0003	0.0002	0.0002	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.002	0.0023	0.0017	0.0016	0.0024	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.007	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.467	0.522	0.47	0.447	0.433	0.425	0.451	0.43	0.404	0.727	0.312	0.392	0.439	0.513	0.49	0.311	0.387	0.31
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	0.0018	0.003	0.0019	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	0.007	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	0.011	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I
			5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	25-May-16	11-Oct-16	24-May-17	18-Oct-17	8-May-18	11-Oct-18
Alkalinity	mg/L	500	268	287	280	334	299	348	272	356	279	293	272	318	387	400	445	451	462	494
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.12	2.43	1.99	0.79	3.58	1.42	2.77	0.17	0.07	0.38	1.2	5.57	2.51	3.38	4.57	5.8	5.86	6.43
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	99.9	114	104	123	111	123	93.5	128	93.3	106	96.6	107	126	118	139	143	149	158
COD	mg/L	N/A	12	21	56	6	18	23	17	19	60	46	42	74	20	14	19	15	22	28
Chloride	mg/L	250	43.3	91.2	67.9	62	78.4	109	32	89.5	26.4	80.5	49.1	96.2	161	164	149	131	183	189
Conductivity	umhos/cm	N/A	651	867	798	808	868	928	644	958	639	824	687	915	1220	1280	1370	1390	1350	1450
Cyanide	mg/L	0.2																		
DOC	mg/L	5	4.1	3.6	4	2.8	3.7	1.9	4.1	5	4	5.2	3.8	6.6	3.5	3.1	4.8	4.1	5.4	5.2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	279	325	299	346	315	349	262	358	260	298	274	316	421	397	464	478	501	522
Ion Balance	%	N/A	2.59	2.18	1.79	1.24	2.31	3.14	3.3	2.07	1.74	3.62	1.04	1.53						
Iron	mg/L	0.3	0.01	0.895	0.591	0.089	0.113	0.201	< 0.005	< 0.005	0.006	0.006	0.02	1.42	5.44	5.32	6.66	7.49	7.57	8.92
Magnesium	mg/L	N/A	7.08	9.72	9.61	9.26	9.11	10.2	6.85	9.2	6.59	7.82	7.99	11.5	25.7	24.7	28	29.3	31.3	31
Manganese	mg/L	0.05	0.044	0.606	0.171	0.099	0.083	0.12	0.003	0.013	0.003	0.025	0.075	0.452	0.066	0.063	0.073	0.078	0.076	0.085
Nitrate	mg/L	10	0.35	0.46	0.07	0.19	0.31	0.87	2.18	0.36	0.94	0.23	0.99	0.48	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	0.3	< 0.05	0.09	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.15	0.12	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.5	3.3	3.5	1.1	4	2.1	2.6	0.8	0.7	0.9	1.7	6	2.9	3.7	6.3	6.9	6.8	7.9
pH-Lab	pH unit	6.5-8.5	7.8	7.69	8.06	7.77	7.81	7.65	7.93	7.52	7.77	7.86	7.75	7.77	7.54	7.67	7.57	7.69	7.74	7.7
Phenols	mg/L	N/A	0.004	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.003	0.004	< 0.001	< 0.001	0.008
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	2.7	3.8	3.3	4.5	3.5	5.3	3	5.6	3.1	4.6	3.1	4.8	2.6	2.6	3.1	3.9	4.4	4
Sodium	mg/L	200	33.2	54.5	37.4	41.4	34.7	54.7	21.7	50.6	23.3	35.8	29.6	55.7	93.7	90.2	104	103	113	109
Sulphate	mg/L	500	6	14	31	10	16	7	9	10	6	3	5	6	< 1	< 1	< 1	< 1	< 1	< 1
TDS	mg/L	500	353	461	425	452	437	520	329	510	332	434	357	485	648	650	703	696	774	805
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.06	0.04	0.07	0.06	0.07	0.08	0.02	0.04	0.03	0.03	0.05	0.03	0.03	0.03	0.04	0.07	0.07	0.07
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0005	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	0.0004	0.0003	< 0.0001	0.0001	0.0003	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	0.0005	0.0004	0.0021	0.0008	0.0007	< 0.0001	< 0.0001
Barium	mg/L	1	0.02	0.036	0.027	0.034	0.03	0.041	0.02	0.036	0.024	0.027	0.026	0.043	0.459	0.433	0.53	0.64	0.652	0.651
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.02	0.067	0.037	0.051	0.03	0.041	0.018	0.046	0.018	0.031	0.033	0.073	0.096	0.063	0.1	0.109	0.112	0.109
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	0.0085	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0001	0.0002	0.0002	0.0004	0.0008	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	< 0.005
Copper	mg/L	1	0.0009	0.0023	0.0022	0.0013	0.0015	0.0014	0.0013	0.0015	0.0011	0.003	0.0008	0.0009	0.0008	0.0004	0.0009	0.0008	0.0008	< 0.0001
Lead	mg/L	0.01	< 0.00002	0.00006	0.00005	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00004	0.00002	< 0.00002	0.00033	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0001	0.0002	0.0002	0.0002	0.001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0008	0.0004	0.0005	0.0006	0.0013	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.003	< 0.001	< 0.001	0.002	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.246	0.309	0.291	0.342	0.291	0.355	0.247	0.339	0.25	0.275	0.253	0.326	0.496	0.49	0.512	0.555	0.577	0.554
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0018	0.0036	0.002	0.0008	0.0002	0.0002
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	45-95-I	46-95-II	46-95-II	46-95-II	46-95-II
			9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	25-May-16	11-Oct-16	24-May-17	18-Oct-17
Alkalinity	mg/L	500	455	466	480	474	487	541	537	564	586	616	604	592	560	324	400	411	463	466
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	8.3	10.6	9.89	9.47	14.5	20.6	25.4	31.8	29.2	32.1	26.8	28.3	38.2	0.82	2.96	4.21	6.11	7.4
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	156	164	157	159	142	150	159	142	150	161	163	174	164	117	130	121	140	144
COD	mg/L	N/A	25	21	30	21	24	25	32	23	36	44	37	32	56	20	26	14	26	22
Chloride	mg/L	250	203	204	186	195	197	199	216	258	247	21.5	221	218	229	111	164	167	151	133
Conductivity	umhos/cm	N/A	1450	1460	1480	1500	1480	1560	1730	1730	1800	1820	1830	1780	1860	1100	1250	1300	1420	1440
Cyanide	mg/L	0.2																		
DOC	mg/L	5	6.2	5.6	5	3.1	4.5	3.8	4.7	1.8	5	7.8	8.6	9.1	3.9	5.9	3.3	3.3	5.3	4.2
Fluoride	mg/L	1.5	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	0.2	< 0.1	< 0.1
Hardness	mg/L	500	520	549	526	527	494	518	536	496	518	547	561	590	562	401	431	403	465	481
Ion Balance	%	N/A			5.34	3.82	3.39	3.44	5.14	0.66	5.45	14.7	1.11	0.124	0.973	1.04				
Iron	mg/L	0.3	7.66	9.06	8.71	9.14	8.36	9.15	10.7	10	11.8	13.3	13.9	14.1	14.1	2.22	6.78	6.31	8.01	8.46
Magnesium	mg/L	N/A	31.6	33.8	32.5	31.4	33.7	34.8	33.7	34.3	34.5	35.2	37.2	38	37	26.7	26	24.7	27.8	29.5
Manganese	mg/L	0.05	0.078	0.086	0.079	0.08	0.072	0.077	0.081	0.075	0.083	0.088	0.087	0.093	0.078	0.044	0.072	0.068	0.079	0.082
Nitrate	mg/L	10	0.21	< 0.05	0.13	< 0.05	0.21	< 0.05	0.07	< 0.05	0.05	< 0.05	< 0.05	< 0.05	0.1	0.08	0.25	< 0.1	0.1	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	0.14	< 0.05	< 0.05	0.14	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	9.6	12	11.1	11.6	16.4	22.4	31.7	36.8	32.4	26.3	29.9	32.2	51	1.2	3.8	5.8	7.4	9.5
pH-Lab	pH unit	6.5-8.5	7.74	7.72	7.61	7.59	7.76	7.59	7.71	7.47	7.68	7.5	7.41	7.62	7.46	7.75	7.45	7.63	7.48	7.67
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	0.008	0.006	0.002
Phosphorus	mg/L	N/A	0.02	0.06	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	4.7	5.3	4.9	4.9	5.6	6.7	7.9	9.2	9.3	9	9.2	8.8	8.6	2.6	2.7	2.7	3.5	4.7
Sodium	mg/L	200	113	113	109	116	113	118	124	124	127	125	131	119	117	69.1	95.5	91.1	105	106
Sulphate	mg/L	500	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2	< 1	88	< 1	< 1	< 1	< 1
TDS	mg/L	500	800	822	799	800	811	868	907	957	931	997	1010	979	1020	589	666	666	722	715
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.08	0.09	0.08	0.08	0.07	0.05	0.08	0.09	0.04	0.06	0.06	0.05	0.08	0.03	0.03	0.04	0.04	0.08
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0005	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0003	< 0.0001	< 0.0001	< 0.0003	< 0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0005	0.0023	0.0008	0.0007
Barium	mg/L	1	0.72	0.776	0.728	0.767	0.723	0.885	1.02	1.1	1.08	1.1	1.31	1.12	1.06	0.049	0.493	0.463	0.564	0.68
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.108	0.112	0.113	0.117	0.104	0.106	0.108	0.103	0.115	0.116	0.108	0.103	0.107	0.116	0.099	0.065	0.101	0.114
Cadmium	mg/L	0.005	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000012	< 0.000012	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.00002	0.00003	< 0.000014	< 0.000014
Chromium	mg/L	0.05	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	0.0041	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0003	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0005	0.0008	0.0007	0.001	0.0003	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.001	0.0003	< 0.0001	0.0011	0.0015	0.0001	0.0003	0.0003	0.0004	0.0003	0.0001	0.0003	< 0.0001	0.0003	0.0008	0.0011	0.0009	0.001
Lead	mg/L	0.01	< 0.00002	< 0.00009	0.00004	0.00006	< 0.00009	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00002	0.00005	< 0.00002	0.00004	0.00002	< 0.00002	0.00013	< 0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0002	0.0001	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0001	0.0018	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0023	0.0025	0.0023	0.0023	0.0015	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.002	0.002	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.005	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.629	0.642	0.611	0.624	0.605	0.666	0.661	0.681	0.688	0.704	0.765	0.728	0.707	0.402	0.513	0.505	0.534	0.568
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00007	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0002	< 0.0004	0.0002	0.0002	< 0.0004	< 0.0001	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003	0.0004	< 0.0001	0.0022	0.002	0.0024	0.0009
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.028	< 0.005	< 0.005	< 0.005	0.017

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	47-96-I	47-96-I
			8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	25-May-16	11-Oct-16
Alkalinity	mg/L	500	470	481	486	471	488	485	488	548	545	556	570	625	605	608	623	587	388	335
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	7.93	8.13	10.9	14.2	12.6	13.2	21.8	25.5	35.5	40.7	32.4	39.4	32	38.9	31	33.2	0.18	0.16
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	147	162	157	158	157	160	137	146	152	141	144	151	159	171	157	153	128	112
COD	mg/L	N/A	24	43	29	36	21	27	31	43	45	30	28	43	42	34	45	42	13	< 5
Chloride	mg/L	250	184	191	207	201	187	197	194	196	217	262	244	216	221	222	230	225	100	110
Conductivity	umhos/cm	N/A	1370	1480	1470	1480	1500	1530	1480	1560	1750	1750	1770	1830	1840	1830	1860	1780	1060	915
Cyanide	mg/L	0.2																		
DOC	mg/L	5	5.5	6	6.5	5.7	5.2	3.4	4.8	3.8	4.9	1.8	3.8	7	8.7	9.7	3.5	9.6	1.4	1.4
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.7	< 0.1	< 0.1	0.4	< 0.1	0.3	0.2
Hardness	mg/L	500	497	533	521	529	528	525	481	509	516	491	497	518	550	585	545	539	485	426
Ion Balance	%	N/A					5.76	3.38	4.32	3.08	5.77	0.808	6.66	5.37	1.89	1.2	6.34	2.78		
Iron	mg/L	0.3	8.24	10.3	8.78	10.3	10	10.4	9.05	9.97	11.3	11	11.4	0.006	14.4	15.6	12.7	14.4	1.48	1.31
Magnesium	mg/L	N/A	31.5	31.2	31.2	32.6	33	30.4	33.7	35	33.2	33.7	33.6	34.3	36.8	38.2	37	38.2	40.3	35.3
Manganese	mg/L	0.05	0.079	0.092	0.083	0.085	0.082	0.086	0.072	0.077	0.082	0.076	0.08	0.083	0.088	0.091	0.076	0.08	0.027	0.027
Nitrate	mg/L	10	< 0.05	< 0.05	0.19	< 0.05	0.11	< 0.05	0.22	0.23	< 0.05	< 0.05	< 0.05	< 0.40	< 0.05	< 0.05	< 0.05	< 0.05	0.3	< 0.1
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	0.14	< 0.05	< 0.05	0.13	< 0.05	< 0.05	< 0.05	< 0.40	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1
Tot Kjel N	mg/L	N/A	9.2	10.2	12.4	15.8	14.2	13.8	20.2	28.5	46	43.4	32.6	41.5	32.8	39.3	40.2	40.4	0.4	0.4
pH-Lab	pH unit	6.5-8.5	7.74	7.69	7.71	7.69	7.61	7.49	7.67	7.63	7.69	7.44	7.67	7.55	7.45	7.67	7.39	7.41	7.6	7.85
Phenols	mg/L	N/A	< 0.001	0.01	< 0.002	0.013	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.005
Phosphorus	mg/L	N/A	< 0.1	< 0.1	0.04	0.27	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	4.9	4.5	5.2	5.7	5.5	5.5	6.1	7.4	9	9.6	9	10	9.7	9.6	8.6	10.2	2.2	1.8
Sodium	mg/L	200	116	110	114	109	110	118	111	116	125	122	120	122	130	120	113	122	41	42.6
Sulphate	mg/L	500	< 1	< 1	< 1	< 1	1	< 1	< 1	7	< 1	< 1	1	< 2	< 1	2	< 1	3	13	16
TDS	mg/L	500	785	809	830	817	812	812	812	880	920	966	905	1000	1010	1000	1020	974	560	520
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.07	0.07	0.08	0.09	0.08	0.08	0.08	0.06	0.08	0.09	0.04	0.05	0.05	0.05	0.08	0.05	0.04	0.03
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0004
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	0.0001	< 0.0003	< 0.0001	< 0.0001	< 0.0003	< 0.0001	0.0001	0.0002	< 0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0005	0.0032
Barium	mg/L	1	0.686	0.712	0.761	0.812	0.784	0.835	0.757	0.928	1.08	1.14	1.03	1.06	1.32	1.18	0.989	1.15	0.996	0.72
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.002	< 0.002
Boron	mg/L	5	0.115	0.114	0.107	0.109	0.116	0.12	0.102	0.105	0.109	0.104	0.107	0.093	0.106	0.103	0.097	0.1	0.084	0.037
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000012	< 0.000012	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.00002	< 0.00002
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	0.0025
Cobalt	mg/L	N/A	0.0003	< 0.005	< 0.005	< 0.005	0.0003	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	0.0005	0.0009	0.0008	0.0009	0.0008	< 0.005	< 0.005
Copper	mg/L	1	0.0014	< 0.0001	0.001	0.0003	< 0.0001	0.0008	0.0016	0.0001	0.0018	0.0003	0.0003	0.0002	0.0011	0.0002	< 0.0001	0.0014	0.0001	0.0003
Lead	mg/L	0.01	0.00004	< 0.00002	0.00004	< 0.00009	< 0.00004	0.00004	< 0.00009	0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00002	0.00004	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.0002	0.0001	0.0001	0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002	0.0011
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0021	0.0024	0.0023	0.0021	0.0023	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.002	0.002	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.605	0.579	0.644	0.624	0.629	0.637	0.608	0.664	0.662	0.67	0.662	0.685	0.751	0.738	0.689	0.722	1.02	0.854
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0002	0.0002	0.0002	< 0.0004	0.0002	0.0002	< 0.0004	< 0.0001	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0021	0.0013
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I
			24-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25
Alkalinity	mg/L	500	341	385	355	369	289	318	337	381	430	416	437	430	435	429	403	394	381	369
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.46	0.19	0.23	0.24	0.24	0.41	0.47	0.18	1.99	2.91	2.11	2.78	3.05	1.53	0.95	1.25	0.87	0.74
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	68.9	122	106	120	74.5	113	118	136	140	136	148	129	133	129	122	127	113	107
COD	mg/L	N/A	30	< 5	< 5	18	13	18	22	15	21	20	15	30	20	20	23	14	18	21
Chloride	mg/L	250	88.9	81.5	95.3	105	83.2	107	104	117	184	206	212	243	240	185	148	137	119	111
Conductivity	umhos/cm	N/A	923	1090	900	984	804	927	979	1100	1330	1360	1510	1470	1480	1350	1250	1170	1110	1060
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2.1	1.6	2.7	3.5	3.8	3.3	1.9	1.7	3.3	2.3	2.8	0.7	2.5	4.1	5.5	6	2.9	5.9
Fluoride	mg/L	1.5	0.4	< 0.1	< 0.1	< 0.1	0.8	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	320	466	415	450	340	434	446	498	519	484	533	478	490	475	461	476	427	408
Ion Balance	%	N/A							6.19	3.81	2.45	2.03	3.38	2.41	2.87	0.639	0.787	1.6	1.1	1.21
Iron	mg/L	0.3	0.155	1.36	1.01	1.25	< 0.005	1.02	1.12	1.56	1.65	1.59	2.24	2.28	2.27	1.8	1.71	1.73	1.6	1.5
Magnesium	mg/L	N/A	35.8	39.1	36.6	36.4	37.5	36.8	36.7	38.5	41	35	39.7	37.8	38.2	37	38.1	38.8	35.1	34.3
Manganese	mg/L	0.05	0.006	0.029	0.022	0.027	0.007	0.021	0.024	0.033	0.101	0.184	0.14	0.136	0.132	0.09	0.076	0.074	0.057	0.058
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	< 0.05	0.18	< 0.05	0.09	< 0.05	0.16	< 0.05	< 0.05	0.26	< 0.05	0.07	< 0.05	< 0.05	< 0.05	0.27
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.09	< 0.05	< 0.05	0.11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.7	0.2	1.1	0.4	0.6	0.8	0.7	0.4	2.5	3.3	2.3	4.3	2.8	1.9	1.2	1.8	1.3	1.1
pH-Lab	pH unit	6.5-8.5	7.65	7.71	7.9	7.86	7.95	7.87	7.82	7.67	7.96	7.7	7.73	7.53	7.82	7.63	7.67	7.83	7.67	7.68
Phenols	mg/L	N/A	0.003	0.001	< 0.001	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	0.01	0.08	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.3	2.3	2.6	2.2	3.6	2.5	2.4	2.3	2.8	3.1	2.7	3	3.1	2.5	2.6	2.4	2.4	2.5
Sodium	mg/L	200	31.7	43.4	50.5	51.4	39.3	52.6	51.1	47.1	88	113	112	113	108	93.8	78.6	68.8	59	58.1
Sulphate	mg/L	500	13	11	13	14	10	11	14	16	< 1	11	6	5	5	6	18	26	26	28
TDS	mg/L	500	448	532	519	553	422	515	530	587	718	759	788	796	791	733	676	630	595	565
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.02	0.06	0.07	0.06	0.04	0.07	0.07	0.08	0.07	0.06	0.08	0.09	0.04	0.04	0.04	0.04	0.06	0.03
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0002	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	2.2	0.923	0.918	0.78	1.92	0.972	0.836	0.93	0.507	0.497	0.453	0.525	0.486	0.429	0.545	0.452	0.439	0.481
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Boron	mg/L	5	0.193	0.086	0.091	0.079	0.179	0.093	0.083	0.081	0.073	0.083	0.08	0.072	0.073	0.074	0.087	0.088	0.091	0.088
Cadmium	mg/L	0.005	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.0001	0.008	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.0001	0.0003	0.0002	0.0003	0.0002
Copper	mg/L	1	0.0002	0.0003	0.0003	0.0003	0.0005	0.0003	< 0.0001	0.0014	0.0016	0.0002	0.0003	0.0003	0.0004	0.0002	0.0002	0.0003	0.0001	0.0008
Lead	mg/L	0.01	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00004	0.00007	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0002	0.0001	0.0002	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	0.0021	0.0027	0.0022	0.002	0.0019
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	2.06	0.908	0.932	0.791	1.91	0.976	0.865	0.937	0.586	0.549	0.541	0.547	0.535	0.537	0.68	0.639	0.67	0.666
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0014	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II
			25-May-16	11-Oct-16	24-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24
Alkalinity	mg/L	500	390	397	413	389	453	442	435	463	456	417	404	392	361	389	460	516	404	391
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	1.71	2.38	2.19	2.02	1.93	2.32	4.54	9.84	3.18	1.88	10.9	14	8.33	13.3	30.3	48	34.3	38.3
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	136	127	140	138	149	155	158	157	168	159	136	116	117	117	122	114	126	104
COD	mg/L	N/A	56	5	93	70	6	66	80	78	72	36	78	73	25	45	31	99	93	91
Chloride	mg/L	250	135	134	115	94.5	140	152	193	204	187	149	243	237	229	312	278	252	251	229
Conductivity	umhos/cm	N/A	1160	1190	1210	1170	1200	1290	1370	1460	1430	1270	1480	1420	1430	1530	1730	1810	1620	1560
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.7	1.8	2.7	2.7	3	4.3	5.2	4.9	3.6	1.9	4.3	1.6	3	1	1.2	6.6	4.9	6.5
Fluoride	mg/L	1.5	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.7	<0.1	<0.1
Hardness	mg/L	500	467	431	473	472	513	522	528	529	566	524	482	394	401	401	412	383	405	347
Ion Balance	%	N/A									7.67	6.31	5.35	3.14	4.37	2.09	2.88	5.38	1.95	1.85
Iron	mg/L	0.3	8.79	12.2	10.9	11.3	12.3	14.1	14.6	17.9	19.8	17.7	12.5	9.6	10.2	10.5	13	14.9	13	12.8
Magnesium	mg/L	N/A	30.9	27.6	29.7	30.9	34.1	32.7	32.3	33.1	35.5	30.9	34.5	25.2	26.4	26.4	25.7	23.9	21.5	21.3
Manganese	mg/L	0.05	0.263	0.29	0.332	0.309	0.319	0.321	0.312	0.263	0.331	0.415	0.202	0.199	0.24	0.257	0.376	0.286	0.267	0.229
Nitrate	mg/L	10	0.1	0.1	< 0.05	0.11	< 0.05	< 0.05	0.19	< 0.05	0.09	< 0.05	0.16	< 0.05	< 0.05	< 0.05	< 0.05	<0.40	<0.05	<0.05
Nitrite	mg/L	1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.14	< 0.05	< 0.05	0.16	< 0.05	< 0.05	< 0.05	<0.40	<0.05	<0.05
Tot Kjel N	mg/L	N/A	2.4	3.1	2.9	3.7	3.3	3.6	6.3	12.5	4.5	2.8	13.1	15.8	11.2	15.7	27.4	59.4	38.6	38.2
pH-Lab	pH unit	6.5-8.5	7.57	7.7	7.62	7.68	7.73	7.69	7.73	7.64	7.64	7.57	7.88	7.7	7.84	7.65	7.8	7.67	7.93	7.93
Phenols	mg/L	N/A	< 0.001	0.004	0.003	0.003	< 0.001	0.018	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	14.4	6.78	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1
Potassium	mg/L	N/A	1.3	1.1	1.1	1.6	1.4	1.6	2.3	3.8	1.8	1.5	3.6	4.7	3.2	4.6	9.2	14.9	10.8	11.4
Sodium	mg/L	200	70.4	63.6	71.5	63.9	78.9	82.7	104	118	96.9	71.9	134	141	132	145	160	157	154	135
Sulphate	mg/L	500	19	19	15	15	15	13	4	< 1	3	16	16	7	2	3	2	<2	2	2
TDS	mg/L	500	637	626	634	591	706	719	776	825	790	697	836	793	748	869	887	995	886	851
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.07	0.04	0.06	0.07	0.07	0.08	0.09	0.08	0.08	0.1	0.05	0.07	0.09	0.06	0.05	0.18	0.03
Antimony	mg/L	0.006	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	0.0003	<0.0001
Arsenic	mg/L	0.025	0.0032	0.0008	0.0045	0.0041	0.0036	0.0041	0.0041	0.0054	0.004	0.0043	0.0033	0.0041	0.0037	0.005	0.0039	0.0052	0.0009	0.0046
Barium	mg/L	1	0.078	0.063	0.065	0.077	0.076	0.075	0.09	0.114	0.088	0.078	0.087	0.087	0.073	0.094	0.137	0.169	0.152	0.126
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001
Boron	mg/L	5	0.065	0.033	0.061	0.072	0.078	0.087	0.1	0.129	0.097	0.089	0.097	0.124	0.088	0.105	0.131	0.148	0.108	0.11
Cadmium	mg/L	0.005	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.05	< 0.0002	0.0063	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	0.0011	< 0.005	< 0.005	< 0.005	0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0005	0.0008	0.0007
Copper	mg/L	1	0.0005	0.0008	0.0025	0.0009	0.0015	0.0004	0.0012	0.0005	< 0.0001	0.001	0.0013	0.0004	0.0004	0.0007	0.0004	0.0002	0.0009	0.0003
Lead	mg/L	0.01	< 0.00002	0.00003	0.00006	< 0.00002	0.00006	0.00003	0.00003	< 0.00009	0.00003	0.00006	0.00023	< 0.00004	< 0.00004	0.00012	0.00012	0.00005	<0.00002	<0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0006	0.0003	0.0007	0.0007	0.0006	0.0006	0.0005	0.0006	0.0005	0.0005	0.0004	0.0006	0.0006	0.0004	0.0005	0.0006	0.0016	0.001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0018	0.0035	0.002
Selenium	mg/L	0.01	0.002	0.006	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001
Silver	mg/L	N/A	< 0.00002	0.00002	0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	0.438	0.421	0.405	0.419	0.442	0.428	0.5	0.524	0.499	0.468	0.475	0.43	0.394	0.429	0.535	0.463	0.445	0.384
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00008	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	0.0019	0.0028	0.002	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0004	0.0002	< 0.0001	0.0003	< 0.0001	< 0.0001	0.0002	0.0002	0.0002	<0.0001	0.0001
Zinc	mg/L	5	< 0.005	< 0.005	0.019	0.016	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	47-96-II	47-96-II	48-96-II (DUP)	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I
			7-May-25	15-Oct-25	15-Oct-25	25-May-16	12-Oct-16	23-May-17	18-Oct-17	8-May-18	11-Oct-18	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23
Alkalinity	mg/L	500	422	381	439	287	289	287	293	294	294	284	285	278	280	294	283	283	288	309
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	31.4	17.3	0.31	< 0.01	0.16	< 0.01	0.1	0.03	0.06	0.17	0.15	0.01	0.04	0.18	0.57	0.24	1.75	0.5
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	111	107	131	70.4	71.8	69.7	66.5	70.1	71.3	73.5	73.1	70.4	64.9	71	71.6	66.1	69.2	67
COD	mg/L	N/A	92	84	79	6	< 5	8	< 5	< 5	15	8	< 5	71	12	9	9	< 5	12	23
Chloride	mg/L	250	255	231	111	48.9	43	37.1	32.9	44.6	47.2	53.8	47.4	47.4	45.6	58.2	66.2	94.6	76.9	64.6
Conductivity	umhos/cm	N/A	1630	1450	1140	680	685	656	695	668	697	695	682	674	645	720	776	770	783	790
Cyanide	mg/L	0.2																		
DOC	mg/L	5	2.6	5.1	6.2	1.1	1.6	1.2	1.6	1.7	3	3	2.8	2	2.8	1.8	2.1	0.9	1.2	2.8
Fluoride	mg/L	1.5	0.5	<0.1	<0.1	0.4	0.4	0.3	0.3	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	0.4	<0.1
Hardness	mg/L	500	367	363	490	330	341	326	323	336	336	347	346	320	323	336	338	328	340	325
Ion Balance	%	N/A	5.31	2.93	0.0194									5.32	2.83	4.28	2.02	2.47	4.51	0.0556
Iron	mg/L	0.3	13	12.3	3.28	< 0.005	0.033	< 0.005	0.033	0.012	< 0.005	0.061	0.014	0.007	0.005	0.006	0.006	0.071	< 0.005	0.008
Magnesium	mg/L	N/A	21.8	23	39.5	37.5	39.3	36.9	38.1	39	38.4	39.7	39.7	35	39.1	38.6	38.6	39.7	40.7	38.4
Manganese	mg/L	0.05	0.227	0.227	0.054	< 0.001	0.013	< 0.001	0.015	< 0.001	0.008	0.018	0.005	0.003	< 0.001	0.001	< 0.001	0.012	< 0.001	0.002
Nitrate	mg/L	10	<0.05	<0.05	<0.05	0.3	0.1	0.17	< 0.05	0.16	< 0.05	< 0.05	0.17	0.09	< 0.05	0.08	0.13	0.08	0.22	0.1
Nitrite	mg/L	1	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	< 0.05	< 0.05	<0.05
Tot Kjel N	mg/L	N/A	39.4	20.5	0.8	0.2	0.3	0.1	0.3	0.3	0.2	0.3	0.4	0.1	0.2	0.2	0.6	0.4	1.4	0.8
pH-Lab	pH unit	6.5-8.5	7.71	7.84	7.58	7.96	8.08	8.08	7.99	8.12	7.9	7.95	7.88	7.97	8.19	7.97	8.05	7.94	8.12	7.72
Phenols	mg/L	N/A	<0.001	<0.001	<0.001	< 0.001	0.003	0.002	0.002	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.03	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1
Potassium	mg/L	N/A	10.3	8.1	2.9	3	2.8	2.8	3.6	3.5	3.2	3.6	3.3	3.2	3.2	3.5	3.4	3.5	3.7	3.6
Sodium	mg/L	200	133	122	46.6	21	21.7	20.9	20.8	22.6	21.4	22.9	20.8	21.2	24.5	33.1	33.8	32.7	35.1	34.4
Sulphate	mg/L	500	1	5	9	7	5	5	3	6	4	< 1	4	4	5	19	20	25	23	19
TDS	mg/L	500	894	791	615	361	358	345	342	362	362	364	359	348	350	400	404	432	421	415
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.07	0.04	0.04	0.02	0.01	0.02	0.04	0.05	0.05	0.05	0.03	0.05	0.05	0.04	0.05	0.04	0.02	0.02
Antimony	mg/L	0.006	<0.0001	<0.0001	<0.0001	0.0001	0.0004	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002
Arsenic	mg/L	0.025	0.0043	0.0047	0.0002	0.0005	0.0006	0.0003	0.0004	0.0002	0.0002	0.0002	< 0.0001	0.0002	0.0002	< 0.0001	0.0002	0.0002	0.0002	0.0002
Barium	mg/L	1	0.121	0.112	0.748	0.942	0.949	0.898	0.988	0.964	0.968	1.03	0.976	0.995	0.881	1.05	1.04	1.13	1.1	1.07
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001
Boron	mg/L	5	0.102	0.087	0.072	0.117	0.119	0.12	0.125	0.13	0.117	0.128	0.122	0.123	0.139	0.134	0.142	0.134	0.144	0.147
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	0.000018	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	< 0.0002	0.0016	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	<0.001
Cobalt	mg/L	N/A	0.0008	0.0007	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.007	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001
Copper	mg/L	1	0.0002	0.0002	0.0007	0.0002	0.0002	0.0003	0.0007	0.0003	0.0006	0.0003	0.0002	0.0016	0.0018	0.0004	0.0007	0.0011	0.0006	0.0004
Lead	mg/L	0.01	<0.00002	<0.00002	<0.00002	< 0.00002	0.00006	< 0.00002	< 0.00002	0.00004	0.00005	0.00005	0.00003	0.00007	0.00011	0.00003	0.00005	0.00015	0.00004	<0.00002
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0008	0.0009	<0.0001	0.0003	0.0001	0.0002	0.0001	0.0003	0.0001	0.0001	< 0.0001	0.0001	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002
Nickel	mg/L	N/A	0.0022	0.0023	0.0029	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0017
Selenium	mg/L	0.01	<0.001	<0.001	<0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001
Strontium	mg/L	N/A	0.391	0.398	0.877	1.19	1.14	1.22	1.16	1.15	1.13	1.22	1.22	1.19	1.2	1.27	1.28	1.31	1.34	1.28
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005
Vanadium	mg/L	N/A	0.0001	0.0001	<0.0001	0.0017	0.0009	0.0017	0.0003	0.0005	0.0002	< 0.0001	0.0003	0.0003	0.0004	0.0002	0.0003	< 0.0001	0.0003	0.0002
Zinc	mg/L	5	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	0.014	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	48-96-I	48-96-I	48-96-I	48-96-I	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II
			6-May-24	16-Oct-24	7-May-25	15-Oct-25	25-May-16	12-Oct-16	23-May-17	18-Oct-17	8-May-18	9-May-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23
Alkalinity	mg/L	500	292	285	288	287	287	428	455	428	430	278	417	399	388	431	422	452	464	450
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.3	0.71	0.11	0.25	< 0.01	0.17	0.18	0.17	0.19	0.05	0.12	0.13	0.5	0.51	0.8	0.72	2.17	0.61
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	68	70.8	68.2	62.3	70.4	147	146	140	141	70.9	142	143	135	146	150	148	152	138
COD	mg/L	N/A	22	6	28	10	6	< 5	75	208	9	7	490	141	78	23	37	36	52	44
Chloride	mg/L	250	65	58.5	61.4	56.3	48.9	123	100	87	117	51.6	116	117	113	116	116	165	139	115
Conductivity	umhos/cm	N/A	786	765	745	723	680	1180	1140	1160	1110	682	1140	1120	1060	1110	1170	1220	1240	1180
Cyanide	mg/L	0.2																		
DOC	mg/L	5	3	4	1.9	3.9	1.1	2.8	3.7	3.3	4.1	2.5	4	2.5	4.7	2.9	3.1	1.6	2.4	5.7
Fluoride	mg/L	1.5	0.3	<0.1	0.3	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1
Hardness	mg/L	500	329	336	320	308	330	523	534	509	520	333	510	515	498	519	531	535	543	504
Ion Balance	%	N/A	0.994	3.55	0.672	0.348							3.81	5.28	5.17	3.16	5.09	1.63	1.32	0.107
Iron	mg/L	0.3	0.034	0.028	<0.005	0.168	< 0.005	2.83	3.04	2.98	2.85	0.019	2.91	3.06	5.8	4.81	5.81	5.67	6.01	3.67
Magnesium	mg/L	N/A	38.7	38.8	36.3	37.1	37.5	38.3	40.8	38.8	40.7	37.8	37.8	38.2	39	37.5	38	40.2	39.5	38.8
Manganese	mg/L	0.05	<0.001	0.005	<0.001	0.006	< 0.001	0.038	0.04	0.036	0.035	< 0.001	0.091	0.08	0.096	0.086	0.093	0.091	0.101	0.064
Nitrate	mg/L	10	0.16	<0.05	0.18	0.26	0.3	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	0.32	0.08	< 0.05	0.15	< 0.05	< 0.05	< 0.05	<0.05
Nitrite	mg/L	1	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	0.1	< 0.05	< 0.05	0.09	< 0.05	< 0.05	< 0.05	<0.05
Tot Kjel N	mg/L	N/A	0.7	1.1	0.5	0.5	0.2	0.8	0.6	0.6	0.7	1.1	2.9	1.6	1.6	1.5	1.3	1.5	2.3	2.1
pH-Lab	pH unit	6.5-8.5	8.01	8.12	7.97	7.92	7.96	7.67	7.77	7.58	7.76	8.07	7.58	7.51	8.02	7.65	7.72	7.54	7.67	7.44
Phenols	mg/L	N/A	<0.001	<0.001	<0.001	<0.001	< 0.001	0.004	0.002	0.002	< 0.001	< 0.002	0.004	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.06	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1
Potassium	mg/L	N/A	3.6	3.5	3	3.3	3	2.6	2.6	3.1	3.2	3.3	3	2.9	2.8	3	2.9	3	3.2	3.1
Sodium	mg/L	200	35.2	31.7	28.4	29.6	21	57.7	57.2	54.3	57.8	22.4	54.1	50.2	51.2	48.1	47.5	52	56.1	49.9
Sulphate	mg/L	500	18	15	15	13	7	5	5	4	6	7	12	7	19	8	7	8	7	13
TDS	mg/L	500	412	400	389	377	361	626	636	588	627	360	618	601	600	622	622	693	682	635
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.04	0.02	0.04	0.02	0.04		0.05	0.06	0.07	0.05	0.08	0.07	0.08	0.06	0.08	0.09	0.06	0.04
Antimony	mg/L	0.006	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001		< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0002	< 0.0001	<0.0001
Arsenic	mg/L	0.025	0.0002	0.0002	0.0002	0.0003	0.0008		0.0006	0.0005	0.0001	0.0002	0.0016	0.0003	0.0002	0.0001	0.0003	0.0001	0.0003	0.0002
Barium	mg/L	1	1.22	1.09	0.963	1	0.643		0.613	0.662	0.666	0.951	0.588	0.636	0.611	0.686	0.676	0.79	0.78	0.739
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001
Boron	mg/L	5	0.135	0.13	0.127	0.129	0.068		0.07	0.076	0.076	0.127	0.075	0.081	0.075	0.072	0.069	0.074	0.078	0.077
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002		< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	<0.000015
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	< 0.0002		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Cobalt	mg/L	N/A	0.0001	0.0001	0.0002	0.0002	< 0.005		< 0.005	< 0.005	< 0.0001	0.009	< 0.0001	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001
Copper	mg/L	1	0.0005	0.0007	0.0008	0.0006	0.0003		0.0005	0.0006	0.0004	0.0007	0.0003	0.0013	0.0018	0.0002	< 0.0001	0.0004	0.0003	0.0002
Lead	mg/L	0.01	0.00008	<0.00002	0.00003	<0.00002	< 0.00002		< 0.00002	0.00002	0.00006	0.00003	0.00004	0.00008	0.0001	< 0.00004	< 0.00004	< 0.00004	0.00007	<0.00002
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0002	0.0001	0.0002	0.0002	< 0.0001		< 0.0001	< 0.0001	< 0.0001	0.0002	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001
Nickel	mg/L	N/A	0.0015	0.0017	0.0012	0.0016	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0024
Selenium	mg/L	0.01	<0.001	<0.001	<0.001	<0.001	0.003		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.002	0.002	0.002	<0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002		< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001
Strontium	mg/L	N/A	1.3	1.25	1.15	1.19	0.822		0.796	0.773	0.794	1.23	0.774	0.779	0.877	0.882	0.862	0.934	0.95	0.894
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005
Vanadium	mg/L	N/A	0.0003	0.0001	0.0003	0.0002	0.0021		0.0021	0.0006	< 0.0001	0.0005	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	<0.0001
Zinc	mg/L	5	<0.005	<0.005	<0.005	<0.005	< 0.005		< 0.005	0.019	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	48-96-II	48-96-II	48-96-II	48-96-II (DUP)	48-96-II	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I
			6-May-24	16-Oct-24	7-May-25	7-May-25	15-Oct-25	18-May-16	12-Oct-16	24-May-17	17-Oct-17	7-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22
Alkalinity	mg/L	500	441	427	518	512	440	295	330	302	289	287	330	275	306	265	289	291	312	264
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	1.21	0.43	0.46	0.39	0.38	1.48	1.99	2.09	2.15	2	2.14	2.05	2.43	1.57	2.16	2.08	2.33	2.12
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	162	147	165	163	127	16.6	15.4	18.6	22.2	22.1	14.9	23.9	26.1	30.8	23.8	25.6	25.9	26.2
COD	mg/L	N/A	74	316	104	62	125	8	< 5	5	6	< 5	12	10	5	10	< 5	13	12	8
Chloride	mg/L	250	119	105	146	145	111	100	136	85.6	89	96	134	102	134	104	121	111	120	109
Conductivity	umhos/cm	N/A	1200	1160	1380	1370	1140	935	1060	967	899	873	1060	913	1010	889	979	928	966	933
Cyanide	mg/L	0.2																		
DOC	mg/L	5	6.6	6.6	3	3	6.4	0.8	0.7	1.2	1	1.1	1.9	1.7	1.6	1.6	1.1	1.8	1	1.3
Fluoride	mg/L	1.5	<0.1	<0.1	<0.1	0.5	<0.1	1.5	2.2	1.7	1.9	1.2	0.3	1.2	0.8	0.6	1	< 0.1	1	0.6
Hardness	mg/L	500	572	534	587	584	478	93	89	106	129	125	85	126	146	157	133	142	145	142
Ion Balance	%	N/A	6.53	5.49	0.281	0.72	1.26									1.6	0.0152	1.62	0.889	3.13
Iron	mg/L	0.3	3.82	3.61	4.33	4.33	3.18	< 0.005	0.044	0.023	0.035	0.046	0.019	0.009	0.05	0.03	0.033	0.016	0.049	0.015
Magnesium	mg/L	N/A	40.7	40.6	42.4	42.9	39	12.5	12.4	14.5	18	16.9	11.5	16.1	19.7	19.5	17.9	19	19.6	18.6
Manganese	mg/L	0.05	0.085	0.062	0.065	0.065	0.053	0.002	0.004	0.001	0.002	0.001	0.002	0.002	0.003	0.001	0.004	0.001	0.004	0.002
Nitrate	mg/L	10	<0.05	<0.05	<0.05	<0.05	0.35	0.5	0.1	< 0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05	0.58	< 0.05	0.13	< 0.05	0.46
Nitrite	mg/L	1	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	< 0.05
Tot Kjel N	mg/L	N/A	1.3	1.9	1.1	1.1	0.9	1.7	2.1	4.1	2.2	2.1	2.3	2.1	2.5	1.8	2.4	2.3	2.6	2.3
pH-Lab	pH unit	6.5-8.5	7.62	7.9	7.45	7.55	7.62	8.13	8.24	8.2	8.16	8.24	8.14	8.24	8.09	8.07	8.14	8.38	8.11	8.13
Phenols	mg/L	N/A	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.002	0.002	0.002	< 0.001	< 0.002	< 0.002	0.004	0.004	< 0.002	< 0.002	< 0.001	< 0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.04	0.04	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.1	3.1	2.9	2.9	2.9	7.4	6.8	6.9	8.1	9.1	7.5	8.1	8.8	8	7.9	8.1	8.4	8
Sodium	mg/L	200	52.1	47.5	58.7	60.1	46.1	183	189	159	151	169	214	163	156	132	154	153	153	149
Sulphate	mg/L	500	6	8	2	2	9	27	11	22	22	31	12	26	11	30	16	27	21	32
TDS	mg/L	500	646	623	749	745	616	529	573	492	489	520	595	507	544	485	515	522	539	505
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.11	0.04	0.09	0.08	0.04	< 0.01	0.01	< 0.01	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.01	0.03
Antimony	mg/L	0.006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0001	0.0002	<0.0001	0.0001	0.0002	0.0001	0.0008	0.0004	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.872	0.789	0.846	0.841	0.726	0.021	0.018	0.018	0.023	0.02	0.016	0.02	0.023	0.023	0.021	0.021	0.024	0.025
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.072	0.076	0.071	0.074	0.07	0.698	0.71	0.632	0.636	0.67	0.667	0.635	0.594	0.503	0.561	0.515	0.564	0.523
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0003	0.0002	0.0004	0.0004	0.0003	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0004	0.0007	0.0001	0.001	0.0009	0.0006	0.0008	0.0019	0.0008	0.0009	< 0.0001	0.0003	0.0008	< 0.0001	0.0005	0.0002	0.0003	0.0003
Lead	mg/L	0.01	0.00026	<0.00002	0.00003	0.00002	<0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00004	0.00003	0.00005	< 0.00002	< 0.00002	< 0.00002
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	0.0025	0.0029	0.0023	0.0021	0.0022	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.975	0.901	0.959	0.966	0.866	1.32	1.19	1.39	1.54	1.62	1.17	1.58	1.9	1.81	1.75	1.83	1.95	1.83
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0003	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0007	0.0013	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0005	< 0.0001	< 0.0001	< 0.0001	0.0002
Zinc	mg/L	5	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II
			25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	18-May-16	12-Oct-16	24-May-17	17-Oct-17	7-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	4-May-21
Alkalinity	mg/L	500	294	282	295	277	300	274	318	274	268	276	272	285	279	261	273	259	249	259
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	2.08	2.45	3.56	2.46	2.92	1.96	2.12	0.02	0.08	0.03	0.03	0.03	0.08	0.06	0.06	0.02	0.05	0.06
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	25.3	33.1	25.4	26.6	29.3	31.1	26.8	121	118	113	119	115	120	120	116	134	114	113
COD	mg/L	N/A	< 5	8	11	<5	<5	7	9	11	< 5	6	6	5	14	6	6	33	< 5	11
Chloride	mg/L	250	166	136	108	115	128	118	136	108	110	90.9	96.9	105	106	107	116	84.2	111	109
Conductivity	umhos/cm	N/A	1000	984	937	960	979	956	1060	959	967	985	926	936	960	956	952	822	941	911
Cyanide	mg/L	0.2																		
DOC	mg/L	5	< 0.2	1.1	2.4	2.1	2.5	0.9	2.5	1	1.1	1.5	1.5	1.7	2.5	2.1	2.2	2.8	1.2	1.4
Fluoride	mg/L	1.5	1.4	1.1	1	0.6	0.7	0.8	0.9	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	146	159	146	147	167	158	158	442	439	421	449	435	446	454	438	382	426	434
Ion Balance	%	N/A	8.17	1.49	0.267	0.794	3.81	3.43	5.24									4.52	1.56	2.43
Iron	mg/L	0.3	0.02	< 0.005	0.058	0.007	0.035	<0.005	0.02	0.09	0.799	0.046	0.012	0.059	0.68	0.011	0.089	< 0.005	0.03	0.285
Magnesium	mg/L	N/A	20.2	18.5	20	19.5	22.7	19.5	22.1	34.1	35.2	33.6	36.8	35.8	35.6	37.4	36.1	11.5	34.3	36.9
Manganese	mg/L	0.05	0.002	< 0.001	0.006	0.001	0.004	<0.001	0.002	0.006	0.039	0.011	0.008	0.004	0.033	0.017	0.021	< 0.001	0.012	0.021
Nitrate	mg/L	10	< 0.05	0.71	0.08	0.15	<0.05	0.74	0.28	0.1	0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.17	0.07	0.17
Nitrite	mg/L	1	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.09	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	2.3	2.3	3.7	4	3.3	2.1	2.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.6	0.2	0.2
pH-Lab	pH unit	6.5-8.5	8.09	8.18	7.2	8.12	8.31	8.07	8.15	7.77	7.88	7.82	7.87	8	7.92	7.97	7.89	7.86	7.86	8.08
Phenols	mg/L	N/A	0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.04	0.04	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	8.4	8.1	8.6	8.6	8.6	7.6	8.5	2.1	1.9	1.9	2.2	2.6	2.3	2.5	2.7	0.9	2.6	2.5
Sodium	mg/L	200	143	150	146	146	133	127	141	37.9	37.3	34.2	34.2	35.3	33.5	31.5	38.2	31.2	28.6	32.6
Sulphate	mg/L	500	28	30	27	29	24	32	16	70	69	57	60	65	66	67	67	32	68	69
TDS	mg/L	500	571	547	498	511	522	509	570	538	533	496	512	530	532	522	541	449	508	519
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.03	0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.03	0.03	0.03	0.06	0.07	0.06	0.07	0.08	0.08	0.07	0.07
Antimony	mg/L	0.006	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0004	0.0005	0.0004	0.0001	0.0003	0.0001	< 0.0001	0.0001	0.0001	0.0002
Barium	mg/L	1	0.024	0.025	0.022	0.028	0.024	0.024	0.024	0.134	0.126	0.115	0.144	0.13	0.129	0.121	0.128	0.066	0.121	0.113
Beryllium	mg/L	N/A	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.544	0.521	0.574	0.467	0.519	0.467	0.526	1.41	1.3	1.22	1.29	1.11	1.06	1.14	1.12	0.086	1.02	0.895
Cadmium	mg/L	0.005	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0014	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	0.008	0.008	< 0.005	< 0.0001	< 0.005	< 0.005
Copper	mg/L	1	0.0002	0.0002	0.0002	0.0001	0.0002	0.0004	0.0005	0.0005	0.0002	0.0009	0.0003	0.0003	0.0026	0.0006	0.0005	0.001	0.0003	0.0004
Lead	mg/L	0.01	< 0.00002	< 0.00002	< 0.00002	0.00004	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0017	0.0013	0.0015	0.0012	0.0014	0.0012	0.0011	0.0014	0.0004	0.0012	0.0011
Nickel	mg/L	N/A	< 0.01	< 0.01	<0.0002	<0.0002	0.0002	<0.0002	0.0003	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	0.00006	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.95	1.77	1.95	1.97	2.09	1.83	2.1	0.814	0.742	0.72	0.697	0.75	0.775	0.814	0.789	0.4	0.779	0.825
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0005	0.0007	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III
			13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	18-May-16	12-Oct-16	24-May-17	17-Oct-17	7-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20
Alkalinity	mg/L	500	287	277	278	282	288	280	266	264	285	283	278	274	334	311	302	281	292	243
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	0.07	0.02	0.11	2.02	0.45	0.08	0.42	<0.05	0.28	0.04	0.13	0.04	0.04	0.02	0.05	0.06	0.03	1.34
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	114	116	104	112	113	115	119	105	113	144	158	128	154	144	167	142	159	69.7
COD	mg/L	N/A	7	9	< 5	9	11	14	5	8	41	43	< 5	11	5	< 5	203	6	18	22
Chloride	mg/L	250	111	108	149	128	118	125	126	134	136	115	131	66.8	93.7	86.7	110	88.8	113	167
Conductivity	umhos/cm	N/A	952	977	974	1000	1010	1030	1010	1010	1050	949	1040	826	929	871	987	884	960	1050
Cyanide	mg/L	0.2																		
DOC	mg/L	5	1.3	1.4	0.5	1.1	2.7	2.6	2.9	1.1	3.2	1.2	1.1	2.3	2.2	2.3	2.8	2.7	2.7	1.4
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	428	429	400	423	425	436	448	406	433	407	466	365	434	408	479	404	464	357
Ion Balance	%	N/A	0.232	1.3	8.31	4.07	1.22	0.582	2.4	2.94	1.22									3.06
Iron	mg/L	0.3	0.353	0.2	0.579	0.318	0.099	0.04	0.138	0.012	0.619	< 0.005	0.065	< 0.005	< 0.005	< 0.005	0.211	0.02	< 0.005	0.431
Magnesium	mg/L	N/A	34.8	33.9	34.1	35	34.6	36.3	36.4	35	36.6	11.7	17.5	10.7	12	11.6	15	12	16.2	44.5
Manganese	mg/L	0.05	0.026	0.013	0.027	0.021	0.008	0.006	0.008	<0.001	0.033	< 0.001	0.003	< 0.001	< 0.001	< 0.001	0.012	0.001	< 0.001	0.009
Nitrate	mg/L	10	< 0.05	< 0.05	0.07	< 0.05	0.71	<0.05	0.35	<0.05	0.3	0.2	< 0.1	0.24	0.15	0.09	0.07	0.11	< 0.05	0.08
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.15
Tot Kjel N	mg/L	N/A	0.3	0.2	0.4	1.8	0.7	<0.1	0.6	0.2	0.6	0.4	0.7	0.4	0.4	0.3	0.9	0.3	0.7	1.6
pH-Lab	pH unit	6.5-8.5	7.91	7.91	7.79	7.96	7.61	7.84	8.1	7.91	7.92	7.71	7.8	7.79	7.81	7.97	7.83	7.96	7.8	7.9
Phenols	mg/L	N/A	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.003	0.001	0.003	< 0.001	0.006	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.14	1.11	< 0.1
Potassium	mg/L	N/A	2.5	2.4	2.5	2.5	2.8	2.5	2.6	2.3	2.6	0.9	1.3	0.8	1.1	0.9	1.3	0.9	1.4	6.4
Sodium	mg/L	200	38.5	36.2	38.6	33	38.4	36	36.9	37.5	41.2	35.9	37.6	33.6	37.6	35.1	35.3	35	37.4	79
Sulphate	mg/L	500	68	66	85	75	66	65	60	66	61	34	58	29	30	29	49	35	56	31
TDS	mg/L	500	541	529	581	555	540	551	538	541	564	513	570	434	529	494	559	482	558	545
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.05	0.07	0.08	0.03	0.04	0.04	0.03	0.06	0.04	0.04	0.1	0.04	0.08	0.07	0.11	0.08	0.09	0.04
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0003	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0004
Arsenic	mg/L	0.025	0.0002	0.0002	0.0002	0.0002	0.0001	<0.0001	0.0001	0.0001	0.0002	< 0.0001	0.0003	0.0005	0.0003	< 0.0001	0.0002	0.0001	< 0.0001	0.0001
Barium	mg/L	1	0.125	0.12	0.125	0.124	0.124	0.143	0.127	0.105	0.127	0.078	0.099	0.067	0.099	0.075	0.095	0.069	0.098	0.314
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.848	0.801	0.781	0.773	0.858	0.758	0.696	0.692	0.696	0.1	0.34	0.095	0.111	0.069	0.224	0.079	0.306	0.335
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	< 0.000015	< 0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0019	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0002	0.0002	0.0002	0.0003	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	0.006	< 0.005	0.0001
Copper	mg/L	1	0.0001	0.0007	0.0007	0.0003	0.0004	0.0004	0.0007	0.0009	0.0005	0.0008	0.0006	0.0019	0.0008	0.0007	0.001	0.0008	0.0006	0.0003
Lead	mg/L	0.01	< 0.00002	< 0.00002	0.00003	< 0.00002	<0.00002	< 0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	0.00014	0.00004	< 0.00002	< 0.00002	0.00033	0.00006	< 0.00002	0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	< 0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.001	0.0012	0.0011	0.0009	0.0011	0.001	0.001	0.001	0.0009	0.0007	0.0004	0.0007	0.0005	0.0005	0.0005	0.0004	0.0005	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	0.0003	0.0003	0.0009	<0.0002	0.0003	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	0.00004	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.798	0.766	0.767	0.819	0.796	0.849	0.798	0.77	0.836	0.455	0.545	0.409	0.403	0.41	0.494	0.421	0.53	3.35
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	0.0008	0.0012	0.0005	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	0.006	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-II	53-98	53-98	53-98	53-98	53-98	53-98	53-98
			13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	17-May-16	13-Jul-16	12-Oct-16	25-May-17	19-Jul-17	18-Oct-17	8-May-18
Alkalinity	mg/L	500	265	287	306	295	295	296	330	317	331	346	Dry	439	422	397	436	425	416	397
Unionized Ammonia	mg/L	N/A												< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Ammonia	mg/L	N/A	0.04	0.04	< 0.01	< 0.01	0.01	2.93	0.17	<0.05	0.4	0.23		0.17	0.18	0.19	0.18	0.17	0.19	0.18
BOD	mg/L	N/A												2	< 3	< 3	< 3	5	< 3	< 3
Calcium	mg/L	N/A	147	130	146	140	139	122	121	136	150	159		224	236	227	229	236	231	237
COD	mg/L	N/A	6	12	< 5	8	15	< 5	9	32	12	20		6	< 5	< 5	9	11	< 5	17
Chloride	mg/L	250	100	82.9	88.2	86.9	132	94.6	93	99.6	105	146		312	345	347	286	284	281	357
Conductivity	umhos/cm	N/A	927	841	877	911	938	889	954	983	1030	1130		1850	1900	1910	1940	1990	1980	1820
Cyanide	mg/L	0.2												< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	1.6	2.5	1.8	1.8	0.3	1.9	3.7	3.3	3.6	1.3		0.9	0.7	1	1.4	1.3	2.1	1.9
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1		0.1	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	429	373	413	398	398	353	348	394	433	460		722	755	730	728	744	741	761
Ion Balance	%	N/A	2.47	1.09	3.04	2.61	5.84	4	7.07	0.842	2.03	2.34								
Iron	mg/L	0.3	< 0.005	< 0.005	0.095	< 0.005	0.072	< 0.005	<0.005	0.006	<0.005	<0.005		1.29	1.12	0.687	1.22	0.895	1.3	0.991
Magnesium	mg/L	N/A	14.9	11.7	11.7	11.8	12.3	11.4	11	13	14.1	15.3		39.4	39.9	39.8	38	37.3	39.7	40.9
Manganese	mg/L	0.05	< 0.001	< 0.001	0.006	< 0.001	0.004	< 0.001	<0.001	<0.001	<0.001	<0.001		0.105	0.093	0.085	0.094	0.099	0.094	0.113
Nitrate	mg/L	10	0.14	0.22	0.14	0.13	0.18	0.1	0.16	0.07	0.07	0.06		0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	0.16
Nitrite	mg/L	1	< 0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05		< 0.1	< 0.1	< 0.1	< 0.05	0.07	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.3	0.4	0.4	0.3	0.3	3.3	0.4	<0.1	0.6	0.5		0.5	0.8	0.4	0.5	0.4	0.4	0.3
pH-Lab	pH unit	6.5-8.5	7.79	7.93	7.91	7.85	7.68	7.9	7.53	7.81	7.91	7.7		7.68	7.44	7.83	7.55	7.54	7.75	7.65
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001		< 0.001	0.047	< 0.001	0.003	0.005	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	1.2	0.8	1.2	0.9	1.2	1	1	1	1.3	1		2.6	2.6	2.6	2.5	2.7	3.3	3.1
Sodium	mg/L	200	28.2	37.3	41.3	37.4	37.5	39	39.9	43.4	46	46.5		94.7	103	101	106	115	115	121
Sulphate	mg/L	500	59	39	42	37	57	43	40	39	34	36		28	30	31	24	23	20	29
TDS	mg/L	500	509	474	514	491	556	490	508	524	552	608		966	1010	988	949	955	941	1027
TSS	mg/L	N/A												50	14	44	40	44	10	48
Turbidity	NTU	N/A												52	22.6	18.6	65.9	47.8	12.7	245
Colour	TCU	5												14	14	2	2	< 2	3	< 2
Aluminum	mg/L	0.1	0.07	0.07	0.08	0.07	0.11	0.04	0.04	0.05	0.04	0.1		0.05	0.05	0.05	0.06	0.06	0.1	0.1
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001		< 0.0001	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	0.0001	0.0001	< 0.0001	0.0001	< 0.0001	0.0001	0.0001	0.0001	<0.0001		0.0003	0.0002	0.0004	0.0016	0.0008	0.0015	< 0.0001
Barium	mg/L	1	0.091	0.065	0.087	0.071	0.088	0.068	0.068	0.089	0.089	0.088		0.914	0.81	0.864	0.856	0.857	0.961	0.874
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.267	0.066	0.101	0.073	0.099	0.066	0.066	0.077	0.091	0.073		0.047	0.022	0.047	0.042	0.043	0.046	0.059
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015		< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000014	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001		0.0031	< 0.0002	0.0011	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.0001	0.0003	0.0002	0.0004		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001
Copper	mg/L	1	0.0002	0.0012	0.001	0.0005	0.001	0.0005	0.0008	0.0011	0.0008	0.0006		0.0005	0.0004	0.0005	0.0021	0.0014	0.001	0.0014
Lead	mg/L	0.01	0.00005	0.00002	0.00014	< 0.00002	0.00014	0.00024	0.00002	0.00004	<0.00002	0.00002		< 0.00002	< 0.00002	< 0.00002	0.00005	0.00008	< 0.00002	0.00005
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002		< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0005	0.0005	0.0004	0.0005	0.0004	0.0005	0.0004	0.0004	0.0004	0.0003		< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0004	0.0005	0.0003	0.0004		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001
Strontium	mg/L	N/A	0.484	0.421	0.458	0.425	0.449	0.404	0.398	0.462	0.483	0.507		1.7	1.43	1.54	1.47	1.57	1.48	1.59
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001		0.0011	0.0008	0.0005	0.003	0.0025	0.0024	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.016	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

			53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98
Parameters	Units	ODWQS	24-Jul-18	11-Oct-18	15-Jul-19	7-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24
Alkalinity	mg/L	500	383	412	364	369	365	370	369	364	384	383	354	347	375	365	365	369	380	358
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.12	0.12	0.21	0.17	0.18	0.19	0.17	0.18		0.2	0.21	0.17	0.39	0.25	0.22	1.41	0.21	0.32
BOD	mg/L	N/A	3	4	< 3	< 3	3	< 3	< 3	6	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	222	225	245	263	230	261	248	236	258	261	268	254	275	294	258	286	297	243
COD	mg/L	N/A	7	8	< 5	< 5	< 5	12	8	< 5	14	18	10	12	10	20	7	17	17	29
Chloride	mg/L	250	403	403	412	480	413	466	513	427	451	460	560	450	518	537	497	742	834	531
Conductivity	umhos/cm	N/A	1940	2010	1990	2020	1980	2120	2230	2030	2240	2240	2320	2160	2370	2520	2160	2670	2800	2350
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005
DOC	mg/L	5	1.4	2.5	2.2	2.1	1.5	4.8	1	2.2	1.9	2.4	1.4	1.4	1.1	< 0.2	0.5	< 0.2	2.9	2.2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 1	< 0.1	< 1	< 0.1	< 0.7
Hardness	mg/L	500	706	719	770	826	738	825	796	748	819	828	843	811	867	938	833	885	922	796
Ion Balance	%	N/A					1.15	2.73	0.566	1.95	4	4.12	0.251	3.71	2.35	6.85	1.01	8.72	11.2	2.07
Iron	mg/L	0.3	1.69	0.601	1.25	1.44	0.947	1.42	0.591	1.1	1.59	1.62	1.3	1.21	0.747	1.79	1.28	1.55	1.69	0.639
Magnesium	mg/L	N/A	36.7	38	38.3	41.1	39.7	41.9	43	38.5	42.3	42.8	42.2	43	43.7	49.4	45.8	41.4	43.6	46
Manganese	mg/L	0.05	0.093	0.0837	0.103	0.108	0.097	0.104	0.094	0.113	0.109	0.111	0.113	0.112	0.13	0.128	0.118	0.138	0.141	0.11
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	< 0.5	0.12	0.5	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	0.44	< 0.3	< 0.5	< 0.05	< 0.5	< 0.05	< 0.40
Nitrite	mg/L	1	< 0.05	0.17	< 0.05	< 0.5	< 0.05	0.07	< 0.05	< 0.5	< 0.05	< 0.05	0.53	< 0.3	< 0.3	< 0.5	< 0.05	< 0.5	< 0.05	< 0.40
Tot Kjel N	mg/L	N/A	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.8	0.5	1.6	0.4	0.5	0.2
pH-Lab	pH unit	6.5-8.5	7.62	7.81	7.4	7.73	7.72	7.54	7.67	7.82	7.56	7.59	7.47	7.49	7.51	7.46	7.54	7.53	7.34	7.69
Phenols	mg/L	N/A	0.011	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	0.02	0.07	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3	2.8	3	3.4	3.2	3.2	3.6	3.1	3.3	3.5	3.5	3.3	3.4	4	3.6	3.7	3.6	3.7
Sodium	mg/L	200	124	117	116	137	117	132	142	127	143	146	148	124	145	170	128	148	156	134
Sulphate	mg/L	500	29	31	29	< 10	28	30	30	25	29	29	33	25	28	25	30	32	35	32
TDS	mg/L	500	1049	1065	1064	1148	1051	1158	1202	1076	1159	1175	1268	1109	1239	1301	1183	1476	1560	1300
TSS	mg/L	N/A	40	28	16	140	84	16	32	28	24	16	10	23	17	11	50	26	28	68
Turbidity	NTU	N/A	41.9	28.9	25.2	30.4	96.3	25.5	31.3	24.7	25.1	30.3	20.6	84.8	46.4	24.4	43.9	40.4	20.9	126
Colour	TCU	5	< 2	< 2	< 2	< 2	< 2	3	3	< 2	< 2	< 2	< 2	< 2	< 2	2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.09	0.09	0.1	0.13	0.11	0.11	0.09	0.11	0.13	0.12	0.09	0.06	0.11	0.15	0.07	0.12	0.14	0.08
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0003	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	< 0.0001	< 0.0003	< 0.0001	< 0.0003	< 0.0003	< 0.0001	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0001	< 0.0001
Barium	mg/L	1	0.832	0.873	0.919	1	0.895	1.06	1	0.876	1.06	1.07	1.09	1.05	1.05	1.32	1.08	1.21	1.23	1.06
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001
Boron	mg/L	5	0.043	0.044	0.048	0.051	0.054	0.053	0.055	0.053	0.054	0.055	0.053	0.062	0.052	< 0.005	0.063	0.056	0.044	0.07
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000015	< 0.000029	< 0.000029	< 0.000015	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.0001	0.0004	< 0.005	< 0.0001	< 0.005	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0005	0.0004
Copper	mg/L	1	0.0001	< 0.0001	0.0011	< 0.0002	< 0.0001	0.0005	0.0015	0.0012	0.0003	0.0004	0.0004	0.0005	0.0007	< 0.0002	0.0018	0.0003	0.0016	0.0012
Lead	mg/L	0.01	< 0.00002	< 0.00002	0.00006	< 0.00009	< 0.00004	0.00015	< 0.00009	0.00006	0.00012	0.00013	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.0001	< 0.00009	< 0.00004	0.00009
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	0.0003	< 0.0001	< 0.0002	0.0001	< 0.0002	< 0.0002	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0002	< 0.0002
Selenium	mg/L	0.01	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.003	0.002	0.003	0.002	< 0.001	< 0.001	0.002	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0009
Strontium	mg/L	N/A	1.33	1.49	1.5	1.58	1.58	1.62	1.7	1.51	1.72	1.73	1.71	1.7	1.76	1.93	1.84	1.81	1.75	1.97
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0001	< 0.0001	< 0.0001	< 0.0004	< 0.0001	< 0.0004	< 0.0004	< 0.0001	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0001	< 0.0001
Zinc	mg/L	5	0.005	< 0.005	0.011	< 0.005	< 0.005	0.007	< 0.005	< 0.005	< 0.005	< 0.005	0.008	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

			53-98	53-98	53-98	53-98	53-98	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II
Parameters	Units	ODWQS	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	17-May-16	13-Jul-16	12-Oct-16	24-May-17	19-Jul-17	17-Oct-17	7-May-18	24-Jul-18	11-Oct-18	8-May-19	5-Jun-19	15-Jul-19	7-Oct-19
Alkalinity	mg/L	500	369	359	376	372	360	267	274	290	283	282	251	249	258	272	246		249	254
Unionized Ammonia	mg/L	N/A	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	1.49	0.08	0.04	0.15	< 0.01	0.02	0.04	0.02		< 0.01	0.03	0.06
Ammonia	mg/L	N/A	0.82	0.33	1.47	0.32	0.27	2.67	3.43	4.22	2.29	3.27	1.14	0.71	1.85	2.28	1	1.19	1.08	1.24
BOD	mg/L	N/A	<3	<3	<3	<3	<3	5	< 3	4	12	4	15	5	6	8		4	< 3	3
Calcium	mg/L	N/A	341	334	262	293	326	76.7	95.8	79.9	61.4	71.7	71.8	63.6	64.9	50	87.1		64.3	76.9
COD	mg/L	N/A	27	29	56	48	42	12	< 5	< 5	< 5	17	6	10	7	< 5	7		18	< 5
Chloride	mg/L	250	767	791	543	749	871	457	778	618	288	549	278	199	474	325	101		264	180
Conductivity	umhos/cm	N/A	2950	2950	2380	3120	3240	1970	2580	2570	1650	2680	1280	1090	1980	1610	884		1340	1040
Cyanide	mg/L	0.2	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005
DOC	mg/L	5	0.8	0.9	2.7	0.9	2.6	0.3	< 0.2	0.6	1	0.2	1.5	1.6	1	1.5	1.9		1.3	1.6
Fluoride	mg/L	1.5	<0.1	<0.7	<0.1	<0.7	0.9	1.1	1.8	1.9	1.1	1.7	1.3	0.3	1	0.9	< 0.1	< 0.1	0.5	< 0.1
Hardness	mg/L	500	1090	1050	845	953	1040	447	540	479	322	410	410	316	394	284	384		358	372
Ion Balance	%	N/A	1.96	0.967	0.966	2.6	3.48													
Iron	mg/L	0.3	2.14	1.98	1.64	1.82	2.35	0.117	0.262	0.014	0.175	0.117	0.046	0.131	0.056	0.056	0.684		< 0.005	0.185
Magnesium	mg/L	N/A	57.9	52.5	46.2	53.6	55	62.1	73.1	68	41	56.2	56	38.1	56.5	38.7	40.5		48	43.8
Manganese	mg/L	0.05	0.151	0.149	0.111	0.141	0.154	0.008	0.011	0.006	0.01	0.009	0.004	0.013	0.004	0.0098	0.026		0.005	0.013
Nitrate	mg/L	10	<0.05	<0.40	<0.05	<0.40	0.57	< 0.1	< 0.1	< 0.1	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		< 0.05	< 0.05
Nitrite	mg/L	1	<0.05	<0.40	<0.05	<0.40	<0.40	< 0.1	< 0.1	< 0.1	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	0.05	< 0.05		< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1.1	0.6	1.9	0.9	0.6	3	3.5	4.2	2.5	3.7	1.4	0.9	2.2	2.6	1		1.2	1.3
pH-Lab	pH unit	6.5-8.5	7.62	7.69	7.68	7.69	7.84	8.12	7.72	8.18	8.04	7.86	7.9	7.98	7.92	8.01	8.03		7.76	7.99
Phenols	mg/L	N/A	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	0.104	0.014	0.002	0.005	0.003	< 0.001	0.023	< 0.002	< 0.002		< 0.002	< 0.002
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.08		0.11	0.05
Potassium	mg/L	N/A	4.4	3.9	3.4	4.5	4.3	10.3	12.4	14.1	7.4	11.5	10.4	4.5	13.3	9.7	4.4		8.3	7.2
Sodium	mg/L	200	200	188	134	203	214	213	256	308	162	251	157	66.6	243	180	40.7		115	74.3
Sulphate	mg/L	500	31	26	27	51	35	24	13	10	17	15	21	34	13	18	51		30	22
TDS	mg/L	500	1640	1650	1320	1740	1810	1010	1390	1280	752	1130	748	557	1023	788	475		681	559
TSS	mg/L	N/A	43	15	30	12	13	64	210	23	16	24	12	7	7	7		1920	255	90
Turbidity	NTU	N/A	42.6	31.3	25.4	16.1	35.3	23.7	23.7	4.7	7.2	3.7	2.2	1.9	1.4	5.3		1730	38.9	31
Colour	TCU	5	<2	<2	<2	<2	<2	9	< 2	3	< 2	< 2	3	< 2	< 2	< 2		< 2	4	< 2
Aluminum	mg/L	0.1	0.09	0.15	0.12	0.08	0.08	0.02	0.03	0.03	0.02	0.03	0.05	0.04	0.05	0.02	0.05		0.05	0.06
Antimony	mg/L	0.006	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0005	0.0002	0.0002	0.0002	0.0001	0.0003	0.0004	0.0001	< 0.0001		< 0.0001	0.0004
Arsenic	mg/L	0.025	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0005	0.0003	0.0002	0.0009	0.0029	0.0004	0.0001	0.0003	0.0002	0.0001		< 0.0001	< 0.0001
Barium	mg/L	1	1.47	1.42	1.11	1.31	1.53	1.18	1.7	1.58	0.609	1.29	0.28	0.203	1.17	0.643	0.098		0.507	0.231
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002		< 0.002	< 0.002
Boron	mg/L	5	0.063	0.057	0.067	0.059	0.054	0.696	0.949	1.02	0.533	0.834	0.102	0.237	0.762	0.552	0.363		0.639	0.35
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015		< 0.000015	< 0.000015
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0021	0.0009	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	0.002
Cobalt	mg/L	N/A	<0.0001	0.0004	0.0004	0.0004	0.0006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.0001	< 0.005		0.0006	< 0.005
Copper	mg/L	1	0.0003	0.0021	<0.0001	0.0013	0.0004	0.0007	0.0014	0.0012	0.0023	0.0014	0.0001	< 0.0001	0.0002	0.0011	0.0004		0.0006	< 0.0001
Lead	mg/L	0.01	0.00004	<0.00004	<0.00002	<0.00004	<0.00004	< 0.00002	< 0.00002	< 0.00002	0.00005	0.00005	< 0.00002	< 0.00002	0.00003	< 0.00002	0.00003		0.00005	0.00012
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002		< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0003	< 0.0001	0.0002	< 0.0001	0.0002	0.0003	0.0003	0.0002	0.0004		0.0002	0.0001
Nickel	mg/L	N/A	0.0004	<0.0002	<0.0002	0.0003	<0.0002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01
Selenium	mg/L	0.01	0.001	<0.001	<0.001	<0.001	<0.001	0.019	0.009	0.022	0.004	< 0.001	< 0.001	< 0.001	0.001	0.005	< 0.001		0.001	0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001	< 0.0001
Strontium	mg/L	N/A	2.22	2.08	1.87	2.17	2.11	8.11	11.1	10.8	4.48	8.74	1.26	1.8	8.5	5.16	1.85		5.39	2.71
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005	< 0.00005
Vanadium	mg/L	N/A	<0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0007	0.0003	0.0009	0.0015	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001	< 0.0001
Zinc	mg/L	5	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-I
			5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	17-May-16
Alkalinity	mg/L	500	264	233	268	234	263	254	231	255	242	247	263	243	265	242	243	253	277	235
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01		0.02	< 0.01	< 0.01	0.01	< 0.01	0.11	<0.01	0.01	0.01	0.02	<0.01	<0.01	< 0.01
Ammonia	mg/L	N/A	0.03	0.17	1.47	0.21	1.53	1.06	0.85	1.22	1.34	0.82	1.37	0.97	3.09	1.39	1.04	0.97	1.32	0.12
BOD	mg/L	N/A	< 3	< 3	4	< 3	9	3	4	< 3	< 3	5		<3	5	<3	<3	<3	8	< 2
Calcium	mg/L	N/A	118	82.6	62.2	74.5	72.7	77	72.9	71.6	73.9	71.4	62.9	67.5	88.2	73.5	74.9	67.5	85.4	76.6
COD	mg/L	N/A	< 5	9	< 5	< 5	25	12	< 5	7	10	16	25	11	28	9	74	24	19	9
Chloride	mg/L	250	109	93.7	146	94.4	184	154	109	120	171	121	157	118	454	173	131	122	411	83.6
Conductivity	umhos/cm	N/A	935	781	990	810	1120	979	860	893	1020	875	952	900	1860	1070	923	940	1810	773
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005
DOC	mg/L	5	1.9	37.1	0.8	1.9	1.3	1.3	1.1	0.7	0.9	< 0.2	1.7	2.2	0.6	1	2.7	1.4	3	1
Fluoride	mg/L	1.5	< 0.1	< 0.1	0.2	< 0.1	0.4	0.3	< 0.1	0.2	0.4	< 0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	0.2
Hardness	mg/L	500	440	401	321	377	362	363	363	355	369	339	317	347	505	378	373	353	465	389
Ion Balance	%	N/A	3.06	3.25	4.34	0.306	1.82	0.189	2.45	2.74	7.54	2.7	8.72	1.9	0.407	0.646	3.65	0.902	0.851	
Iron	mg/L	0.3	0.057	0.816	0.105	0.712	0.128	0.273	0.81	0.234	0.317	0.269	0.148	0.517	0.1	0.12	0.385	0.142	<0.005	0.425
Magnesium	mg/L	N/A	35.4	47.4	40.2	46.3	43.9	41.6	43.9	42.8	44.8	39	38.8	43.3	69.1	47.3	45.3	44.9	61.3	48
Manganese	mg/L	0.05	0.012	0.015	0.01	0.014	0.013	0.015	0.012	0.012	0.014	0.012	0.012	0.012	0.009	0.011	0.007	0.011	0.009	0.011
Nitrate	mg/L	10	0.09	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	0.1
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	0.08	< 0.05	0.1	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1
Tot Kjel N	mg/L	N/A	0.2	0.3	1.6	0.3	1.7	1.4	1.1	1.6	1.7	1.1	1.7	1	3.5	1.6	1.4	1.5	1.8	0.2
pH-Lab	pH unit	6.5-8.5	7.97	7.83	8	7.94	7.97	7.83	7.84	7.86	7.91	7.94	7.55	8	7.89	8.04	7.95	8.04	8.02	8.05
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	2.7	3	7.7	2.9	6.3	5.9	4.7	6	4.5	5.3	5.6	4.9	11.6	6.2	4.2	6.1	10.6	2.7
Sodium	mg/L	200	34.6	11.2	96.5	10.6	74.2	63.3	34.6	54.6	33.3	40.4	51.4	32.7	183	61.3	24.3	46.5	169	11.6
Sulphate	mg/L	500	68	39	20	39	32	41	42	34	36	42	36	38	22	34	39	30	17	41
TDS	mg/L	500	526	417	534	409	574	537	447	484	509	468	506	477	1020	574	490	500	992	406
TSS	mg/L	N/A	260	42	32	9	116	25	33	135	178	64	11	66	117	30	119	38	114	58
Turbidity	NTU	N/A	247	37.1	21	13.5	43.6	9.3	9.6	143	45.9	48.1	7.6	25.2	90.7	15.4	131	11.1	31	30.4
Colour	TCU	5	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2	<2	<2	<2	<2	<2	< 2
Aluminum	mg/L	0.1	0.07	0.06	0.02	0.05	0.06	0.04	0.02	0.05	0.02	0.04	0.04	0.02	0.03	0.04	0.04	0.02	0.06	0.02
Antimony	mg/L	0.006	< 0.0001	< 0.0001	0.0003	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	< 0.0001
Arsenic	mg/L	0.025	0.0002	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	0.0001	< 0.0001
Barium	mg/L	1	0.128	0.276	0.199	0.235	0.284	0.184	0.159	0.177	0.127	0.148	0.17	0.113	1.1	0.289	0.188	0.186	0.97	0.241
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.002
Boron	mg/L	5	1.05	0.101	0.384	0.084	0.329	0.343	0.137	0.198	0.123	0.168	0.193	0.111	0.716	0.23	0.129	0.2	0.688	0.066
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	0.000073	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.000015	< 0.00002
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	< 0.0002
Cobalt	mg/L	N/A	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0001	0.0001	<0.0001	0.0001	0.0001	0.0001	0.0001	< 0.005
Copper	mg/L	1	0.0004	0.0002	0.0017	0.0015	0.0003	0.0005	0.0004	0.0004	0.0001	0.0002	0.0006	0.0002	0.0003	0.0008	<0.0001	0.0009	0.0008	0.0001
Lead	mg/L	0.01	0.00002	0.00004	0.00004	0.00005	0.00005	< 0.00002	< 0.00002	0.00003	< 0.00004	0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0012	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0002	<0.0001	0.0001	<0.0001	0.0001	0.0002	0.0001	<0.0001	0.0004
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0005	0.0006	<0.0002	<0.0002	<0.0002	0.0002	0.0007	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	0.001	< 0.001	0.002	0.001	< 0.001	0.001	< 0.001	< 0.001	<0.001	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.833	1.41	2.61	1.38	3.02	2.3	1.98	2.24	1.94	1.91	2.09	1.99	8.41	3.07	1.91	2.07	7.38	1.29
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00007	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I
			13-Jul-16	12-Oct-16	24-May-17	19-Jul-17	17-Oct-17	7-May-18	24-Jul-18	11-Oct-18	8-May-19	15-Jul-19	7-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22
Alkalinity	mg/L	500	240	229	244	238	240	238	228	235	222	226	223	230	Dry	227	244	242	226	233
Unionized Ammonia	mg/L	N/A	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	0.01		< 0.01	< 0.01
Ammonia	mg/L	N/A	0.18	0.22	0.19	0.18	0.34	0.21	0.16	0.19	0.2	0.19	0.15	0.18		0.26	1.14	0.17	0.2	0.3
BOD	mg/L	N/A	< 3	4	< 3	6	< 3	< 3	< 2	3	< 3	< 3	< 3	< 3		< 3	5	< 3	< 3	< 3
Calcium	mg/L	N/A	79	70.1	77.5	79.7	79.1	84.9	73.6	75.7	80.7	82.2	86.1	78.4		79.7	60.2	77.6	84.7	84.5
COD	mg/L	N/A	< 5	< 5	7	18	< 5	11	6	< 5	10	< 5	< 5	13		< 5	< 5	11	< 5	< 5
Chloride	mg/L	250	84.7	88.8	70.8	68.3	77.8	91.1	86.9	88.9	93.5	90	105	95		95.4	168	102	113	101
Conductivity	umhos/cm	N/A	768	770	798	768	779	756	771	792	777	779	788	794		782	1060	796	822	835
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	0.8	1	1.5	1.2	1.3	1.7	1.4	1.7	2	3.7	1.6	1.6		1.1	1.7	1.5	0.9	1.1
Fluoride	mg/L	1.5	0.2	0.3	0.4	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	0.2	0.2	< 0.1	< 0.1
Hardness	mg/L	500	386	346	377	388	397	415	373	379	399	391	416	389		408	317	385	408	405
Ion Balance	%	N/A												1.76		4.31	5.64	1.31	0.957	1.95
Iron	mg/L	0.3	0.736	0.489	0.695	0.571	0.582	0.573	0.659	0.748	0.487	0.664	0.709	0.654		0.745	0.057	0.835	0.903	0.887
Magnesium	mg/L	N/A	45.9	41.6	44.7	45.8	48.5	49.4	46.1	46.1	47.9	45.2	48.9	47		50.7	40.5	46.4	47.7	47.2
Manganese	mg/L	0.05	0.014	0.013	0.015	0.016	0.014	0.016	0.013	0.0132	0.016	0.015	0.014	0.015		0.013	0.013	0.014	0.016	0.015
Nitrate	mg/L	10	0.2	< 0.1	0.1	0.06	< 0.05	0.08	0.09	< 0.05	< 0.05	< 0.05	< 0.05	0.09		< 0.05	< 0.05	0.06	< 0.05	0.07
Nitrite	mg/L	1	0.3	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		< 0.05	0.09	< 0.05	0.07	< 0.05
Tot Kjel N	mg/L	N/A	0.4	0.6	< 0.1	0.3	0.5	0.3	0.3	0.3	0.2	0.2	0.2	0.3		0.3	1.4	0.3	0.3	0.4
pH-Lab	pH unit	6.5-8.5	7.85	8.13	8	8.01	7.93	7.96	7.94	7.95	7.85	7.77	8.05	7.99		7.94	8.05	7.91	7.79	7.73
Phenols	mg/L	N/A	0.01	0.003	0.002	0.003	0.003	< 0.001	0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002		< 0.002	< 0.002	< 0.002	< 0.002	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.02	0.02	0.04	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	2.8	2.5	2.6	2.8	3.2	3.3	3	2.9	3	3.2	3.3	3		3.3	5.5	3	3.1	3
Sodium	mg/L	200	11.3	12.7	10.7	11	15.5	13.3	11.3	11.4	10.8	13.9	13	10.7		11.7	60.6	11	11.5	11.1
Sulphate	mg/L	500	38	39	33	31	32	41	37	39	38	36	42	38		40	31	39	45	43
TDS	mg/L	500	409	393	388	383	401	426	396	406	408	407	432	411		418	515	425	441	430
TSS	mg/L	N/A	168	230	310	37	72	400	45	70	14	18	44	37		12	58	7	19	90
Turbidity	NTU	N/A	122	96	69	30.3	27.5	412	66	22	21.7	23.8	34.8	25		18.3	8.4	9.9	12.9	47.6
Colour	TCU	5	3	6	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2		< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.02	0.03	0.02	0.04	0.05	0.05	0.04	0.05	0.05	0.05	0.06	0.05		0.03	0.04	0.05	0.04	0.02
Antimony	mg/L	0.006	< 0.0001	0.0002	0.0001	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0002	0.0003	0.0007	0.0002	0.0004	0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001		< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001
Barium	mg/L	1	0.282	0.226	0.251	0.272	0.273	0.278	0.256	0.262	0.249	0.257	0.267	0.247		0.26	0.17	0.261	0.276	0.275
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.098	0.085	0.086	0.095	0.104	0.1	0.088	0.084	0.09	0.094	0.11	0.087		0.095	0.187	0.094	0.099	0.1
Cadmium	mg/L	0.005	< 0.00002	0.00002	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015		< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	0.0011	0.0005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0001	< 0.005	< 0.0001	< 0.005	0.0002	< 0.005	< 0.0001		0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	< 0.0001	0.0001	0.0001	0.0009	0.0002	< 0.0001	0.0001	0.0004	0.0018	< 0.0001	< 0.0001	< 0.0001		0.0045	0.0003	0.0002	< 0.0001	0.0005
Lead	mg/L	0.01	< 0.00002	< 0.00002	0.00007	0.00006	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	0.00009	< 0.00002	< 0.00002		0.00004	< 0.00002	0.00003	< 0.00002	0.00003
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0002	0.0003	0.0002	0.0002	0.0003	0.0002	0.0003	0.0002	0.0002	0.0009	0.0002		0.0002	0.0002	0.0002	0.0002	0.0003
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.46	1.27	1.32	1.44	1.26	1.48	1.3	1.4	1.38	1.41	1.46	1.42		1.55	2.47	1.42	1.48	1.39
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0005	0.0003	0.0005	0.0012	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

			55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I (DUP)	55-98-I	55-98-I	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II
Parameters	Units	ODWQS	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	7-May-25	24-Jul-25	15-Oct-25	17-May-16	13-Jul-16	12-Oct-16	25-May-17	20-Jul-17	18-Oct-17
Alkalinity	mg/L	500	243	232	235	242	258	241	242	236	243	243	243	241	302	287	274	315	322	304
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	0.02	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.19	0.15	1.74	0.23	0.49	0.2	0.29	0.34	0.82	0.33	0.27	0.25	0.38	0.35	0.34	0.31	0.28	0.36
BOD	mg/L	N/A	< 3	< 3	< 3	< 3		<3	<3	<3	<3	<3	<3	<3	< 2	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	80.8	83.7	82.7	85.2	76.4	79.2	87.5	85.8	82.6	83.4	75.9	78.2	154	144	120	147	139	159
COD	mg/L	N/A	< 5	7	< 5	11	14	19	6	6	<5	<5	14	9	16	< 5	< 5	10	10	< 5
Chloride	mg/L	250	94.9	101	110	114	124	106	109	111	110	110	103	112	274	279	195	195	157	226
Conductivity	umhos/cm	N/A	785	825	834	845	837	854	844	851	851	848	965	864	1640	1550	1270	1400	1300	1630
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	0.9	< 0.2	0.6	< 0.2	2.2	2	1.3	1.2	2.9	2.9	1.5	2.7	0.8	0.7	1	1.4	1.6	1.7
Fluoride	mg/L	1.5	0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.3	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	398	420	408	393	372	389	436	415	403	405	394	398	549	497	411	500	472	553
Ion Balance	%	N/A	1.61	4.36	0.536	2.69	8.95	1.06	4.39	1.62	0.422	0.204	0.437	0.728						
Iron	mg/L	0.3	0.758	0.861	0.801	0.911	0.775	0.866	0.951	0.923	0.895	0.899	0.797	0.844	0.507	0.443	0.205	0.449	0.361	0.481
Magnesium	mg/L	N/A	47.8	51.3	49	43.8	44	46.5	52.8	48.8	47.8	47.7	49.7	49.2	39.6	33.3	27.2	32.3	30.2	37.9
Manganese	mg/L	0.05	0.014	0.016	0.019	0.016	0.014	0.015	0.016	0.016	0.011	0.012	0.015	0.014	0.039	0.034	0.031	0.035	0.032	0.039
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.4	0.3	1.6	0.3	0.6	<0.1	0.4	0.4	0.9	0.5	0.8	0.4	0.7	0.6	0.5	0.4	0.5	0.5
pH-Lab	pH unit	6.5-8.5	7.89	7.9	7.91	7.89	7.53	7.91	7.95	8.03	8.06	8.02	8.02	8.07	7.98	7.61	8.05	7.77	7.7	7.96
Phenols	mg/L	N/A	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.002	<0.001	<0.001	< 0.001	0.073	< 0.001	0.001	0.003	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3	3.3	3.3	3.2	2.9	3.2	3.5	2.9	2.9	3	3.3	3.1	3.4	3.3	3	3.1	3.2	4.3
Sodium	mg/L	200	11.3	12	11.2	11.5	10.1	11.4	13.7	11.3	10.8	10.8	12.2	12.6	108	124	97.3	85.3	80.7	110
Sulphate	mg/L	500	37	39	43	44	45	38	38	40	39	39	35	38	52	64	67	40	38	31
TDS	mg/L	500	422	431	440	448	441	451	445	449	449	447	457	456	814	821	674	692	642	752
TSS	mg/L	N/A	10	11	4	41	10	5	16	17	9	9	6	4	310	81	16	30	16	88
Turbidity	NTU	N/A	15.2	20.5	10.9	32	5.1	10.6	15.7	16.9	16	15.3	4.4	9.1	193	41.4	9.2	18.5	10.2	48.9
Colour	TCU	5	< 2	< 2	< 2	< 2	<2	<2	<2	<2	<2	<2	<2	<2	2	5	3	< 2	< 2	2
Aluminum	mg/L	0.1	0.06	0.07	0.03	0.06	0.06	0.03	0.03	0.06	0.04	0.04	0.03	0.02	0.04	0.04	0.03	0.04	0.04	0.08
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0001	< 0.0001	0.0001	< 0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	0.0004	0.0003	0.0003	0.0009	0.0005	0.0013
Barium	mg/L	1	0.247	0.289	0.261	0.288	0.248	0.26	0.286	0.266	0.246	0.248	0.25	0.253	0.709	0.802	0.546	0.691	0.668	0.839
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.083	0.016	0.094	0.087	0.083	0.096	0.105	0.089	0.091	0.091	0.095	0.097	0.066	0.05	0.063	0.073	0.071	0.086
Cadmium	mg/L	0.005	< 0.000015	< 0.000010	< 0.000010	< 0.000010	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000014
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0018	< 0.0002	0.0007	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	0.0002	<0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0019	0.0003	< 0.0001	0.0002	0.0003	<0.0001	0.0005	0.0004	0.0002	0.0002	0.0004	0.0003	0.0006	0.0003	0.0003	0.0015	0.0012	0.001
Lead	mg/L	0.01	< 0.00002	< 0.00002	< 0.00002	0.00003	<0.00002	<0.00002	0.00003	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	0.00005	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	0.0007	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	1.45	1.54	1.48	1.45	1.36	1.49	1.54	1.46	1.43	1.42	1.51	1.46	2.84	2.93	2.12	2.45	2.48	2.88
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	0.0005	0.0003	0.0015	0.002	0.0016
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.014

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I
			8-May-18	24-Jul-18	11-Oct-18	15-Jul-19	9-Oct-19	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	17-May-16	13-Jul-16	12-Oct-16	25-May-17	20-Jul-17	18-Oct-17
Alkalinity	mg/L	500	320	292	286	291	283	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	244	256	286	220	277	332
Unionized Ammonia	mg/L	N/A	0.01	< 0.01	< 0.01	< 0.01	< 0.01								< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.31	0.38	0.42	0.39	0.46								0.02	0.04	0.02	0.03	0.01	0.01
BOD	mg/L	N/A	< 3	2	< 2	< 3	< 3								2	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	150	158	172	173	191								163	177	106	225	153	98.9
COD	mg/L	N/A	18	5	< 5	< 5	< 5								28	< 5	< 5	16	13	7
Chloride	mg/L	250	212	380	456	348	502								399	396	178	495	320	148
Conductivity	umhos/cm	N/A	1260	1720	2060	1700	1960								1870	1880	1240	2540	2010	1460
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005								< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	2.1	1.3	1.8	1.3	1.6								0.7	0.6	1.4	0.9	1.3	2.3
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1								0.1	0.2	0.2	< 0.5	< 0.1	< 0.1
Hardness	mg/L	500	516	557	596	587	669								471	508	303	640	435	282
Ion Balance	%	N/A																		
Iron	mg/L	0.3	0.382	0.43	0.517	0.476	0.579								< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.007
Magnesium	mg/L	N/A	34.4	39.4	40.4	37.7	46.7								15.4	16	9.42	18.9	12.8	8.39
Manganese	mg/L	0.05	0.035	0.036	0.0374	0.041	0.043								0.001	0.004	0.004	< 0.001	< 0.001	0.001
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5								1	0.6	0.4	1.32	1.39	0.95
Nitrite	mg/L	1	< 0.05	< 0.05	0.21	< 0.05	< 0.5								< 0.1	< 0.1	< 0.1	< 0.3	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.5	0.6	0.6	0.5	0.6								0.5	0.5	0.3	0.5	0.4	0.4
pH-Lab	pH unit	6.5-8.5	7.73	7.73	7.78	7.53	7.79								7.99	7.81	7.99	7.9	7.89	8.08
Phenols	mg/L	N/A	< 0.001	0.007	0.018	< 0.002	< 0.002								< 0.001	0.073	< 0.001	0.002	0.004	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.01	0.05								< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.8	4.1	4.2	3.8	4.9								1	1.3	1	1.1	1.1	1.4
Sodium	mg/L	200	88.3	134	167	122	175								168	198	154	235	228	206
Sulphate	mg/L	500	41	44	53	40	< 10								79	83	85	75	77	64
TDS	mg/L	500	723	936	1065	901	1091								976	1030	707	1180	957	725
TSS	mg/L	N/A	160	47	14	11	64								430	540	78	350	154	112
Turbidity	NTU	N/A	108	44.1	16.4	11.5	28.2								304	473	57.6	603	60.7	81.5
Colour	TCU	5	< 2	< 2	< 2	< 2	< 2								2	20	3	3	< 2	2
Aluminum	mg/L	0.1	0.08	0.07	0.08	0.08	0.11								0.04	0.04	0.03	0.06	0.04	0.06
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001								0.0001	< 0.0001	0.0003	0.0001	0.0001	0.0002
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0003								0.0002	< 0.0001	0.0003	0.003	0.0009	0.0009
Barium	mg/L	1	0.743	0.813	0.857	0.818	0.924								0.249	0.204	0.134	0.252	0.189	0.133
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002								< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.081	0.074	0.068	0.076	0.089								0.053	0.02	0.058	0.042	0.053	0.061
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000029								< 0.00002	< 0.00002	0.00002	< 0.000014	< 0.000014	< 0.000014
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	0.002								0.0016	< 0.0002	0.0007	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0002	0.013	0.0001	0.0004	< 0.005								< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	< 0.0001	0.001	0.0002	0.0012	< 0.0002								0.0015	0.0011	0.0011	0.003	0.0026	0.0023
Lead	mg/L	0.01	< 0.00002	0.00005	< 0.00002	0.00007	< 0.00009								< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00009	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002								< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	< 0.0001	0.0001	0.0001	< 0.0002								0.0003	0.0005	0.0004	0.0004	0.0002	0.0004
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01								< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	0.004	< 0.001	< 0.001	< 0.001								< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001								< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	2.76	3.03	3.32	3.1	3.83								0.482	0.393	0.268	0.582	0.405	0.255
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005								< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0004								0.0005	0.0004	0.0004	0.0012	0.0017	0.002
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005								< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.019

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

			57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I
Parameters	Units	ODWQS	8-May-18	24-Jul-18	11-Oct-18	15-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24
Alkalinity	mg/L	500	253	258	307	300	314	255	277	326	256	280	300	236	289	339	253	290	326	294
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.02	0.02	0.03	0.04	0.01	0.02	0.02	0.02	< 0.01	< 0.01	0.03	< 0.01	0.11	0.09	0.91	0.26	0.26	< 0.05
BOD	mg/L	N/A	< 3	< 2	< 2	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	169	190	177	146	153	124	180	165	245	258	238	281	251	165	160	133	120	148
COD	mg/L	N/A	22	7	7	10	6	< 5	11	6	9	13	12	9	108	9	5	14	38	25
Chloride	mg/L	250	645	557	547	414	431	412	526	502	735	751	761	635	625	456	503	439	431	292
Conductivity	umhos/cm	N/A	2580	2450	2450	1980	1890	2260	2160	2160	2600	2920	2820	2780	2760	2280	2140	1880	1820	1660
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005
DOC	mg/L	5	1.5	1	1.7	1.3	1.9	1.4	7.3	0.9	1.6	1.2	0.6	1	0.8	< 0.2	1	< 0.2	2.6	2.4
Fluoride	mg/L	1.5	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.5	< 1	< 0.1	< 1	< 0.1	< 0.1
Hardness	mg/L	500	482	548	504	415	439	357	515	479	707	742	684	802	714	472	452	371	339	417
Ion Balance	%	N/A						5.6	0.329	0.981	2.71	1.04	2.41	4.1	5.76	3.49	4.14	5.22	12.4	1.54
Iron	mg/L	0.3	0.005	0.007	< 0.005	0.016	< 0.005	0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.021	0.063	< 0.005	0.099	0.16	< 0.005
Magnesium	mg/L	N/A	14.5	17.8	14.9	12.1	13.8	11.5	15.9	16.1	22.9	23.7	21.6	23.9	21	14.4	12.7	9.38	9.59	11.8
Manganese	mg/L	0.05	0.001	0.001	0.0027	0.002	0.002	0.026	0.001	0.001	0.001	0.001	0.002	< 0.001	0.002	0.005	< 0.001	0.003	0.003	< 0.001
Nitrate	mg/L	10	0.78	0.71	0.42	0.54	< 0.5	0.63	0.38	0.27	0.65	0.31	0.08	1.46	0.46	< 0.5	0.62	< 0.5	0.42	0.38
Nitrite	mg/L	1	< 0.05	< 0.5	< 0.05	< 0.05	< 0.5	0.06	< 0.05	< 0.05	< 0.5	< 0.05	0.53	< 0.5	< 0.3	< 0.5	< 0.05	< 0.5	< 0.05	0.05
Tot Kjel N	mg/L	N/A	0.3	0.3	0.4	0.2	0.4	0.3	0.4	0.3	0.3	0.2	0.3	0.4	0.6	0.5	1.1	0.6	0.6	0.3
pH-Lab	pH unit	6.5-8.5	7.81	7.83	7.88	7.67	7.95	7.9	7.77	7.8	7.72	7.75	7.6	7.48	7.6	7.74	7.79	7.87	7.57	7.81
Phenols	mg/L	N/A	< 0.001	0.015	0.018	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	0.11	0.17	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	1.2	1.7	1.5	1.4	1.5	5.5	1.7	1.7	1.6	2.2	2.1	1.9	2.1	2.1	2	1.9	1.6	1.9
Sodium	mg/L	200	276	288	297	266	282	303	270	299	285	309	336	246	317	312	236	238	209	163
Sulphate	mg/L	500	86	74	85	81	47	73	74	72	102	101	107	91	76	89	84	78	83	88
TDS	mg/L	500	1344	1283	1306	1101	1116	1082	1233	1252	1545	1613	1645	1421	1467	1242	1149	1073	997	908
TSS	mg/L	N/A	360	24	164	245	255	215	1550	440	260	60	180	86	114	80	41	92	66	47
Turbidity	NTU	N/A	90.3	40.5	96.8	126	197	115	260	200	178	78.9	175	2	95.9	66.8	25.2	53.1	38.5	15.4
Colour	TCU	5	< 2	< 2	< 2	< 2	2	< 2	< 2	3	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	2	< 2
Aluminum	mg/L	0.1	0.07	0.09	0.08	0.07	0.09	0.07	0.09	0.06	0.11	0.13	0.09	0.07	0.1	0.1	0.05	0.08	0.08	0.06
Antimony	mg/L	0.006	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	0.0001	0.0004	0.0001	0.0002	0.0002	0.0002	0.0001	0.0003	0.0002	0.0002	< 0.0001	0.0002	< 0.0001
Arsenic	mg/L	0.025	0.0001	0.0001	0.0001	0.0001	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0001	0.0002	< 0.0001
Barium	mg/L	1	0.19	0.205	0.205	0.176	0.209	0.13	0.212	0.213	0.266	0.312	0.314	0.29	0.276	0.209	0.161	0.153	0.149	0.152
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001
Boron	mg/L	5	0.052	0.053	0.064	0.056	0.066	0.039	0.06	0.075	0.063	0.075	0.093	0.08	0.09	0.044	0.07	0.073	0.081	0.083
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000029	< 0.000012	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.006	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.0001	< 0.005	< 0.0001	0.0003	< 0.005	< 0.0001	< 0.005	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0005	0.0003
Copper	mg/L	1	0.0005	0.0007	0.0007	0.0032	0.0003	0.0014	0.0016	0.0017	0.002	0.001	0.0011	0.0007	0.001	0.0011	0.0022	0.0008	0.0016	0.0006
Lead	mg/L	0.01	< 0.00002	0.00003	< 0.00002	0.00009	< 0.00009	0.00009	0.00022	< 0.00009	< 0.00009	0.00013	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00023	< 0.00004	0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0003	0.0006	0.0004	0.0004	0.0005	0.0004	0.0005	0.0004	0.0005	< 0.0002	0.0003	< 0.0002	0.0003	< 0.0002	< 0.0002	0.0002	0.0005	0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.001	0.0007
Selenium	mg/L	0.01	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	0.004	< 0.02	0.004	0.005	0.002	< 0.001	0.002	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.445	0.494	0.468	0.38	0.402	0.353	0.488	0.516	0.761	0.812	0.764	0.859	0.829	0.606	0.6	0.48	0.427	0.613
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00012	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	0.0002	0.0002	0.0001	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0001	0.0002	< 0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	0.009	< 0.005	< 0.005	< 0.005	0.009	< 0.005	< 0.005	0.009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

			57-02-I	57-02-I	57-02-I	57-02-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	
Parameters	Units	ODWQS	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18	11-Oct-18	16-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21
Alkalinity	mg/L	500	331	290	533	312	382	356	333	444	326	391	363	349	538	487	471	593	628	581
Unionized Ammonia	mg/L	N/A	<0.01	<0.01	<0.01	<0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Ammonia	mg/L	N/A	0.12	0.23	0.08	<0.05	0.03	0.03	0.03	0.03	0.03	0.04	0.05	0.03	0.03	0.03	0.04	0.04	0.02	0.05
BOD	mg/L	N/A	<3	<3	<3	<3	4	< 3	< 3	< 3	< 2	< 2	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	116	157	206	139	130	121	107	163	109	111	144	130	240	197	150	312	250	236
COD	mg/L	N/A	10	11	21	36	7	< 5	< 5	22	7	6	< 5	< 5	30	28	21	26	29	28
Chloride	mg/L	250	190	298	154	200	< 0.1	25.1	24.7	41.3	42.6	49.1	54.1	71.6	97.7	79.1	84.6	344	197	194
Conductivity	umhos/cm	N/A	1320	1610	1560	1330	849	829	795	993	814	959	937	916	1360	1200	1210	2040	1730	1690
Cyanide	mg/L	0.2	<0.005	<0.005	<0.005	<0.005	20	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	1.7	2.9	2.8	3.4	2	2	3	5.8	2.5	4.9	4.2	3.5	9.8	13.9	4.8	5.2	6.7	4.3
Fluoride	mg/L	1.5	<0.1	<0.1	<0.1	<0.1	< 0.005	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1
Hardness	mg/L	500	328	444	668	401	470	441	405	551	418	413	523	490	771	705	582	991	854	770
Ion Balance	%	N/A	1.84	8.78	0.634	1.38						7.99			6.04	5.26	3.33	2.2	1.24	1.98
Iron	mg/L	0.3	0.222	<0.005	0.609	0.006	0.618	0.945	0.749	0.388	0.98	0.425	0.194	1.82	0.372	1.5	0.997	0.129	1.61	0.093
Magnesium	mg/L	N/A	9.18	12.6	37.1	13	35.1	33.6	33.4	35	35.3	33	39.6	40.2	41.5	51.6	50.5	51.4	55.6	43.7
Manganese	mg/L	0.05	0.01	0.058	0.047	0.005	0.029	0.029	0.025	0.025	0.028	0.0319	0.036	0.034	0.03	0.047	0.03	0.034	0.053	0.02
Nitrate	mg/L	10	0.19	0.24	<0.05	0.06	< 0.05	< 0.05	0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05	< 0.05	0.54	0.08	< 0.5	0.05	< 0.05
Nitrite	mg/L	1	<0.05	<0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.3	0.6	0.5	0.4	< 0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.6	0.4	0.5	0.8	0.6	0.7
pH-Lab	pH unit	6.5-8.5	7.94	7.81	7.79	7.99	7.76	7.81	8.07	7.65	7.87	7.88	7.51	7.82	7.55	7.53	7.67	7.35	7.44	7.42
Phenols	mg/L	N/A	<0.001	<0.001	<0.001	<0.001	0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.05	0.04	0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	1.6	3.2	3.2	1.7	1.8	2	2.5	2.1	2.2	2.5	2.5	2.5	2.5	2.7	2.9	2.7	3.5	3.8
Sodium	mg/L	200	142	98.1	63.5	111	7.1	8.2	7.7	16.5	7.6	8.9	12.1	9.3	30	14	10.9	55.6	41.5	54.1
Sulphate	mg/L	500	62	75	70	65	40	38	29	64	42	51	49	47	66	65	61	84	68	70
TDS	mg/L	500	717	881	853	721	464	442	405	588	435	490	520	512	801	703	643	1206	994	951
TSS	mg/L	N/A	67	57	46	224	92	37	58	90	156	54	20	580	72	108	55	38	68	110
Turbidity	NTU	N/A	46	33.2	27.7	103	33.4	29.6	25.4	32	142	25.9	17.9	38.4	21	59.8	57.2	32.8	126	86.3
Colour	TCU	5	<2	<2	<2	<2	< 2	3	2	< 2	< 2	2	< 2	< 2	< 2	2	3	3	2	4
Aluminum	mg/L	0.1	0.06	0.08	0.08	0.05	0.04	0.04	0.06	0.08	0.06	0.06	0.07	0.08	0.1	0.09	0.06	0.12	0.13	0.08
Antimony	mg/L	0.006	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002
Arsenic	mg/L	0.025	<0.0001	<0.0001	0.0006	0.0001	0.0015	0.0014	0.0019	0.0007	0.0015	0.0009	0.0006	0.0017	0.0006	0.0013	0.001	0.0005	0.0007	0.0004
Barium	mg/L	1	0.117	0.137	0.147	0.164	0.225	0.258	0.275	0.219	0.264	0.259	0.279	0.328	0.283	0.352	0.343	0.371	0.339	0.314
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.092	0.058	0.186	0.089	0.022	0.028	0.038	0.034	0.032	0.043	0.036	0.047	0.05	0.043	0.049	0.069	0.065	0.1
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	<0.000015	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0002	0.0003	0.001	0.0003	< 0.005	< 0.005	< 0.005	0.0003	0.014	0.0002	0.0004	< 0.005	0.0005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0021	0.0008	0.0008	0.0007	0.0009	0.0009	0.0006	0.0014	0.0004	0.0005	0.0008	0.0001	0.0004	0.0006	0.0016	0.0017	0.0007	0.0009
Lead	mg/L	0.01	<0.00002	<0.00002	0.00006	<0.00002	0.00002	0.00007	< 0.00002	0.00005	0.00003	0.00002	< 0.00002	0.00003	< 0.00004	0.00009	0.00005	0.0123	0.00008	< 0.00004
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0002	0.0001	0.0002	0.0003	0.0004	0.0005	0.0005	0.0004	0.0004	0.0004	0.0008	0.0003	0.0002	0.0003	0.0002	0.0001	0.0002	0.0003
Nickel	mg/L	N/A	0.0004	0.0006	0.0023	0.0004	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	0.003	0.002
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.456	0.561	0.995	0.483	0.793	0.805	0.737	0.772	0.772	0.75	0.901	0.9	1.07	1.15	1.15	1.37	1.38	1.15
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	0.0024	0.0018	0.0019	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	5	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	0.012	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.011	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	59-05	59-05	59-05	59-05	59-05	59-05
			3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	25-May-16	12-Oct-16	23-May-17	18-Oct-17	7-May-18	11-Oct-18
Alkalinity	mg/L	500	542	621	593	562	547	556	530	519	494	535	305	529	388	401	424	444	461	471
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01						
Ammonia	mg/L	N/A	< 0.01	0.19	< 0.01	3.74	0.07	0.16	0.12	0.25	0.14	0.16	0.07	0.09	2.44	3.3	3.91	5.09	4.61	4.99
BOD	mg/L	N/A	< 3	< 3	< 3	< 3	< 3		<3	<3	<3	<3	<3	<3						
Calcium	mg/L	N/A	373	265	244	311	232	203	245	219	212	262	138	212	126	134	142	146	148	158
COD	mg/L	N/A	18	33	31	15	25	20	30	25	13	13	24	28	38	9	50	95	19	33
Chloride	mg/L	250	411	209	148	278	170	159	191	103	111	251	196	165	159	162	141	155	175	186
Conductivity	umhos/cm	N/A	2440	1750	1620	2100	1660	1570	1730	1380	1380	1780	1330	1570	1210	1270	1290	1330	1350	1430
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
DOC	mg/L	5	3.1	4.9	2.7	1.7	1	6.4	5.2	4.1	3.2	6.1	1.4	6.5	2.9	3	4.3	5	5.1	5.2
Fluoride	mg/L	1.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	1160	891	792	961	700	621	740	664	638	780	398	667	423	449	472	494	500	526
Ion Balance	%	N/A	2.2	2.26	4.05	1.42	4.77	9.04	1.32	3.19	2.62	2.54	1.17	1.67						
Iron	mg/L	0.3	0.364	1.74	1.08	0.24	0.035	0.126	0.053	0.051	0.062	0.13	0.011	0.478	4.92	5.38	5.86	6.81	6.59	8.04
Magnesium	mg/L	N/A	55.5	55.5	44.3	44.7	29.2	27.5	31.3	28.6	26.3	30.5	13	33.1	26.3	27.8	28.8	31.5	31.6	31.9
Manganese	mg/L	0.05	0.046	0.06	0.041	0.041	0.017	0.024	0.027	0.019	0.029	0.025	<0.001	0.039	0.056	0.063	0.066	0.07	0.065	0.076
Nitrate	mg/L	10	0.36	0.07	< 0.05	< 0.05	< 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	0.34	<0.05	< 0.1	< 0.1	< 0.05	0.61	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.3	< 0.05	< 0.05	< 0.05	< 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	0.5	1.1	0.7	4.3	0.5	0.5	0.4	0.7	0.5	0.6	0.4	0.5	3	4.1	3.8	6.1	5.4	5.9
pH-Lab	pH unit	6.5-8.5	7.28	7.24	7.22	7.4	7.52	7.5	7.49	7.66	7.65	7.62	7.97	7.63	7.61	7.61	7.66	7.64	7.72	7.7
Phenols	mg/L	N/A	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	0.002	0.005	< 0.001	0.01
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3	4.3	3.6	2.9	2.8	2.7	2.5	2.8	2.5	2.1	1.8	3.2	2.6	2.8	3.1	4.1	4.2	4
Sodium	mg/L	200	72.1	59.6	68	78.2	73.4	71.5	69.8	68.6	60	60	120	62.6	91.4	97.1	101	102	107	109
Sulphate	mg/L	500	136	65	69	204	156	149	115	100	79	70	63	71	< 1	< 1	< 1	< 1	< 1	< 1
TDS	mg/L	500	1376	1034	933	1257	992	856	949	751	747	976	722	860	644	674	681	719	755	785
TSS	mg/L	N/A	40	197	36	15	64	22	76	53	82	57	63	202						
Turbidity	NTU	N/A	33.5	43.9	59.4	32.7	53.3	5.3	58.9	32.7	51.7	83.4	65.6	90.2						
Colour	TCU	5	< 2	3	4	< 2	3	3	2	2	2	<2	<2	4						
Aluminum	mg/L	0.1	0.09	0.12	0.12	0.08	0.12	0.11	0.08	0.08	0.09	0.14	0.05	0.06	0.03	0.07	0.04	0.08	0.07	0.07
Antimony	mg/L	0.006	< 0.0001	0.0001	0.0002	0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0003	0.0009	0.0009	0.0005	0.0003	0.0005	0.0003	0.0003	0.0004	0.0003	<0.0001	0.0005	0.0005	0.0005	0.0008	0.0006	0.0001	< 0.0001
Barium	mg/L	1	0.325	0.289	0.286	0.209	0.155	0.133	0.186	0.142	0.138	0.167	0.152	0.161	0.565	0.573	0.654	0.785	0.788	0.774
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.091	0.087	0.054	0.101	0.108	0.128	0.168	0.189	0.197	0.182	0.081	0.202	0.094	0.099	0.099	0.114	0.106	0.108
Cadmium	mg/L	0.005	< 0.000029	< 0.000015	< 0.000012	< 0.000029	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.000199	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0021	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.006	< 0.005	< 0.005	0.007	< 0.005	0.0007	0.0008	0.0004	0.0008	0.0009	0.0002	0.001	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	< 0.005
Copper	mg/L	1	0.0009	0.0013	0.0006	0.0007	0.002	0.0014	0.0007	0.0012	0.0014	0.0006	0.0014	0.0007	0.0006	0.0004	0.0008	0.0006	0.0007	0.0002
Lead	mg/L	0.01	< 0.00009	< 0.00004	< 0.00004	< 0.00009	< 0.00004	0.00004	<0.00004	0.00007	<0.00002	0.00003	0.00003	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0002	0.0003	0.0003	0.0003	0.0004	0.0003	0.0002	0.0003	0.0003	0.0002	0.0002	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0019	0.0019	0.0023	0.0018	0.0019	0.0006	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.02	0.004	0.002	0.003	0.002	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.47	1.37	1.16	1.24	0.91	0.801	1.01	0.84	0.806	0.966	0.529	0.947	0.51	0.502	0.56	0.519	0.586	0.587
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0004	< 0.0001	< 0.0001	< 0.0004	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0021	0.0009	0.0025	0.0007	0.0002	0.0002
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	0.014	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	60-05	60-05	60-05	60-05
			9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	25-May-16	12-Oct-16	23-May-17	18-Oct-17
Alkalinity	mg/L	500	450	460	471	463	500	540	543	560	591	624	598	597	611	610	299	303	296	303
Unionized Ammonia	mg/L	N/A																		
Ammonia	mg/L	N/A	5.94	7.47	6.84	7.2	9.6	14.6	1.84	21.5	18.5	24.3	21	21.5	23.4	22.2	0.12	0.13	0.09	0.1
BOD	mg/L	N/A																		
Calcium	mg/L	N/A	161	166	156	158	147	155	162	155	159	164	165	177	167	155	114	119	117	118
COD	mg/L	N/A	23	23	25	28	29	19	34	23	33	39	38	34	35	40	72	< 5	68	42
Chloride	mg/L	250	198	194	182	190	195	196	209	262	240	211	210	204	215	208	125	127	103	111
Conductivity	umhos/cm	N/A	1440	1420	1440	1470	1470	1530	1710	1700	1770	1780	1800	1760	1770	1760	972	994	956	960
Cyanide	mg/L	0.2																		
DOC	mg/L	5	6.1	5.2	4.5	3.1	4.5	3.2	4.3	1.7	3.6	6.9	8.6	9.4	3.6	8.8	1.1	1.3	1.6	2.4
Fluoride	mg/L	1.5	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.5	< 0.1	0.2	0.2	< 0.1	< 0.1
Hardness	mg/L	500	534	558	525	528	508	531	548	535	549	560	568	604	571	544	448	467	454	469
Ion Balance	%	N/A			4.94	1.67	2.65	3.36	1.28	1.11	3.42	2.99	0.67	1.04	3.48	3.23				
Iron	mg/L	0.3	7.48	8.74	8.2	8.44	8.52	9.25	10.5	10.4	11.7	12.6	12.9	13.6	13.2	12.8	0.714	1.38	0.467	1.17
Magnesium	mg/L	N/A	31.9	34.7	32.8	32.3	34.2	34.9	34.8	35.8	36.6	36.6	37.9	39.1	37.4	38.4	39.3	41.1	39.3	42.4
Manganese	mg/L	0.05	0.072	0.075	0.07	0.072	0.068	0.071	0.074	0.071	0.077	0.078	0.078	0.08	0.071	0.073	0.039	0.037	0.048	0.037
Nitrate	mg/L	10	0.18	< 0.05	0.07	< 0.05	0.16	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	0.1	0.1	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	0.17	< 0.05	< 0.05	0.11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	7.1	8.9	7.8	8.5	11.5	17.4	24.3	24.3	24.1	27.6	21.3	26.2	28.9	26.4	1.1	0.6	0.6	0.6
pH-Lab	pH unit	6.5-8.5	7.74	7.57	7.54	7.45	7.76	7.55	7.67	7.4	7.64	7.47	7.6	7.66	7.5	7.46	7.75	7.9	8.04	7.93
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	0.003	0.002	0.003
Phosphorus	mg/L	N/A	0.35	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	4.3	5	4.5	4.4	5.2	6.5	7.3	7.9	8.4	8.3	8.4	8.2	8	8.5	2.6	2.8	2.4	3.5
Sodium	mg/L	200	109	111	105	91.7	113	119	123	120	128	122	124	116	109	118	32.6	35	33.6	34.7
Sulphate	mg/L	500	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3	< 1	1	< 1	< 1	21	20	18	17
TDS	mg/L	500	790	806	780	763	815	864	875	955	938	977	986	967	972	965	517	529	492	510
TSS	mg/L	N/A																		
Turbidity	NTU	N/A																		
Colour	TCU	5																		
Aluminum	mg/L	0.1	0.08	0.09	0.08	0.07	0.08	0.06	0.09	0.09	0.04	0.06	0.05	0.05	0.08	0.05	0.03	0.06	0.04	0.07
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0003	0.0006	0.0006	0.0005
Barium	mg/L	1	0.833	0.909	0.821	0.872	0.867	1.04	1.13	1.26	1.26	1.23	1.45	1.29	1.21	1.25	0.216	0.226	0.205	0.242
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.105	0.11	0.11	0.116	0.103	0.105	0.108	0.103	0.11	0.113	0.102	0.101	0.1	0.099	0.019	0.025	0.019	0.026
Cadmium	mg/L	0.005	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.00002	< 0.00002	< 0.000014	< 0.000014
Chromium	mg/L	0.05	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	0.0013	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0004	0.0008	0.0007	0.0009	0.0007	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.001	0.0004	0.0026	0.0013	0.0012	0.0003	< 0.0001	0.0006	0.0006	0.0002	0.0002	0.0002	< 0.0001	0.0001	0.0003	0.0003	0.0042	0.0008
Lead	mg/L	0.01	0.00003	< 0.00009	0.00015	0.00005	0.00005	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00002	< 0.00002	< 0.00003	0.00002	< 0.00002	0.00003	0.00023	0.00005
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0002	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.002	0.0023	0.0021	0.0024	0.0022	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.002	0.002	0.001	0.003	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.646	0.662	0.629	0.628	0.64	0.685	0.691	0.705	0.751	0.732	0.777	0.76	0.726	0.745	0.566	0.565	0.566	0.515
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0002	< 0.0004	0.0003	0.0002	0.0003	0.0002	0.0004	0.0004	0.0009	0.0005	0.0005	0.0005	0.0005	0.0005	0.0013	0.0005	0.0015	0.0003
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.007	< 0.005	0.022

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	61-10-I	61-10-I	61-10-I
			11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	25-Oct-22	2-May-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	25-May-16	13-Jul-16	17-Oct-16
Alkalinity	mg/L	500	306	291	291	295	286	284	310	289	302	301	321	300	296	284	307	385	389	401
Unionized Ammonia	mg/L	N/A																	< 0.01	
Ammonia	mg/L	N/A	0.1	0.11	0.09	0.06	0.11	0.09	0.1	0.08	0.17	2.04	0.96	0.07	0.18	0.13	0.36	0.37	0.39	0.4
BOD	mg/L	N/A																	< 3	
Calcium	mg/L	N/A	118	115	105	114	104	106	99.3	107	97.6	101	100	97.5	103	105	101	112	113	115
COD	mg/L	N/A	21	18	10	< 5	10	16	10	13	10	19	15	41	25	49	44	16	10	13
Chloride	mg/L	250	129	139	136	123	124	129	129	127	172	144	126	129	122	129	127	77.2	79	85.4
Conductivity	umhos/cm	N/A	981	988	974	969	966	942	965	993	998	1010	1020	1010	993	956	978	947	987	1020
Cyanide	mg/L	0.2																	< 0.005	
DOC	mg/L	5	2.9	3	2.4	2	1.5	2.2	1.5	1.6	0.6	2.2	2.8	2.8	3.7	1.3	3.5	4.6	4.7	5.2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	0.2	0.2
Hardness	mg/L	500	461	449	431	448	419	435	411	419	403	412	406	402	420	417	410	464	472	480
Ion Balance	%	N/A				4.54	0.513	3.29	1.52	1.5	7.8	2.55	2.32	0.461	2.52	1.8	0.305			
Iron	mg/L	0.3	0.966	0.772	0.937	1.83	0.404	0.23	0.094	0.272	0.237	0.61	0.671	0.124	0.441	0.241	1.25	0.073	0.069	0.068
Magnesium	mg/L	N/A	40.3	39.4	41.1	39.7	38.6	41.3	39.6	36.8	38.8	38.6	38	38.5	39.4	37.6	38.2	44.7	46.2	46.9
Manganese	mg/L	0.05	0.034	0.041	0.014	0.053	0.012	0.022	0.005	0.027	0.009	0.03	0.013	0.011	0.01	0.021	0.036	0.011	0.012	0.014
Nitrate	mg/L	10	< 0.05	0.21	< 0.05	0.09	< 0.05	0.19	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.32	< 0.1	< 0.1	< 0.1
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	0.13	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.1	< 0.1
Tot Kjel N	mg/L	N/A	0.4	0.5	0.3	0.3	0.3	0.5	0.4	0.4	0.4	2	0.9	0.4	0.5	0.6	1	0.7	0.8	1.5
pH-Lab	pH unit	6.5-8.5	7.91	8.02	7.86	7.79	7.79	7.96	7.81	7.89	7.81	7.96	7.73	7.91	8.02	7.73	8.03	7.5	7.58	7.76
Phenols	mg/L	N/A	0.004	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.01	0.004
Phosphorus	mg/L	N/A	< 0.1	0.72	0.25	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3	2.7	3	2.7	2.7	2.8	2.8	2.6	2.9	2.9	3	2.9	3	2.6	3.2	3.5	3.6	3.6
Sodium	mg/L	200	35.8	35.9	36	35.7	29.5	38.5	38.1	36.9	36.9	39	38.5	41.7	39.2	38.4	42.4	31.8	32.8	34
Sulphate	mg/L	500	21	24	18	18	20	22	20	20	25	23	19	19	17	19	19	21	18	15
TDS	mg/L	500	531	531	515	512	491	510	515	504	555	530	542	538	530	509	521	521	526	541
TSS	mg/L	N/A																	6	
Turbidity	NTU	N/A																	3	
Colour	TCU	5																	18	
Aluminum	mg/L	0.1	0.06	0.07	0.07	0.08	0.06	0.07	0.05	0.06	0.08	0.04	0.05	0.05	0.03	0.07	0.04	0.03	0.03	0.04
Antimony	mg/L	0.006	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	0.0002	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0006	0.0007	0.0004
Barium	mg/L	1	0.219	0.208	0.213	0.211	0.208	0.193	0.208	0.201	0.219	0.207	0.206	0.235	0.214	0.193	0.221	0.455	0.442	0.43
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.022	0.015	0.023	0.02	0.023	0.022	0.022	0.017	0.013	0.022	0.022	0.02	0.022	0.022	0.025	0.103	0.097	0.106
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000010	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.00002	< 0.00002	< 0.00002
Chromium	mg/L	0.05	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0024	< 0.0002	< 0.0002
Cobalt	mg/L	N/A	0.012	0.008	< 0.005	0.0008	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.007	0.0004	0.0005	0.0004	0.0008	0.001	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0004	0.0008	0.0004	0.0002	0.0007	0.0004	0.0015	0.0003	0.0009	0.0009	0.0004	0.0014	0.0008	0.0004	0.0008	0.0002	0.0004	0.0003
Lead	mg/L	0.01	0.00002	0.00002	< 0.00002	0.00007	0.00007	< 0.00002	< 0.00002	< 0.00002	0.00004	0.00003	0.00012	0.00008	< 0.00002	0.00012	0.00003	< 0.00002	< 0.00002	0.00004
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0004	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.001	0.0009	0.0007	0.0011	0.001	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	0.002
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	N/A	0.536	0.574	0.553	0.548	0.528	0.564	0.555	0.525	0.536	0.543	0.534	0.551	0.536	0.519	0.548	1.53	1.37	1.41
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0011	0.002	0.001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

			61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I
Parameters	Units	ODWQS	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18	11-Oct-18	9-May-19	16-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22
Alkalinity	mg/L	500	400	390	408	353	364	387	340	358	384	356	380	416	330	350	318	343	383	369
Unionized Ammonia	mg/L	N/A		< 0.01			< 0.01			< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	0.1	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.38	0.36	0.42	0.31	0.28	0.39	0.32	0.39	0.38	0.34	0.35	0.41	0.39	0.37	0.4	0.34	0.41	0.36
BOD	mg/L	N/A		< 3			< 2			< 3		< 3	< 3	< 3	< 6	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	114	111	116	108	104	119	110	112	120	114	121	128	101	99.3	103	119	116	118
COD	mg/L	N/A	20	20	18	19	14	34	16	35	19	9	15	25	14	17	10	12	16	18
Chloride	mg/L	250	68.9	67.4	68.8	63.5	84.6	86.1	77.3	83.3	100	75.3	87.5	117	92.3	103	111	92.2	89.3	102
Conductivity	umhos/cm	N/A	1000	999	1080	874	986	1010	931	951	1020	942	1010	1150	944	963	942	989	986	1060
Cyanide	mg/L	0.2		< 0.005			< 0.005			< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	5.9	5.6	5.8	5	5.6	6.9	5.5	5.6	6.4	5.4	8.7	5.4	3.7	3.5	2.2	3.1	3.6	1.7
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.4	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Hardness	mg/L	500	471	466	492	455	449	496	455	470	512	476	506	558	442	439	449	497	493	514
Ion Balance	%	N/A										5.1	6.08	5.38	2.04	0.581	1.04	6.35	2.6	4.32
Iron	mg/L	0.3	0.086	0.08	0.117	0.177	0.156	0.14	0.421	0.04	0.17	< 0.005	0.2	0.17	0.224	0.084	0.12	0.439	0.207	0.269
Magnesium	mg/L	N/A	45.4	46	49.1	45.1	45.9	48.2	43.9	46.3	51.6	46.4	49.5	58.3	46.2	46.5	46.7	48.8	49.5	53.2
Manganese	mg/L	0.05	0.012	0.012	0.013	0.012	0.012	0.014	0.016	0.011	0.014	0.015	0.014	0.014	0.014	0.01	0.012	0.016	0.013	0.015
Nitrate	mg/L	10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.18	< 0.05	< 0.05	< 0.05	0.43	< 0.05	< 0.05	0.06	< 0.05	0.08	< 0.05	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1	0.7	0.8	0.7	0.7	0.8	0.6	0.6	0.8	0.7	0.7	1	0.7	0.6	0.7	0.6	0.9	0.7
pH-Lab	pH unit	6.5-8.5	7.78	7.7	7.79	7.87	7.79	7.88	7.91	7.57	7.79	7.72	7.69	7.7	7.94	7.8	7.86	7.76	7.63	7.74
Phenols	mg/L	N/A	0.005	0.006	0.002	< 0.001	0.011	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.04	0.02	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.5	3.6	4.2	4	3.8	3.9	3.6	4.3	4.5	4.3	4.9	5	4	5	4.4	4.3	4.4	4.8
Sodium	mg/L	200	36.1	34.8	39.6	30.4	33.3	36.7	26.7	35	38.7	31	40	49.7	24.7	30.9	26.1	29.7	31.7	35.3
Sulphate	mg/L	500	15	16	12	39	19	23	40	15	20	32	26	22	22	25	27	28	31	34
TDS	mg/L	500	523	513	535	503	509	550	506	512	565	518	557	630	489	520	510	528	552	570
TSS	mg/L	N/A		5			72			40		144	17	48	154	31	118	31	63	72
Turbidity	NTU	N/A		1.1			82.6			35		135	21.5	25.6	23.8	10.8	30.7	21.7	84.1	76.5
Colour	TCU	5		< 2			< 2			< 2		< 2	< 2	3	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.03	0.04	0.06	0.06	0.06	0.06	0.07	0.06	0.08	0.04	0.07	0.06	0.07	0.04	0.05	0.04	0.07	0.08
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0003	0.0003	0.0005	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.444	0.435	0.515	0.427	0.433	0.458	0.382	0.463	0.494	0.467	0.503	0.578	0.455	0.502	0.525	0.503	0.535	0.592
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.099	0.098	0.109	0.101	0.104	0.108	0.088	0.125	0.13	0.11	0.121	0.142	0.118	0.139	0.129	0.128	0.127	0.06
Cadmium	mg/L	0.005	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	0.009	< 0.005	< 0.005	< 0.005	0.0002	< 0.005	0.0001	< 0.005	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0006	0.0007	0.0004	< 0.0001	< 0.0001	0.0002	0.0005	0.0005	0.0001	< 0.0001	0.0004	0.0025	0.001	0.0004	0.0004	0.0003	0.0008	< 0.0001
Lead	mg/L	0.01	< 0.00002	0.00006	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00004	0.00034	0.00004	< 0.00004	0.00009	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Mercury	mg/L	0.001	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0011	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	0.005	0.006	< 0.001	< 0.001	0.001	< 0.001	< 0.001	0.001	0.001	< 0.001	0.001	0.001	0.002	0.001	< 0.001
Silver	mg/L	N/A	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.43	1.47	1.48	1.34	1.43	1.42	1.37	1.59	1.7	1.5	1.6	1.96	1.71	1.9	1.89	1.64	1.82	1.85
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0021	0.0022	0.0006	0.0002	0.0002	0.0002	0.0002	0.0002	< 0.0001	0.0015	0.0003	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0001	0.0002
Zinc	mg/L	5	< 0.005	< 0.005	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.008	< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I (DUP)	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II
			2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	15-Oct-25	25-May-16	13-Jul-16	17-Oct-16	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18
Alkalinity	mg/L	500	405	436	489	408	436	449	443	423	534	531	300	301	293	308	311	306	313	319
Unionized Ammonia	mg/L	N/A	0.02	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		< 0.01			< 0.01			< 0.01
Ammonia	mg/L	N/A	4.68	0.38	0.39	0.62	0.52	0.59	0.38	0.5	0.65	0.47	0.2	0.06	0.08	0.05	0.07	0.06	0.07	0.2
BOD	mg/L	N/A	< 3	< 3		<3	<3	<3	<3	<3	<3	<3		< 3			< 3			2
Calcium	mg/L	N/A	129	151	147	149	169	161	167	159	173	177	116	116	110	119	114	115	118	121
COD	mg/L	N/A	18	30	31	32	32	41	24	44	55	58	63	< 5	78	11	39	10	< 5	179
Chloride	mg/L	250	135	183	228	175	188	190	199	172	253	264	18.3	19.7	26.1	18.6	17.3	16.3	21.6	27.4
Conductivity	umhos/cm	N/A	1200	1350	1480	1390	1450	1490	1510	1440	1860	1870	782	780	762	781	815	803	816	872
Cyanide	mg/L	0.2	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		< 0.005			< 0.005			< 0.005
DOC	mg/L	5	4.4	1.3	8.9	8.2	5.9	6.4	10	5.8	14.8	14.9	1.8	1.7	2.4	2	2.2	2.1	2.5	2.7
Fluoride	mg/L	1.5	< 0.1	< 1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	550	592	601	602	688	674	662	674	740	753	416	424	400	429	417	420	430	450
Ion Balance	%	N/A	0.91	1.28	7.01	2.91	5.73	5.12	2.7	6.68	2.65	3.03								
Iron	mg/L	0.3	0.249	0.438	0.505	0.715	0.884	0.378	1.31	1.18	0.769	0.782	0.185	0.843	0.674	0.399	0.646	0.702	0.049	0.192
Magnesium	mg/L	N/A	55.1	52.3	56.7	56	64.7	66	59.5	67.1	75	75.9	30.4	32.4	30.4	31.8	31.8	32.3	32.8	35.9
Manganese	mg/L	0.05	0.016	0.02	0.066	0.025	0.028	0.021	0.03	0.034	0.029	0.03	0.096	0.027	0.031	0.062	0.043	0.044	0.04	0.06
Nitrate	mg/L	10	< 0.05	< 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	< 0.1	0.1	< 0.05	< 0.05	< 0.05	< 0.05	0.06
Nitrite	mg/L	1	< 0.05	< 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	4.9	0.8	1.1	1.1	1.1	1.3	1	1.3	1.6	1.5	0.6	0.3	0.7	0.3	0.3	0.3	1.7	2.6
pH-Lab	pH unit	6.5-8.5	7.7	7.71	7.56	7.68	7.76	7.74	7.71	7.78	7.73	7.53	7.65	7.79	7.95	7.9	7.79	7.96	7.93	7.85
Phenols	mg/L	N/A	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	< 0.001	0.043	0.007	0.003	0.006	0.002	< 0.001	< 0.1
Phosphorus	mg/L	N/A	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	5	5	4.8	4.6	4.9	5.2	4.4	5.3	6.1	6.1	2	1.7	1.7	1.8	1.7	2.5	2.6	2.3
Sodium	mg/L	200	43.7	58.1	60	65	72.3	76.3	77.6	77.4	121	122	16.6	10	11.7	14.4	11.7	15.1	23.2	13.5
Sulphate	mg/L	500	43	50	40	54	61	49	71	79	70	65	106	98	77	78	81	68	115	103
TDS	mg/L	500	654	762	806	753	789	811	823	784	1020	1030	471	460	434	450	445	433	502	495
TSS	mg/L	N/A	61	70	11	40	7	18	7	10	33	33		1840			8200			23600
Turbidity	NTU	N/A	10.7	24.7	1.2	1.7	9	7.5	5.3	15.5	18	11.8		735			933			29500
Colour	TCU	5	< 2	< 2	3	<2	2	2	2	2	2	2		2			3			< 2
Aluminum	mg/L	0.1	0.04	0.07	0.09	0.06	0.05	0.08	0.09	0.05	0.05	0.05	0.03	0.03	0.06	0.03	0.04	0.06	0.07	0.06
Antimony	mg/L	0.006	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001	0.0001
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0001	<0.0001	0.0004	0.0003	0.0004	0.0003	0.0002	0.0003	0.0006	0.0006
Barium	mg/L	1	0.613	0.624	0.649	0.48	0.508	0.713	0.451	0.477	0.782	0.803	0.138	0.18	0.16	0.138	0.158	0.16	0.12	0.117
Beryllium	mg/L	N/A	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.142	0.137	0.139	0.136	0.157	0.166	0.153	0.169	0.195	0.198	0.028	0.035	0.039	0.028	0.031	0.036	0.028	0.031
Cadmium	mg/L	0.005	< 0.000012	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000014	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0015	< 0.0002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0003	0.0003	<0.0001	0.0002	0.0004	0.0003	0.0004	0.0004	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0007	0.012
Copper	mg/L	1	0.0001	0.0001	0.0007	<0.0001	0.0004	0.0008	0.0002	0.0005	0.0001	0.0001	0.0002	< 0.0001	0.0002	0.0008	0.0009	0.0009	0.0024	0.0016
Lead	mg/L	0.01	< 0.00004	< 0.00004	<0.00002	<0.00002	0.00003	<0.00002	0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	0.00006	0.00003	0.00008	0.00005	0.0001	0.00008
Mercury	mg/L	0.001	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	< 0.0001	0.0001	0.0004	0.0002	0.0003	0.0018	0.0006
Nickel	mg/L	N/A	< 0.01	< 0.01	0.0062	0.0038	0.0056	0.0058	0.0065	0.0056	0.0112	0.0112	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	0.001	0.002	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.89	1.8	1.84	1.66	1.73	2.07	1.62	1.9	2.28	2.31	0.608	0.773	0.664	0.645	0.718	0.654	0.613	0.709
Thallium	mg/L	N/A	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0002	0.0004	0.0004	0.0003	0.0005	0.0004	0.0005	0.0005	0.0007	0.0007	0.0016	0.0007	0.0008	0.0018	0.0017	0.0005	0.0002	0.0001
Zinc	mg/L	5	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.018	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II
			11-Oct-18	9-May-19	16-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24
Alkalinity	mg/L	500	354	367	357	343	370	377	370	384	396	367	376	405	374	377	384	398	390	439
Unionized Ammonia	mg/L	N/A			< 0.01		< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	<0.01
Ammonia	mg/L	N/A	0.14	0.14	0.1	0.06	0.06	0.08	0.06	0.04	0.05	0.09	0.05	0.04	0.08	0.29	0.03	0.07	1.47	0.35
BOD	mg/L	N/A			< 3		< 3	8	< 3	3	< 3	< 3	< 3	< 3	< 3	< 3	< 3		<3	<3
Calcium	mg/L	N/A	123	135	140	129	155	151	141	138	141	147	159	160	176	212	200	182	177	215
COD	mg/L	N/A	99	45	15	8	6	540	7	19	18	11	21	12	20	7	18	16	66	25
Chloride	mg/L	250	26.7	32.2	31.6	30.7	39.1	40.6	42.4	55.1	60.6	80	82.1	92.6	131	226	260	285	179	204
Conductivity	umhos/cm	N/A	866	942	909	935	977	943	966	1040	1020	1090	1110	1120	1230	1480	1550	1530	1440	1430
Cyanide	mg/L	0.2			< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		<0.005	<0.005
DOC	mg/L	5	3	3.8	4.3	3.1	4.1	4.2	2.4	2.8	3.6	1.9	2	1.7	0.2	1.2	< 0.2	2.9	3.2	1.5
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 1	<0.1	<0.1	<0.1
Hardness	mg/L	500	443	485	494	459	548	532	508	499	497	516	537	540	609	702	656	614	591	733
Ion Balance	%	N/A					6.07	3.46	5.72	0.569	1.89	0.334	3.13	0.499	4.44	1.03	5.07	11.7	1.76	1.77
Iron	mg/L	0.3	0.12	0.147	0.347	0.092	< 0.005	0.641	0.033	0.017	0.197	0.112	0.147	0.157	0.554	0.544	0.111	0.311	0.171	0.98
Magnesium	mg/L	N/A	33	36	35.1	33.1	38.9	37.6	38.3	37.4	35.2	36.2	33.8	34.1	41	42.2	38	38.7	36.4	47.4
Manganese	mg/L	0.05	0.077	0.081	0.075	0.089	0.095	0.075	0.092	0.052	0.07	0.066	0.072	0.061	0.069	0.083	0.095	0.094	0.078	0.065
Nitrate	mg/L	10	< 0.05	0.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	0.07	0.05	0.07	0.07	< 0.05	< 0.05	< 0.5	<0.05	<0.05	<0.05
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	<0.05	<0.05	<0.05
Tot Kjel N	mg/L	N/A	1.4	0.6	0.4	0.5	0.3	0.9	0.3	0.5	0.3	0.3	0.3	0.4	0.4	1	0.4	0.3	1.3	0.6
pH-Lab	pH unit	6.5-8.5	7.86	7.95	7.55	7.86	7.74	7.75	7.75	7.91	7.74	7.79	7.72	7.61	7.65	7.7	7.58	7.66	7.67	7.74
Phenols	mg/L	N/A	0.014	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	N/A	< 0.1	2.36	1.18	0.88	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1
Potassium	mg/L	N/A	2.6	2.3	2.1	3	2.5	2.2	3.1	2	2.5	2.5	2.1	2.1	2.6	2.4	2.5	2.5	2.3	2.9
Sodium	mg/L	200	27.4	26	19.8	55	25.4	18.7	38.7	35.2	28.1	33.8	34.3	36.2	38.2	42.4	46.6	43.4	52.2	53.9
Sulphate	mg/L	500	103	131	103	125	108	101	98	105	98	105	83	76	75	84	88	98	94	97
TDS	mg/L	500	529	583	546	581	591	578	583	603	603	625	620	645	689	835	865	834	782	776
TSS	mg/L	N/A			2600		860	49000	2100	3550	818	1870	1740	1520	1120	1870	1910	1890	1900	2580
Turbidity	NTU	N/A			1320		647	20800	799	2100	82.2	765	666	259	75.7	923	960	979	904	968
Colour	TCU	5			< 2		< 2	< 2	< 2	< 2	< 2	2	< 2	< 2	< 2	< 2	< 2		<2	<2
Aluminum	mg/L	0.1	0.06	0.07	0.07	0.08	0.05	0.08	0.05	0.08	0.09	0.07	0.05	0.08	0.1	0.06	0.1	0.11	0.06	0.07
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.025	0.0005	0.0006	0.0006	0.0003	0.0012	0.0008	0.0003	0.0002	0.0004	0.0003	0.0002	0.0002	0.0004	0.0001	0.0001	0.0003	0.0001	0.0003
Barium	mg/L	1	0.122	0.109	0.107	0.123	0.127	0.128	0.136	0.102	0.114	0.128	0.136	0.134	0.172	0.178	0.168	0.159	0.157	0.195
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001
Boron	mg/L	5	0.03	0.024	0.029	0.03	0.025	0.031	0.032	0.02	0.028	0.029	0.019	0.018	< 0.005	0.022	0.019	0.02	0.021	0.033
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.000027	< 0.000015	< 0.000015	< 0.000015	0.000017	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	0.000015	<0.000015	<0.000015	0.000016
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	0.0012	< 0.005	0.0034	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0021	0.0022	0.0013
Copper	mg/L	1	0.0008	0.0008	0.0015	0.0005	0.003	0.0006	0.0019	0.0008	0.0008	0.0009	0.0007	0.0009	0.0002	0.0003	0.0004	0.0009	0.0002	0.0006
Lead	mg/L	0.01	0.00004	0.00003	0.00006	0.00002	0.00273	0.00007	0.00006	0.00003	0.00008	0.0002	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	<0.00002	<0.00002	0.00005
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	N/A	0.0012	0.0009	0.0005	0.0014	0.0004	0.0004	0.0009	0.0015	0.0007	0.001	0.0007	0.0011	0.0007	0.0009	0.0009	0.0008	0.0008	0.0003
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0027	0.0009	0.0015
Selenium	mg/L	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	0.001	0.002	0.003	<0.001	<0.001	0.002
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	N/A	0.638	0.719	0.694	0.646	0.716	0.711	0.743	0.643	0.648	0.677	0.604	0.629	0.744	0.788	0.779	0.76	0.738	0.916
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	N/A	0.0002	0.0002	0.0002	0.0002	0.0018	0.0002	0.0003	< 0.0001	0.0002	0.0003	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	0.0001	<0.0001	0.0001
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	61-10-II	61-10-II	61-10-II	61-10-II	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I
			16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	11-Oct-18	9-May-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21	5-Jul-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23
Alkalinity	mg/L	500	383	416	400	393	389	342	383	367	392	435	324	351	331	336	388	384	410	469
Unionized Ammonia	mg/L	N/A	<0.01	<0.01	<0.01	<0.01				< 0.01	0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01
Ammonia	mg/L	N/A	0.42	0.06	0.12	0.1	0.36	0.41	0.36	0.38	0.38	0.42	0.38	0.41	0.45	0.43	0.45	0.42	2.51	0.44
BOD	mg/L	N/A	<3	<3	<3	<3				< 3	< 3	< 3	< 6	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	N/A	178	177	162	161	117	108	141	109	119	129	97.3	97.4	105	112	115	123	126	148
COD	mg/L	N/A	33	31	73	64	260	105	41	13	21	25	19	50	20	45	53	56	21	54
Chloride	mg/L	250	172	146	146	155	88	76.1	107	82.2	89.7	132	90.7	102	109	91.6	83.6	91.8	121	171
Conductivity	umhos/cm	N/A	1390	1350	1370	1360	1010	933	1060	956	1010	1220	932	950	971	981	991	1030	1160	1370
Cyanide	mg/L	0.2	<0.005	<0.005	<0.005	<0.005				< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	1.6	4.9	2.1	4.7	6.5	6.2	6.2	5.4	7.6	5.4	3.7	4.2	2.1	3.4	3.4	2.1	4.7	2.3
Fluoride	mg/L	1.5	<0.1	<0.1	<0.1	<0.1	< 0.1	0.4	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 1
Hardness	mg/L	500	600	590	569	556	490	457	574	464	504	568	432	431	456	475	495	536	543	587
Ion Balance	%	N/A	0.561	1.92	0.835	2.41				3.68	4.06	3.95	1.1	2.25	0.92	4.49	3.55	7.07	2.4	1.79
Iron	mg/L	0.3	0.062	0.26	0.393	0.073	0.181	0.178	0.534	0.136	0.114	0.154	0.124	0.087	0.088	0.181	0.105	0.246	0.134	0.325
Magnesium	mg/L	N/A	37.7	35.8	39.7	37.2	48	45.5	53.8	46.6	50.2	59.8	46	45.7	47.1	47.5	50.5	55.6	55.8	52.8
Manganese	mg/L	0.05	0.065	0.061	0.061	0.05	0.014	0.013	0.028	0.012	0.012	0.013	0.012	0.01	0.013	0.013	0.013	0.015	0.015	0.018
Nitrate	mg/L	10	<0.05	<0.05	<0.05	<0.05	< 0.05	0.19	< 0.05	< 0.05	0.43	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	< 0.05	< 0.05	< 0.5
Nitrite	mg/L	1	<0.05	<0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5
Tot Kjel N	mg/L	N/A	0.7	0.3	0.6	0.5	2.8	1.1	0.9	0.7	0.9	1	0.7	1.1	0.7	0.9	1.2	1.1	2.8	1.1
pH-Lab	pH unit	6.5-8.5	7.8	7.78	7.84	7.82	7.84	7.86	7.79	7.79	7.68	7.67	7.88	7.77	7.83	7.72	7.7	7.75	7.78	7.65
Phenols	mg/L	N/A	<0.001	0.001	<0.001	<0.001	0.018	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	<0.1	< 0.1	2.91	0.71	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	2.9	2	2.9	3.1	4	3.9	4.5	4.2	4.2	5.1	4.1	4.3	4.5	4.4	4.5	5.1	5.1	5.1
Sodium	mg/L	200	52.1	50.2	56.6	53.8	36.5	31.5	40.5	33	37	53.3	25	26.9	26.6	28.1	32.7	39	45.4	58.2
Sulphate	mg/L	500	98	104	99	96	27	49	22	20	24	17	29	24	26	30	27	31	37	37
TDS	mg/L	500	753	735	744	735	554	521	600	516	560	657	487	512	517	516	547	577	635	754
TSS	mg/L	N/A	1790	1150	2510	2840				66	220	235	430	1940	730	360	1420	1000	902	522
Turbidity	NTU	N/A	867	714	853	741				67.1	374	461	70.8	217	675	456	269	940	144	231
Colour	TCU	5	<2	<2	<2	<2				< 2	< 2	3	< 2	< 2	< 2	< 2	< 2	< 2	< 2	2
Aluminum	mg/L	0.1	0.08	0.1	0.05	0.05		0.07	0.13	0.06	0.07	0.05	0.07	0.06	0.05	0.04	0.07	0.09	0.04	0.07
Antimony	mg/L	0.006	<0.0001	<0.0001	<0.0001	<0.0001	0.06	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.025	0.0001	0.0001	0.0002	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium	mg/L	1	0.171	0.155	0.17	0.155	0.0001	0.416	0.511	0.442	0.506	0.59	0.458	0.495	0.545	0.539	0.551	0.619	0.63	0.665
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	0.46	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.025	0.023	0.035	0.03	< 0.002	0.105	0.131	0.118	0.123	0.149	0.123	0.138	0.133	0.133	0.134	0.069	0.147	0.141
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	0.000015	0.107	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000012	< 0.000012
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	< 0.000015	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0018	0.0019	0.0014	0.0009	< 0.001	0.006	< 0.005	< 0.0001	< 0.005	0.008	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0013	0.0004	0.0008	0.0009	< 0.005	0.0006	0.0001	< 0.0001	< 0.0001	0.0006	0.0007	0.0002	0.0004	0.0004	< 0.0001	0.0001	0.0001	0.0001
Lead	mg/L	0.01	<0.00002	<0.00002	<0.00002	<0.00002	0.0009	< 0.00002	0.00022	< 0.00002	0.00002	< 0.00004	0.00004	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00004	< 0.00004
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0009	0.0006	0.0006	0.0008	< 0.00002	< 0.0001	< 0.0001	0.0005	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	mg/L	N/A	0.0014	0.0009	0.0015	0.0014	< 0.0001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.001	<0.001	<0.001	<0.001	< 0.01	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.002
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	0.001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.723	0.691	0.823	0.735	< 0.0001	1.48	1.7	1.55	1.65	2.04	1.71	1.81	1.9	1.73	1.87	1.91	1.97	1.85
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	<0.00005	1.42	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0001	<0.0001	0.0001	0.0001	< 0.00005	0.0002	0.0006	0.0002	0.0002	0.0002	< 0.0001	0.0001	< 0.0001	0.0001	0.0002	0.0002	0.0003	0.0004
Zinc	mg/L	5	<0.005	<0.005	<0.005	<0.005	0.0003	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

**Ground Water Chemistry
Summary - General Water
Quality**

Parameters	Units	ODWQS	61-17-I 18-Oct-23	61-17-I 6-May-24	61-17-I 29-Jul-24	61-17-I 16-Oct-24	61-17-I 7-May-25	61-17-I (DUP) 7-May-25	61-17-I 24-Jul-25	61-17-I 15-Oct-25	61-17-I (DUP) 15-Oct-25	61-17-II 5-Jul-21	62-17-I 8-May-18	62-17-I 11-Oct-18	62-17-I 9-May-19	62-17-I 13-Oct-20	62-17-I 4-May-21	62-17-I 13-Oct-21	62-17-I 3-May-22	62-17-I 26-Jul-22
Alkalinity	mg/L	500	517	440	440	483	494	494	496	579	593	457	413	672	600	574	667	653	372	443
Unionized Ammonia	mg/L	N/A	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					< 0.01	< 0.01	0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.53	0.46	0.95	0.64	0.48	0.5	0.58	0.6	0.66	0.54	0.94	0.76	0.75	0.65	0.72	0.65	0.06	0.61
BOD	mg/L	N/A		<3	<3	<3	<3	<3	<3	5	5	< 3				15	6	13	< 3	6
Calcium	mg/L	N/A	142	143	161	158	161	170	155	178	175	129	103	89.3	57.4	64.2	43	41.9	182	113
COD	mg/L	N/A	49	163	29	53	46	55	49	81	82	83	439	458	324	114	104	95	13	128
Chloride	mg/L	250	232	184	184	203	223	228	197	309	312	133	159	233	198	123	151	151	56.9	91
Conductivity	umhos/cm	N/A	1510	1480	1440	1570	1650	1660	1650	2010	2030	1220	1980	3450	2640	1700	1800	1730	1020	1130
Cyanide	mg/L	0.2		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005				< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	9.4	8.9	6.9	6.4	11.2	11.3	6.2	15.9	14.8	6.6	79.1	18.8	86.7	19.1	15.6	7.7	4	5.7
Fluoride	mg/L	1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 1	< 1	0.6	0.6	< 0.1	< 0.1	0.3
Hardness	mg/L	500	596	592	663	667	652	676	668	763	759	533	450	388	269	308	219	201	497	421
Ion Balance	%	N/A	8.6	0.344	3.6	2.26	3.03	1.74	0.0926	0.857	1.32	0.813				6.88	1.93	4.33	4.78	0.71
Iron	mg/L	0.3	0.173	0.509	0.863	0.348	1.05	1.13	0.899	0.716	0.703	0.321	0.154	0.014	< 0.005	1.21	0.203	0.96	0.012	0.14
Magnesium	mg/L	N/A	58.6	56.9	63.4	66.2	60.8	61	68.1	77.4	78	51.1	46.8	40.1	30.6	35.9	27.1	23.4	10.5	33.6
Manganese	mg/L	0.05	0.016	0.022	0.027	0.021	0.027	0.028	0.03	0.029	0.029	0.02	0.023	0.014	0.005	0.01	0.009	0.011	< 0.001	0.027
Nitrate	mg/L	10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.68	<0.05	< 0.05	< 0.05	< 0.5	1.62	< 0.05	< 0.05	0.08	2.53	0.09
Nitrite	mg/L	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.5	< 0.5	< 0.05	0.13	0.1	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1.5	1.5	1.5	1.6	1.4	1.4	1.7	2.2	2.3	1.1	2.8	1.7	1.6	1.2	1.6	1.3	0.4	2.3
pH-Lab	pH unit	6.5-8.5	7.47	7.71	7.71	7.76	7.75	7.65	7.82	7.72	7.53	7.54	8.01	816	8.11	8.01	8.15	8.11	7.68	8.08
Phenols	mg/L	N/A	<0.001	<0.001	<0.001	<0.001	0.002	0.001	<0.001	<0.001	0.002	< 0.002	< 0.001	0.026	0.025	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001
Phosphorus	mg/L	N/A	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	0.48	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	5.1	4.9	4.7	5.3	4.7	4.7	5.6	6.3	6.4	4.5	9.8	9.8	7.8	6.4	5.5	5.1	1.2	3.5
Sodium	mg/L	200	62.3	68.6	66.9	76.1	79.2	79.5	82.9	125	127	58.7	335	704	536	334	359	360	42.6	88.9
Sulphate	mg/L	500	35	56	63	38	75	70	81	46	41	34	524	805	531	156	87	45	72	38
TDS	mg/L	500	822	806	785	859	905	912	902	1110	1120	685	1427	2285	1722	1065	1074	1019	588	635
TSS	mg/L	N/A	73	1630	788	1370	91	91	552	254	545	1040				112	194	164	46	322
Turbidity	NTU	N/A	78.4	462	165	204	299	727	22.4	81.3	352	884				46.5	48.4	63.8	23.8	243
Colour	TCU	5	4	2	3	4	3	3	4	3	3	3				46	6	6	< 2	2
Aluminum	mg/L	0.1	0.1	0.05	0.05	0.08	0.1	0.09	0.06	0.05	0.05	0.09	0.05		0.04	0.02	0.03	0.03	0.06	0.1
Antimony	mg/L	0.006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.0002	0.05	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001
Arsenic	mg/L	0.025	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.01	0.0001	0.0031	0.0029	0.002	0.002	0.0002	0.0009
Barium	mg/L	1	0.72	0.552	0.501	0.717	0.531	0.56	0.561	0.864	0.861	0.533	0.121	0.0093	0.069	0.144	0.203	0.316	0.101	0.376
Beryllium	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	0.069	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.152	0.144	0.155	0.167	0.162	0.166	0.177	0.204	0.208	0.148	0.304	< 0.002	0.432	0.407	0.371	0.354	0.028	0.123
Cadmium	mg/L	0.005	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.000015	0.00013	0.459	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.000015	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0003	0.0003	<0.0001	0.0002	0.0003	0.0003	0.0003	0.0004	0.0004	< 0.005	< 0.0001	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0007	0.0009	0.0004	0.0008	<0.0001	<0.0001	0.0005	0.0005	0.0011	0.0002	0.0019	< 0.005	< 0.0035	0.002	0.001	0.0004	0.003	0.0019
Lead	mg/L	0.01	<0.00002	0.00006	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00004	< 0.0002	< 0.0001	< 0.00009	0.00009	0.00007	< 0.00004	< 0.00002	0.00037
Mercury	mg/L	0.001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	0.0044	< 0.00002	< 0.0002	0.002	0.0003	0.0001	0.0003	0.0011
Nickel	mg/L	N/A	0.0067	0.0044	0.0055	0.006	0.0057	0.0056	0.0061	0.0114	0.0114	< 0.01	< 0.01	0.0005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.002	0.004	< 0.01	0.003	0.001	0.002	0.002	< 0.001	0.001
Silver	mg/L	N/A	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.0002	0.004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.98	1.72	1.67	2.08	1.72	1.72	1.97	2.38	2.41	1.68	3.34	< 0.0001	3.67	3.53	2.72	2.4	0.433	1.85
Thallium	mg/L	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	4.5	< 0.00005	< 0.00005	< 0.00005	0.00007	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0004	0.0004	0.0005	0.0004	0.0005	0.0005	0.0005	0.0007	0.0007	0.0001	0.0023	< 0.00005	0.0023	0.0005	0.0009	0.001	0.0002	0.0006
Zinc	mg/L	5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	0.0044	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.007

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

			62-17-I	62-17-I	62-17-I	62-17-I	62-17-I	62-17-I	62-17-I	62-17-I	62-17-2 (DUP)	62-17-I	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II
Parameters	Units	ODWQS	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	16-Oct-24	7-May-25	24-Jul-25	24-Jul-25	15-Oct-25	8-May-18	11-Oct-18	9-May-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	4-May-21
Alkalinity	mg/L	500	536	483	569	505	524	366	485	497	516	562	517	495	395	467	420	473	492	439
Unionized Ammonia	mg/L	N/A	< 0.01	0.01	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01					< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.36	2.01	0.65	0.23	0.14	0.32	0.98	0.82	0.73	0.97	0.5	0.53	0.43	0.52	0.51	0.47	0.53	0.09
BOD	mg/L	N/A	16	3	11		<3	<3	7	4	<3	6					< 3	< 3	< 3	3
Calcium	mg/L	N/A	73.5	104	94	93.1	114	140	124	121	159	138	159	165	142	165	135	158	156	60.6
COD	mg/L	N/A	72	29	116	29	46	25	120	67	87	93	38	44	29	46	37	40	42	14
Chloride	mg/L	250	109	105	164	158	156	26.8	127	158	219	265	152	171	103	184	111	142	167	40.2
Conductivity	umhos/cm	N/A	1380	1230	1520	1360	1490	829	1310	1460	1660	1860	1360	1490	1160	1440	1190	1310	1430	1070
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	7.4	6.3	3.7	9.3	9.4	3.9	13.1	7	7.5	15.7	12.1	12.1	10.1	9.8	7.1	13.6	6.8	4.2
Fluoride	mg/L	1.5	0.3	< 0.1	< 1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.7	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	265	308	289	291	382	392	375	473	640	562	626	643	545	658	534	614	637	263
Ion Balance	%	N/A	4.02	1.34	10.9	13.6	0.299	4.44	14	0.532	1.73	1.19					1.67	3.44	3.09	1.94
Iron	mg/L	0.3	0.301	0.006	0.186	0.122	0.058	0.037	0.03	0.258	0.45	0.288	0.412	0.46	0.415	0.246	0.273	0.282	0.27	0.037
Magnesium	mg/L	N/A	19.8	11.6	13.1	14.2	23.2	10.3	15.8	41.4	58.8	52.9	55.7	56.1	46.3	59.8	47.7	53.3	60.1	27.2
Manganese	mg/L	0.05	0.023	< 0.001	0.025	0.027	0.037	0.005	<0.001	0.096	0.027	0.061	0.025	0.03	0.024	0.023	0.022	0.024	0.023	0.012
Nitrate	mg/L	10	0.15	0.2	< 0.5	0.42	<0.05	0.1	0.08	<0.05	<0.05	0.43	< 0.05	< 0.05	0.19	< 0.05	< 0.05	0.5	< 0.05	0.24
Nitrite	mg/L	1	< 0.05	< 0.05	< 0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.40	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1.1	2.3	1.6	0.8	1.4	0.7	2.3	1.9	2.5	2.4	1.3	1.3	0.9	1.4	1.2	1.3	1.4	0.6
pH-Lab	pH unit	6.5-8.5	7.91	7.95	8	7.8	7.87	7.95	8	7.92	7.76	7.8	7.61	7.68	7.75	7.69	7.66	7.56	7.62	8.07
Phenols	mg/L	N/A	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	< 0.001	0.013	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	0.11	0.21	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	4	2.3	2.9	3	4.1	1.4	2.5	5.7	5.4	6.7	4.5	4.4	3.8	4.8	4	4.2	4.9	4.2
Sodium	mg/L	200	235	155	168	130	172	38.6	68.4	126	110	186	70.2	77.4	49	77.1	50.2	67.5	81	156
Sulphate	mg/L	500	31	32	21	32	23	34	34	31	33	18	52	51	77	26	50	41	43	85
TDS	mg/L	500	795	701	806	737	814	437	711	797	909	1020	805	823	659	797	651	751	807	637
TSS	mg/L	N/A	80	42	1150	64	80	198	2410	418	67	292					240	106	172	240
Turbidity	NTU	N/A	102	238	386	210	149	61.7	3260	94.3	23.9	90.2					43.5	42.3	14.3	1740
Colour	TCU	5	4	3	4	7	6	4	4	6	5	5					< 2	3	5	< 2
Aluminum	mg/L	0.1	0.04	0.03	0.06	0.06	0.04	0.07	0.08	0.04	0.06	0.05	0.07		0.08	0.09	0.07	0.08	0.06	0.05
Antimony	mg/L	0.006	0.0003	0.0001	< 0.0001	0.0001	<0.0001	0.0001	0.0002	<0.0001	<0.0001	<0.0001	< 0.0001	0.08	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001
Arsenic	mg/L	0.025	0.0013	0.0002	0.0004	0.0005	0.0002	0.0004	0.0003	0.0006	<0.0001	0.0005	0.0002	< 0.0001	< 0.0001	< 0.0003	< 0.0001	< 0.0001	< 0.0001	0.0011
Barium	mg/L	1	0.349	0.235	0.394	0.335	0.52	0.158	0.268	0.721	0.562	0.935	0.651	< 0.0001	0.385	0.64	0.421	0.549	0.581	0.168
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	0.608	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.147	0.134	0.145	0.122	0.17	0.063	0.1	0.182	0.182	0.266	0.133	< 0.002	0.102	0.16	0.116	0.144	0.163	0.057
Cadmium	mg/L	0.005	< 0.000012	< 0.000012	< 0.000012	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.000057	0.135	< 0.000015	< 0.000029	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.000015	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	0.0004	0.0004	0.0002	0.0002	0.0005	0.0003	0.0004	0.0001	0.001	< 0.005	< 0.005	< 0.0001	< 0.005	< 0.005	< 0.005
Copper	mg/L	1	0.0005	0.0008	0.0003	0.0006	0.0003	0.0013	0.0009	0.0009	0.0007	0.0003	0.0012	< 0.005	0.0005	< 0.0002	< 0.0001	0.0002	0.0007	0.0017
Lead	mg/L	0.01	< 0.00004	< 0.00004	< 0.00004	<0.00002	0.00003	0.00007	0.00003	0.00003	<0.00002	<0.00002	0.00005	0.0002	< 0.00002	< 0.00009	< 0.00004	0.00006	0.00004	0.00043
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	0.00012	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.001	0.0002	0.0003	0.0004	0.0002	0.0008	0.0006	0.0002	<0.0001	0.0001	0.0003	< 0.00002	< 0.0001	< 0.0002	0.0001	< 0.0001	< 0.0001	0.0049
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	0.0035	0.0044	0.0012	0.0025	0.0062	0.0083	0.0106	< 0.01	< 0.0001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	0.001	< 0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.002	0.002	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	2.01	1.08	1.53	1.45	2.94	0.783	1.63	4.09	1.75	4.2	1.52	< 0.0001	1.36	1.86	1.41	1.6	1.89	0.489
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	1.57	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.001	0.0004	0.0006	0.0007	0.0007	0.0004	0.0003	0.001	0.0004	0.0008	0.0004	< 0.00005	0.0002	< 0.0004	0.0003	0.0003	0.0003	0.0008
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	0.0004	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III
			13-Oct-21	3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	24-Jul-25	15-Oct-25	8-May-18	24-Jul-18	11-Oct-18	16-Jul-19	9-Oct-19
Alkalinity	mg/L	500	409	421	462	460	454	437	480	380	392	491	400	512	550	259	291	344	380	367
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.61	0.53	0.51	0.49	1.88	0.43	0.77	0.46	0.6	0.74	0.44	0.72	0.92	0.05	0.43	0.09	0.21	0.02
BOD	mg/L	N/A	< 3	< 3	< 3	< 3	< 3	< 3		<3	<3	3	<3	<3	5	< 3	8	4	5	< 3
Calcium	mg/L	N/A	137	142	148	150	154	154	145	128	144	168	135	158	162	61.7	52.1	51	54.7	64.8
COD	mg/L	N/A	75	25	29	41	23	31	37	29	142	44	12	58	74	43	118	< 5	84	< 5
Chloride	mg/L	250	138	112	120	138	149	123	172	68.7	74	184	77.8	221	298	19.3	19.5	20.3	25.2	27.8
Conductivity	umhos/cm	N/A	1220	1230	1240	1320	1330	1230	1360	1050	1040	1560	1060	1690	1880	713	745	787	860	882
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	3.8	5.3	6.1	3.7	6.3	1.9	7.6	6.2	4.4	6.7	8.8	7.1	14.6	3.3	3.7	4.1	5.2	3
Fluoride	mg/L	1.5	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	551	558	585	612	607	559	552	480	542	654	500	635	660	267	233	225	234	279
Ion Balance	%	N/A	2.94	3.56	3	4.88	1.47	0.704	7.58	1.13	4.23	3.67	0.112	1.58	2.41					
Iron	mg/L	0.3	0.377	0.516	0.515	0.443	0.64	0.685	0.621	0.542	0.696	0.604	0.385	0.45	0.293	0.067	0.135	0.152	0.53	0.006
Magnesium	mg/L	N/A	50.8	49.1	52.3	57.7	53.7	42.4	46.1	38.7	44.5	57	39.5	58.7	62.1	27.4	24.9	23.7	23.6	28.4
Manganese	mg/L	0.05	0.022	0.023	0.024	0.024	0.028	0.029	0.026	0.027	0.028	0.028	0.021	0.026	0.026	0.016	0.013	0.0117	0.01	0.001
Nitrate	mg/L	10	< 0.05	0.07	< 0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05
Nitrite	mg/L	1	0.07	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1.2	1.1	1.2	1.3	2	0.8	1.5	1.1	0.9	1.6	0.8	2.2	2.3	0.7	2.3	0.9	1.7	0.3
pH-Lab	pH unit	6.5-8.5	7.72	7.69	7.55	7.56	7.65	7.7	7.61	7.76	7.9	7.65	7.88	7.77	7.47	8.1	8.07	8.03	7.87	8.04
Phenols	mg/L	N/A	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.1	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	4.14	0.09
Potassium	mg/L	N/A	4.5	4.2	4.3	5	4.5	3.8	3.7	3.2	3.3	4.5	3.1	5.4	5.7	4.5	3.5	3.4	3.4	4
Sodium	mg/L	200	57.3	50.4	56.6	66.7	58.8	48.6	51.4	33.9	34.4	83.1	35.9	110	128	77.8	83.8	95.3	127	122
Sulphate	mg/L	500	40	49	41	39	53	69	57	71	75	36	70	33	24	104	66	51	59	72
TDS	mg/L	500	674	660	701	733	747	704	739	560	557	853	570	927	1030	450	426	452	522	539
TSS	mg/L	N/A	2800	772	151	272	276	77	64	358	15	198	175	78	62	2200	7600	2150	6550	128
Turbidity	NTU	N/A	834	321	71.6	96.4	113	45.8	36.2	169	11.2	76.8	74.4	32.3	30.8	2440	9080	1120	12700	408
Colour	TCU	5	3	< 2	2	3	< 2	< 2	3	<2	<2	<2	<2	6	3	< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.06	0.05	0.08	0.1	0.1	0.09	0.09	0.06	0.04	0.08	0.07	0.06	0.05	0.05	0.03	0.03	0.03	0.05
Antimony	mg/L	0.006	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0007	0.0003	0.0003	0.0004	0.0007
Arsenic	mg/L	0.025	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0066	0.0097	0.0049	0.005	0.0017
Barium	mg/L	1	0.54	0.491	0.499	0.6	0.511	0.383	0.419	0.23	0.241	0.532	0.233	0.558	0.701	0.126	0.144	0.151	0.162	0.184
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	5	0.139	0.128	0.127	0.071	0.129	0.093	0.103	0.073	0.073	0.148	0.076	0.182	0.211	0.05	0.053	0.059	0.064	0.062
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000012	< 0.000012	< 0.000012	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.000022	0.000055	0.000056	0.000039	0.00007
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001
Cobalt	mg/L	N/A	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0003	0.0002	< 0.0001	0.0003	0.0002	0.0003	0.0004	0.0002	< 0.005	< 0.0001	0.0001	< 0.005
Copper	mg/L	1	0.0006	0.0002	0.0003	0.0002	0.0001	0.0001	0.0006	0.0002	0.0003	0.0009	< 0.0001	0.0007	0.0001	0.0014	0.0003	< 0.0001	0.001	0.0002
Lead	mg/L	0.01	0.00005	< 0.00004	< 0.00004	< 0.00004	0.00012	< 0.00004	< 0.00002	0.00006	0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	0.00005	0.00007	< 0.00002	0.00005	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005	< 0.00002
Molybdenum	mg/L	N/A	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.087	0.0302	0.0363	0.0163	0.0492
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0047	0.0015	0.0019	0.0061	0.002	0.0083	0.0103	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	0.01	0.002	0.002	0.002	0.001	0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	1.64	1.45	1.58	1.76	1.56	1.22	1.3	1.02	1.04	1.63	0.991	1.75	2.01	0.466	0.423	0.413	0.415	0.455
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002	0.0003	0.0002	0.0002	0.0004	0.0002	0.0004	0.0005	0.0004	0.0013	0.001	0.0015	0.0032
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.008	< 0.005

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry
Summary - General Water
Quality

Parameters	Units	ODWQS	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III
			5-May-20	13-Oct-20	4-May-21	13-Oct-21	3-May-22	26-Jul-22	25-Oct-22	2-May-23	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	7-May-25	7-May-25 (DUP)	24-Jul-25	15-Oct-25
Alkalinity	mg/L	500	421	397	420	379	400	426	408	446	466	468	402	446	419	419	428	441	431
Unionized Ammonia	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia	mg/L	N/A	0.16	0.05	0.57	0.2	0.09	0.15	0.16	0.31	0.19	0.09	< 0.05	0.13	0.19	0.23	0.12	0.18	0.13
BOD	mg/L	N/A	< 3	< 3	< 3	4	< 3	8	4	< 3	< 3		< 3	< 3	< 3	4	3	< 3	< 3
Calcium	mg/L	N/A	41.7	62.8	122	78.6	78.7	89.8	99.3	116	122	102	101	132	123	109	112	107	104
COD	mg/L	N/A	64	35	130	17	11	12	20	< 5	16	19	25	8	12	179	72	43	37
Chloride	mg/L	250	28.1	29.2	111	52.9	44.9	42.7	52.2	89.4	91	79.7	48.1	49.8	46.6	35.6	31.6	28.5	33.1
Conductivity	umhos/cm	N/A	1010	968	1170	991	1020	964	1010	1170	1170	1120	994	1040	1010	965	952	978	969
Cyanide	mg/L	0.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	5	4.5	1.9	6.1	4.3	2.5	2.5	1.4	1.6	1.2	2.7	3.8	2.4	2.2	4.9	5.3	2.6	5.2
Fluoride	mg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	500	191	281	506	329	323	370	427	449	452	405	391	498	465	410	418	409	414
Ion Balance	%	N/A	3.92	6.26	1.09	3.3	4	2.7	6.3	1.53	1.07	5.95	2.39	4.8	4.17	1.17	0.0763	1.14	1.2
Iron	mg/L	0.3	< 0.005	< 0.005	0.317	0.015	0.01	0.007	0.2	0.045	0.014	< 0.005	0.006	0.009	< 0.005	0.006	0.013	< 0.005	0.009
Magnesium	mg/L	N/A	21.2	30.1	48.9	32.2	30.7	35.3	43.5	38.9	35.8	36.6	33.3	41.1	38.4	33.4	33.6	34.6	37.4
Manganese	mg/L	0.05	0.006	< 0.001	0.02	0.006	0.004	0.006	0.035	0.013	0.012	0.003	0.002	0.036	0.002	< 0.001	0.001	0.004	0.01
Nitrate	mg/L	10	0.15	0.13	< 0.05	< 0.05	0.21	0.13	0.1	0.19	< 0.5	0.24	< 0.05	0.13	0.22	0.1	0.07	0.12	< 0.05
Nitrite	mg/L	1	< 0.05	< 0.05	0.12	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	N/A	1.1	0.4	1.2	0.5	0.5	0.6	0.6	1	0.3	0.3	< 0.1	0.3	0.4	1.4	1.4	0.8	0.4
pH-Lab	pH unit	6.5-8.5	8.16	8.1	7.83	8.04	7.98	7.87	7.87	7.87	7.83	7.75	7.86	7.86	7.89	7.95	7.94	7.97	7.91
Phenols	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	N/A	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	N/A	3.8	4.3	4.4	4.6	4.5	4.2	4.7	4.8	4.6	4.3	4.4	4.2	3.6	3.6	3.6	3.8	3.9
Sodium	mg/L	200	177	142	53.9	113	120	95.7	84.8	93.7	85.9	74.1	74.6	59.4	54.8	52.4	52.4	50.7	47.8
Sulphate	mg/L	500	74	84	39	87	78	63	61	64	62	61	60	56	56	70	63	53	56
TDS	mg/L	500	598	590	633	596	597	587	591	673	682	604	530	555	540	514	506	521	516
TSS	mg/L	N/A	2600	825	6600	8700	970	54100	1760	444	3240	562	468	13	950	2640	700	77	670
Turbidity	NTU	N/A	1510	68.4	2200	855	1220	343	626	392	736	577	2260	6.3	203	13200	3190	164	261
Colour	TCU	5	< 2	< 2	2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum	mg/L	0.1	0.03	0.02	0.08	0.04	0.02	0.05	0.08	0.04	0.08	0.07	0.04	0.04	0.06	0.06	0.06	0.04	0.04
Antimony	mg/L	0.006	0.0006	0.0004	< 0.0001	0.0002	0.0001	0.0001	0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	0.0001	0.0002	0.0002	0.0001	0.0001	0.0001
Arsenic	mg/L	0.025	0.0021	0.0011	0.0004	0.001	0.0007	0.0008	0.0013	0.0003	0.0003	0.0004	0.0002	0.0004	0.0003	0.0002	0.0002	0.0002	0.0003
Barium	mg/L	1	0.141	0.187	0.471	0.187	0.191	0.192	0.255	0.244	0.257	0.225	0.211	0.248	0.236	0.199	0.205	0.199	0.219
Beryllium	mg/L	N/A	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Boron	mg/L	5	0.072	0.065	0.127	0.046	0.048	0.038	< 0.005	0.038	0.033	0.036	0.03	0.028	0.025	0.027	0.028	0.026	0.031
Cadmium	mg/L	0.005	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000010	< 0.000012	< 0.000012	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.05	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	N/A	0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0002	0.0002	0.0004	0.0002	0.0002	0.0002	0.0002	0.0003
Copper	mg/L	1	< 0.0001	0.0004	0.0011	0.0008	0.0008	0.001	0.0006	0.0006	0.0006	0.0007	0.0004	0.0013	0.0011	0.0007	0.0006	0.0016	0.0011
Lead	mg/L	0.01	< 0.00004	< 0.00002	0.00008	< 0.00002	< 0.00002	0.00003	0.00006	< 0.00004	< 0.00004	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00004	0.00004	< 0.00002	< 0.00002
Mercury	mg/L	0.001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	N/A	0.0112	0.0094	0.001	0.0043	0.0054	0.0035	0.0018	0.0023	0.0017	0.0016	0.0019	0.0024	0.0026	0.0021	0.0021	0.0016	0.0013
Nickel	mg/L	N/A	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0006	0.0006	0.0013	0.0008	0.0011	0.001	0.0016	0.0008
Selenium	mg/L	0.01	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	N/A	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	N/A	0.393	0.506	1.55	0.542	0.553	0.603	0.698	0.737	0.711	0.667	0.695	0.695	0.668	0.671	0.669	0.655	0.681
Thallium	mg/L	N/A	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	N/A	0.0013	0.0027	0.0002	0.0009	0.0005	0.0006	0.0003	0.0003	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002
Zinc	mg/L	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.006

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	6-90-II	6-90-II	6-90-II	6-90-II	6-90-II	6-90-II	7-90	7-90	7-90	7-90	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II
			16-May-16	23-May-17	12-Nov-19	6-May-24	7-May-25	15-Oct-25	6-May-24	16-Oct-24	7-May-25	15-Oct-25	18-May-16	18-Oct-16	8-May-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 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	5.2
1,1,1-Trichloroethane	µg/L	N/A	< 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	34.1
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 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	66.6
1,1,2-Trichloroethane	µg/L	N/A	< 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	36.9
1,1-Dichloroethane	µg/L	N/A	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5		<0.5	1	1.1	1.8	1.1	2.2	2.3	< 0.5	104
1,1-Dichloroethylene	µg/L	14		< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5			< 0.5	< 0.5	< 0.5	< 0.5	
Ethylene Dibromide	µg/L	N/A	10.6	< 0.2	< 0.2		<0.2	<0.2			<0.2	<0.2	18.6	53.8	< 0.2	< 0.2	< 0.2	< 0.2	
1,2-Dichlorobenzene	µg/L	3	< 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	17.6	< 0.5	
1,2-Dichloroethane	µg/L	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	
1,2-Dichloropropane	µg/L	N/A	< 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	
1,3-Dichlorobenzene	µg/L	N/A	< 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	
1,4-Dichlorobenzene	µg/L	1	1.6	1.9	1.5	2.1	1.4	2.1	4.6		4.8	7.2	3.3	4.6	< 0.5	4.7	5.2	5.3	
Methyl Ethyl Ketone	µg/L	N/A	< 20	< 20	< 20	2	<2	<2	2		<2	<2	< 20	< 20	< 20	< 20	< 20	< 20	
Methyl Isobutyl Ketone	µg/L	N/A	< 20	< 20	< 20	<20	<20	<20	<20		<20	<20	< 20	< 20	< 20	< 20	< 20	< 20	
Acetone	µg/L	N/A	< 30	< 30	40	<30	<30	33	<30		<30	<30	< 30	< 30	< 30	< 30	< 30	< 30	
Benzene	µg/L	5	5.1	4.7	9.6	7	4.2	4.6	2.6	3.2	3.6	3.9	2.3	3.6	5.3	4.1	4.7	6.4	4.3
Bromodichloromethane	µg/L	N/A	< 2	< 2	< 2	<2	<2	<2	<2		<2	<2	< 2	< 2	< 2	< 2	< 2	< 2	
Bromoform	µg/L	N/A	< 5	< 5	< 5	<5	<5	<5	<5		<5	<5	< 5	< 5	< 5	< 5	< 5	< 5	
Bromomethane	µg/L	N/A	< 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	
Carbon Tetrachloride	µg/L	5	< 0.2	< 0.2	< 0.2	<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Chlorobenzene	µg/L	80	0.6		10.4		1.1	2.8			3.7	7.4	1.3	2.6	< 0.5	3.5	5.5	6.7	
Chloroform	µg/L	N/A	< 1	< 1	< 1	<1	<1	<1	<1		<1	<1	< 1	< 1	< 1	< 1	< 1	< 1	
cis 1,2-Dichloroethene	µg/L	N/A	< 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	
cis 1,3-Dichloroethene	µg/L	N/A		< 0.5	< 0.5		<0.5	<0.5			<0.5	<0.5			< 0.5	< 0.5	< 0.5	< 0.5	
Dibromochloromethane	µg/L	N/A	< 0.5	< 2	< 2	<2	<2	<2	<2		<2	<2	< 0.5	< 0.5	< 2	< 2	< 2	< 2	
Dichlorodifluoromethane	µg/L	N/A	< 2		< 5								< 2	< 2		< 5			
Ethylbenzene	µg/L	2.4		< 0.5	28.5	<0.5	5	13.5	0.7	0.8	2.1	58.7			54.1	62.7	77.5	28.9	34.1
m & p-Xylene	µg/L	N/A	58.6	83.2	111	25	23	33	5	9	19	173	50.4	140	120	153	204	92.6	66.6
o-Xylene	µg/L	N/A	37.3	49.9	32.1	5.8	5.1	4.6	31.6	36.6	27.2	78.6	22.7	47.3	120	48.3	66.2	71	36.9
Toluene	µg/L	N/A	1	< 0.5	6.6	<0.5	<0.5	<0.5	<0.5	0.5	0.7	5.6	4.2	5.7	57.4	4.2	5.3	6.2	5.2
Methyl tert-Butyl Ether	µg/L	N/A	< 2	< 2	2		<2	<2			<2	<2	< 2	< 2	< 2	< 2	< 2	< 2	
Methylene Chloride	µg/L	N/A	< 5			<5	<5	<5	<5		<5	<5	< 5	< 5	< 5		< 5	< 5	
Vinyl Chloride	µg/L	2				<0.2	<0.2	<0.2	<0.2		<0.2	<0.2							
Trichloroethylene	µg/L	5				<0.5	<0.5	<0.5	<0.5		<0.5	<0.5							
Xylene, m,p,o-	µg/L	300					28.1	37.6			46.2	251.6							

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	7-90-II	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90
			3-May-21	14-Oct-21	25-Oct-22	18-Oct-23	6-May-24	16-Oct-24	7-May-25	15-Oct-25	13-Jul-16	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18	11-Oct-18	9-May-19	16-Jul-19
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.5				<0.5		<0.5	<0.5	< 0.5		< 0.5			< 0.1			< 0.5
1,1,1-Trichloroethane	µg/L	N/A	< 0.5				<0.5		<0.5	<0.5	< 0.5		< 0.5			< 0.1			< 0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.5				<0.5		<0.5	<0.5	< 0.5		< 0.5			< 0.4			< 0.5
1,1,2-Trichloroethane	µg/L	N/A	< 0.5				<0.5		<0.5	<0.5	< 0.5		< 0.5			< 0.1			< 0.5
1,1-Dichloroethane	µg/L	N/A	< 0.5				1.2		0.7	<0.5	< 0.5		< 0.5			< 0.1			< 0.5
1,1-Dichloroethylene	µg/L	14	< 0.5				<0.5		<0.5	<0.5			< 0.5			< 0.1			< 0.5
Ethylene Dibromide	µg/L	N/A	< 0.2						<0.2	<0.2	< 0.5		< 0.2			< 0.1			< 0.2
1,2-Dichlorobenzene	µg/L	3	< 0.5				<0.5		<0.5	<0.5	< 0.5		< 0.5			< 0.1			< 0.5
1,2-Dichloroethane	µg/L	5	< 0.5				<0.5		<0.5	<0.5	< 0.5		< 0.5			< 0.1			< 0.5
1,2-Dichloropropane	µg/L	N/A	< 0.5				<0.5		<0.5	<0.5	< 0.5		< 0.5			< 0.1			< 0.5
1,3-Dichlorobenzene	µg/L	N/A	< 0.5				<0.5		<0.5	<0.5	< 0.5		< 0.5			< 0.1			< 0.5
1,4-Dichlorobenzene	µg/L	1	7.8				5.4		4.4	6.3	< 0.5		< 0.5			< 0.2			< 0.5
Methyl Ethyl Ketone	µg/L	N/A	< 20				3		<2	<2	< 20		< 20			< 1			< 20
Methyl Isobutyl Ketone	µg/L	N/A	< 20				<20		<20	<20	< 20		< 20			< 1			< 20
Acetone	µg/L	N/A	60				<30		<30	<30	< 30		< 30			< 2			< 30
Benzene	µg/L	5	5.3	4.7	4.1	5.6	4.5	4.2	2.8	2.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	N/A	< 2				<2		<2	<2	< 2		< 2			< 0.1			< 2
Bromoform	µg/L	N/A	< 5				<5		<5	<5	< 5		< 5			< 0.1			< 5
Bromomethane	µg/L	N/A	< 0.5				<0.5		<0.5	<0.5	< 0.5		< 0.5			< 0.3			< 0.5
Carbon Tetrachloride	µg/L	5	< 0.2				<0.2		<0.2	<0.2	< 0.2		< 0.2			< 0.2			< 0.2
Chlorobenzene	µg/L	80	7						4.3	3.4	< 0.5					< 0.2			< 0.5
Chloroform	µg/L	N/A	< 1				<1		<1	<1	< 1		< 1			< 0.3			< 1
cis 1,2-Dichloroethene	µg/L	N/A	< 0.5						<0.5	<0.5	< 0.5		< 0.5			< 0.1			< 0.5
cis 1,3-Dichloroethene	µg/L	N/A	< 0.5						<0.5	<0.5			< 0.5			< 0.1			< 0.5
Dibromochloromethane	µg/L	N/A	< 2				<2		<2	<2	< 0.5		< 2			< 0.1			< 2
Dichlorodifluoromethane	µg/L	N/A									< 2								< 5
Ethylbenzene	µg/L	2.4	45.7	9.6	17.8	1.7	41.3	40.4	28.2	0.9		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m & p-Xylene	µg/L	N/A	91.3	< 1.0	66.6	1	6	97	65	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	43.8	53.3	29.2	48.8	52.6	43.8	42.9	29.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.4	< 1.0	< 0.5	< 0.5
Toluene	µg/L	N/A	2.5	1.2	< 2	1.1	4.6	5.9	3.2	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	N/A	2						<2	<2	< 2		< 2			< 1			< 2
Methylene Chloride	µg/L	N/A	< 5				<5		<5	<5	< 5					< 0.3			
Vinyl Chloride	µg/L	2	< 0.2				<0.2		<0.2	<0.2									
Trichloroethylene	µg/L	5	< 0.5				<0.5		<0.5	<0.5									
Xylene, m,p,o-	µg/L	300	135	53.3	95.8	50.2			107.9	29.5									

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90	11-90
			9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25
1,1,1,2-Tetrachloroethane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
1,1,1-Trichloroethane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
1,1,2,2 Tetrachloroethane	µg/L	N/A		< 0.5	< 0.5	< 1.0	< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
1,1,2-Trichloroethane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
1,1-Dichloroethane	µg/L	N/A		< 0.5	< 0.5	< 1.1	< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
1,1-Dichloroethylene	µg/L	14		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
Ethylene Dibromide	µg/L	N/A		< 0.2	< 0.2		< 0.2	< 0.2			< 0.2		< 0.2			<0.2		<0.2	
1,2-Dichlorobenzene	µg/L	3		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
1,2-Dichloroethane	µg/L	5		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
1,2-Dichloropropane	µg/L	N/A		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
1,3-Dichlorobenzene	µg/L	N/A		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
1,4-Dichlorobenzene	µg/L	1		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
Methyl Ethyl Ketone	µg/L	N/A		< 20	< 20		< 20	< 20			< 20		< 20			<2		<2	
Methyl Isobutyl Ketone	µg/L	N/A		< 20	< 20		< 20	< 20			< 20		< 20			<20		<20	
Acetone	µg/L	N/A		< 30	< 30		< 30	< 30			< 30		< 30			<30		<30	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A		< 2	< 2		< 2	< 2			< 2		< 2			<2		<2	
Bromoform	µg/L	N/A		< 5	< 5		< 5	< 5			< 5		< 5			<5		<5	
Bromomethane	µg/L	N/A		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
Carbon Tetrachloride	µg/L	5		< 0.2	< 0.2		< 0.2	< 0.2			< 0.2		< 0.2			<0.2		<0.2	
Chlorobenzene	µg/L	80		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
Chloroform	µg/L	N/A		< 1	< 1		< 1	< 1			< 1		< 1			<1		<1	
cis 1,2-Dichloroethene	µg/L	N/A		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
cis 1,3-Dichloroethene	µg/L	N/A		< 0.5	< 0.5		< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
Dibromochloromethane	µg/L	N/A		< 2	< 2		< 2	< 2			< 2		< 2			<2		<2	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	N/A	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A		< 2	< 2		< 2	< 2			< 2		< 2			<2		<2	
Methylene Chloride	µg/L	N/A		< 5	< 5		< 5	< 5			< 5		< 5			<5		<5	
Vinyl Chloride	µg/L	2					< 0.2	< 0.2			< 0.2		< 0.2			<0.2		<0.2	
Trichloroethylene	µg/L	5					< 0.5	< 0.5			< 0.5		< 0.5			<0.5		<0.5	
Xylene, m,p,o-	µg/L	300					< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1		<1.1	<1.5	<1.5

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I	12-91-I
Parameters	Units	ODWQS	23-May-17	17-Oct-17	8-May-18	11-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25
1,1,1,2-Tetrachloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,1-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,2,2 Tetrachloroethane	µg/L	N/A							< 1.0	< 1.0									
1,1,2-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1-Dichloroethane	µg/L	N/A							< 1.1	< 1.1									
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 1.0	< 1.0	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II	12-91-II
Parameters	Units	ODWQS	23-May-17	17-Oct-17	8-May-18	11-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	
1,1,1,2-Tetrachloroethane	µg/L	N/A							< 0.5	< 0.5										
1,1,1-Trichloroethane	µg/L	N/A							< 0.5	< 0.5										
1,1,2,2 Tetrachloroethane	µg/L	N/A							< 1.0	< 1.0										
1,1,2-Trichloroethane	µg/L	N/A							< 0.5	< 0.5										
1,1-Dichloroethane	µg/L	N/A							< 1.1	< 1.1										
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 1.0	< 1.0	< 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	
Toluene	µg/L	N/A	< 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	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	12-91-III	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-II	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I	13-91-I
			6-May-24	23-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24
1,1,1,2-Tetrachloroethane	µg/L	N/A									< 0.5	< 0.5							
1,1,1-Trichloroethane	µg/L	N/A									< 0.5	< 0.5							
1,1,2,2 Tetrachloroethane	µg/L	N/A									< 1.0	< 1.0							
1,1,2-Trichloroethane	µg/L	N/A									< 0.5	< 0.5							
1,1-Dichloroethane	µg/L	N/A									< 1.1	< 1.1							
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1
o-Xylene	µg/L	N/A	<0.5	< 0.5	< 0.5		< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1										< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	13-91-I	13-91-I	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	13-91-II	14-07
			16-Oct-24	15-Oct-25	23-May-17	16-Oct-17	11-Oct-18	8-May-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	23-May-17
1,1,1,2-Tetrachloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,1-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,2,2 Tetrachloroethane	µg/L	N/A							< 1.0	< 1.0									
1,1,2-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1-Dichloroethane	µg/L	N/A							< 1.1	< 1.1									
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	< 1.0
o-Xylene	µg/L	N/A	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1							< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	14-07	15-91-I
			16-Oct-17	8-May-18	11-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	23-May-17
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5										
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5										
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 1.0										
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5										
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 1.1										
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 1.0	< 1.0	< 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
Toluene	µg/L	N/A	< 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	6.6
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300								< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

			15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-I	15-91-II
Parameters	Units	ODWQS	16-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	23-May-17
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5										
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5										
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 1.0										
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5										
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 1.1										
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 1.0	< 1.0	< 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
Toluene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.9	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300								< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	15-91-II	16-91-I	16-91-I	16-91-I	16-91-I
Parameters	Units	ODWQS	16-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	3-May-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	23-May-17	17-Oct-17	8-May-18	11-Oct-18
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5										
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5										
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 1.0										
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5										
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 1.1										
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	0.7	0.7	< 0.5	0.6	0.6	<0.5	1	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300								< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1				

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-I	16-91-II	16-91-II	16-91-II	16-91-II
			9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	23-May-17	17-Oct-17	8-May-18	11-Oct-18
1,1,1,2-Tetrachloroethane	µg/L	N/A			< 0.5	< 0.5													
1,1,1-Trichloroethane	µg/L	N/A			< 0.5	< 0.5													
1,1,2,2 Tetrachloroethane	µg/L	N/A			< 1.0	< 1.0													
1,1,2-Trichloroethane	µg/L	N/A			< 0.5	< 0.5													
1,1-Dichloroethane	µg/L	N/A			< 1.1	< 1.1													
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	0.7	<0.5	<0.5	< 0.5	3.4	1.5	< 0.5
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 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	< 1.0
Toluene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.7	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5		< 0.5
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300					< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1				

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	16-91-II	16-91-II	16-91-II	16-91-II	16-91-II	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I
			9-May-19	5-May-20	3-May-21	3-May-23	6-May-24	23-May-17	16-Oct-17	8-May-18	10-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22
1,1,1,2-Tetrachloroethane	µg/L	N/A		< 0.5										< 0.5	< 0.5				
1,1,1-Trichloroethane	µg/L	N/A		< 0.5										< 0.5	< 0.5				
1,1,2,2 Tetrachloroethane	µg/L	N/A		< 1.0										< 1.0	< 1.0				
1,1,2-Trichloroethane	µg/L	N/A		< 0.5										< 0.5	< 0.5				
1,1-Dichloroethane	µg/L	N/A		< 1.1										< 1.1	< 1.1				
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	5	< 0.5	1.4	1.7	< 0.5	2.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300			< 1.1	< 1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I	17-91-I (DUP)	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II
			3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	15-Oct-25	23-May-17	16-Oct-17	8-May-18	10-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22
1,1,1,2-Tetrachloroethane	µg/L	N/A													< 0.5	< 0.5			
1,1,1-Trichloroethane	µg/L	N/A													< 0.5	< 0.5			
1,1,2,2 Tetrachloroethane	µg/L	N/A													< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/L	N/A													< 0.5	< 0.5			
1,1-Dichloroethane	µg/L	N/A													< 1.1	< 1.1			
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	<1.1	<1.1	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	17-91-II	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91	18-91
			25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22
1,1,1,2-Tetrachloroethane	µg/L	N/A													< 0.5	< 0.5			
1,1,1-Trichloroethane	µg/L	N/A													< 0.5	< 0.5			
1,1,2,2 Tetrachloroethane	µg/L	N/A													< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/L	N/A													< 0.5	< 0.5			
1,1-Dichloroethane	µg/L	N/A													< 1.1	< 1.1			
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	18-91	18-91	18-91	18-91	18-91	18-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91	19-91
			25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22
1,1,1,2-Tetrachloroethane	µg/L	N/A													< 0.5	< 0.5			
1,1,1-Trichloroethane	µg/L	N/A													< 0.5	< 0.5			
1,1,2,2 Tetrachloroethane	µg/L	N/A													< 1.0	< 1.0			
1,1,2-Trichloroethane	µg/L	N/A													< 0.5	< 0.5			
1,1-Dichloroethane	µg/L	N/A													< 1.1	< 1.1			
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	5	< 0.5	0.6	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	19-91	19-91	19-91	19-91	19-91	19-91	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I	20-91-I
			25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	23-May-17	16-Oct-17	8-May-18	8-May-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	25-Oct-22	3-May-23	18-Oct-23
1,1,1,2-Tetrachloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,1-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,2,2 Tetrachloroethane	µg/L	N/A											< 1.0	< 1.0					
1,1,2-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1-Dichloroethane	µg/L	N/A											< 1.1	< 1.1					
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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	1.7	<0.5
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1
o-Xylene	µg/L	N/A	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Toluene	µg/L	N/A	< 0.5	1.1	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1							< 1.1	< 1.1	< 1.1	< 1.1	<1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	20-91-I	20-91-I	20-91-I	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II	20-91-II
			6-May-24	16-Oct-24	15-Oct-25	23-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23
1,1,1,2-Tetrachloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,1-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,2,2 Tetrachloroethane	µg/L	N/A										< 1.0	< 1.0						
1,1,2-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1-Dichloroethane	µg/L	N/A										< 1.1	< 1.1						
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	20-91-II	20-91-II	20-91-II	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III	20-91-III
			6-May-24	16-Oct-24	15-Oct-25	23-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23
1,1,1,2-Tetrachloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,1-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,2,2 Tetrachloroethane	µg/L	N/A										< 1.0	< 1.0						
1,1,2-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1-Dichloroethane	µg/L	N/A										< 1.1	< 1.1						
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	20-91-III	20-91-III	20-91-III	20-91-III (DUP)	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I	21-91-I
			6-May-24	16-Oct-24	15-Oct-25	15-Oct-25	23-May-17	17-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23
1,1,1,2-Tetrachloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,1-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,2,2 Tetrachloroethane	µg/L	N/A											< 1.0	< 1.0					
1,1,2-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1-Dichloroethane	µg/L	N/A											< 1.1	< 1.1					
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	21-91-I	21-91-I	21-91-I	21-91-I	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II	21-91-II
			18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	23-May-17	17-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23
1,1,1,2-Tetrachloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,1-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,2,2 Tetrachloroethane	µg/L	N/A											< 1.0	< 1.0					
1,1,2-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1-Dichloroethane	µg/L	N/A											< 1.1	< 1.1					
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0		< 0.5	< 0.5	< 0.5	< 0.5	1.2	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.1									1.2	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			21-91-II	21-91-II	21-91-II	21-91-II	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III	21-91-III
Parameters	Units	ODWQS	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	23-May-17	17-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23
1,1,1,2-Tetrachloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,1-Trichloroethane	µg/L												< 0.5	< 0.5					
1,1,2,2 Tetrachloroethane	µg/L	N/A											< 1.0	< 1.0					
1,1,2-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1-Dichloroethane	µg/L	N/A											< 1.1	< 1.1					
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	0.7	1	<0.5	1.7	< 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
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	0.7	1.2	<0.5	1.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	1.3	<1.1	1.7									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	21-91-III	21-91-III	21-91-III	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07	23-07
			18-Oct-23	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23
1,1,1,2-Tetrachloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,1-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,2,2 Tetrachloroethane	µg/L	N/A										< 1.0	< 1.0						
1,1,2-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1-Dichloroethane	µg/L	N/A										< 1.1	< 1.1						
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	5	0.6	<0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	23-07	23-07	23-07	24-91	24-91	24-91	24-91	24-91	24-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91
			6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	8-Oct-19	24-May-17	17-Oct-17	8-May-18	11-Oct-18	8-May-19	8-Oct-19	5-May-20	13-Oct-20
1,1,1,2-Tetrachloroethane	µg/L	N/A																< 0.5	< 0.5
1,1,1-Trichloroethane	µg/L	N/A																< 0.5	< 0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A																< 1.0	< 1.0
1,1,2-Trichloroethane	µg/L	N/A																< 0.5	< 0.5
1,1-Dichloroethane	µg/L	N/A																< 1.1	< 1.1
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1														

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

			25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-91	25-96	25-96	25-96	25-96	25-96	25-96	25-96	25-96	25-96
Parameters	Units	ODWQS	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	24-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	
1,1,1,2-Tetrachloroethane	µg/L	N/A															< 0.5	< 0.5		
1,1,1-Trichloroethane	µg/L	N/A															< 0.5	< 0.5		
1,1,1,2 Tetrachloroethane	µg/L	N/A															< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/L	N/A															< 0.5	< 0.5		
1,1-Dichloroethane	µg/L	N/A															< 1.1	< 1.1		
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	µg/L	N/A	< 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	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1									< 1.1	

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	25-96	25-96	25-96	25-96	25-96	25-96	25-96	25-96	27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93
			14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21
1,1,1,2-Tetrachloroethane	µg/L	N/A															< 0.5	< 0.5	
1,1,1-Trichloroethane	µg/L	N/A															< 0.5	< 0.5	
1,1,2,2 Tetrachloroethane	µg/L	N/A															< 1.0	< 1.0	
1,1,2-Trichloroethane	µg/L	N/A															< 0.5	< 0.5	
1,1-Dichloroethane	µg/L	N/A															< 1.1	< 1.1	
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1									< 1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

			27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93	27-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93
Parameters	Units	ODWQS	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	
1,1,1,2-Tetrachloroethane	µg/L	N/A															< 0.5	< 0.5		
1,1,1-Trichloroethane	µg/L	N/A															< 0.5	< 0.5		
1,1,2,2 Tetrachloroethane	µg/L	N/A															< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/L	N/A															< 0.5	< 0.5		
1,1-Dichloroethane	µg/L	N/A															< 1.1	< 1.1		
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 0.5	< 0.5	< 0.5	0.8	<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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	0.9	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	µg/L	N/A	< 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	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1									< 1.1	

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

			28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	28-93	29-93	29-93	29-93	29-93	29-93	29-93	29-93	29-93	29-93
Parameters	Units	ODWQS	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	17-Oct-17	8-May-18	11-Oct-18	9-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	
1,1,1,2-Tetrachloroethane	µg/L	N/A															< 0.5	< 0.5		
1,1,1-Trichloroethane	µg/L	N/A															< 0.5	< 0.5		
1,1,1,2,2 Tetrachloroethane	µg/L	N/A															< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/L	N/A															< 0.5	< 0.5		
1,1-Dichloroethane	µg/L	N/A															< 1.1	< 1.1		
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	µg/L	N/A	< 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	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1									< 1.1	

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	29-93	29-93	29-93	29-93	29-93	29-93	29-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93	30-93
			14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	24-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21
1,1,1,2-Tetrachloroethane	µg/L	N/A														< 0.5	< 0.5		
1,1,1-Trichloroethane	µg/L	N/A														< 0.5	< 0.5		
1,1,2,2 Tetrachloroethane	µg/L	N/A														< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/L	N/A														< 0.5	< 0.5		
1,1-Dichloroethane	µg/L	N/A														< 1.1	< 1.1		
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1									< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	30-93	30-93	30-93	30-93	30-93	30-93	30-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93	31-93
			3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21
1,1,1,2-Tetrachloroethane	µg/L	N/A														< 0.5	< 0.5		
1,1,1-Trichloroethane	µg/L	N/A														< 0.5	< 0.5		
1,1,2,2 Tetrachloroethane	µg/L	N/A														< 1.0	< 1.0		
1,1,2-Trichloroethane	µg/L	N/A														< 0.5	< 0.5		
1,1-Dichloroethane	µg/L	N/A														< 1.1	< 1.1		
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1									< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	31-93	31-93	31-93	31-93	31-93	31-93	31-93	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I
			3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	19-Jul-17	17-Oct-17	8-May-18	24-Jul-18	11-Oct-18	8-May-19	15-Jul-19	9-Oct-19	5-May-20
1,1,1,2-Tetrachloroethane	µg/L	N/A									< 0.5			< 0.1			< 0.5		< 0.5
1,1,1-Trichloroethane	µg/L	N/A									< 0.5			< 0.1			< 0.5		< 0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A									< 0.5			< 0.4			< 0.5		< 1.0
1,1,2-Trichloroethane	µg/L	N/A									< 0.5			< 0.1			< 0.5		< 0.5
1,1-Dichloroethane	µg/L	N/A									< 0.5			< 0.1			< 0.5		< 1.1
1,1-Dichloroethylene	µg/L	14									< 0.5			< 0.1			< 0.5		
Ethylene Dibromide	µg/L	N/A									< 0.2			< 0.1			< 0.2		
1,2-Dichlorobenzene	µg/L	3									< 0.5			< 0.1			< 0.5		
1,2-Dichloroethane	µg/L	5									< 0.5			< 0.1			< 0.5		
1,2-Dichloropropane	µg/L	N/A									< 0.5			< 0.1			< 0.5		
1,3-Dichlorobenzene	µg/L	N/A									< 0.5			< 0.1			< 0.5		
1,4-Dichlorobenzene	µg/L	1									< 0.5			< 0.2			< 0.5		
Methyl Ethyl Ketone	µg/L	N/A									< 20			< 1			< 20		
Methyl Isobutyl Ketone	µg/L	N/A									< 20	< 1.0		< 1			< 20		
Acetone	µg/L	N/A									< 30			< 2			< 30		
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A									< 2			< 0.1			< 2		
Bromoform	µg/L	N/A									< 5			< 0.1			< 5		
Bromomethane	µg/L	N/A									< 0.5			< 0.3			< 0.5		
Carbon Tetrachloride	µg/L	5									< 0.2			< 0.2			< 0.2		
Chlorobenzene	µg/L	80												< 0.2			< 0.5		
Chloroform	µg/L	N/A									< 1			< 0.3			< 1		
cis 1,2-Dichloroethene	µg/L	N/A									< 0.5			< 0.1			< 0.5		
cis 1,3-Dichloroethene	µg/L	N/A									< 0.5			< 0.1			< 0.5		
Dibromochloromethane	µg/L	N/A									< 2			< 0.1			< 2		
Dichlorodifluoromethane	µg/L	N/A															< 5		
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 0.5	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.1	< 1.0	< 0.4	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	N/A									< 2			< 1			< 2		
Methylene Chloride	µg/L	N/A												< 0.3					
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1										

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-I	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II
Parameters	Units	ODWQS	13-Jul-20	13-Oct-20	3-May-21	14-Oct-21	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	13-Jul-16	24-May-17	19-Jul-17	17-Oct-17	8-May-18
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.5	< 0.5				< 0.5			<0.5		<0.5		< 0.5		< 0.5		
1,1,1-Trichloroethane	µg/L	N/A	< 0.5	< 0.5				< 0.5			<0.5		<0.5		< 0.5		< 0.5		
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.5	< 1.0				< 0.5			<0.5		<0.5		< 0.5		< 0.5		
1,1,2-Trichloroethane	µg/L	N/A	< 0.5	< 0.5				< 0.5			<0.5		<0.5		< 0.5		< 0.5		
1,1-Dichloroethane	µg/L	N/A	< 0.5	< 1.1				< 0.5			<0.5		<0.5		< 0.5		< 0.5		
1,1-Dichloroethylene	µg/L	14	< 0.5					< 0.5			<0.5		<0.5				< 0.5		
Ethylene Dibromide	µg/L	N/A	< 0.2					< 0.2			<0.2		<0.2		< 0.5		< 0.2		
1,2-Dichlorobenzene	µg/L	3	< 0.5					< 0.5			<0.5		<0.5		< 0.5		< 0.5		
1,2-Dichloroethane	µg/L	5	< 0.5					< 0.5			<0.5		<0.5		< 0.5		< 0.5		
1,2-Dichloropropane	µg/L	N/A	< 0.5					< 0.5			<0.5		<0.5		< 0.5		< 0.5		
1,3-Dichlorobenzene	µg/L	N/A	< 0.5					< 0.5			<0.5		<0.5		< 0.5		< 0.5		
1,4-Dichlorobenzene	µg/L	1	< 0.5					< 0.5			<0.5		<0.5		< 0.5		< 0.5		
Methyl Ethyl Ketone	µg/L	N/A	< 20					< 20			<2		<2		< 20		< 20		
Methyl Isobutyl Ketone	µg/L	N/A	< 20					< 20			<20		<20		< 20		< 20	< 1.0	
Acetone	µg/L	N/A	< 30					< 30			<30		<30		< 30		< 30		
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A	< 2					< 2			<2		<2		< 2		< 2		
Bromoform	µg/L	N/A	< 5					< 5			<5		<5		< 5		< 5		
Bromomethane	µg/L	N/A	< 0.5					< 0.5			<0.5		<0.5		< 0.5		< 0.5		
Carbon Tetrachloride	µg/L	5	< 0.2					< 0.2			<0.2		<0.2		< 0.2		< 0.2		
Chlorobenzene	µg/L	80	< 0.5					< 0.5			<0.5		<0.5		< 0.5				
Chloroform	µg/L	N/A	< 1					< 1			<1		<1		< 1		< 1		
cis 1,2-Dichloroethene	µg/L	N/A	< 0.5					< 0.5			<0.5		<0.5		< 0.5		< 0.5		
cis 1,3-Dichloroethene	µg/L	N/A	< 0.5					< 0.5			<0.5		<0.5				< 0.5		
Dibromochloromethane	µg/L	N/A	< 2					< 2			<2		<2		< 0.5		< 2		
Dichlorodifluoromethane	µg/L	N/A													< 2				
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 0.5	< 1.0
o-Xylene	µg/L	N/A	< 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	< 1.1	< 1.0
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A	< 2					< 2			<2		<2		< 2		< 2		
Methylene Chloride	µg/L	N/A	< 5					< 5			<5		<5						
Vinyl Chloride	µg/L	2						< 0.2			<0.2		<0.2						
Trichloroethylene	µg/L	5						< 0.5			<0.5		<0.5						
Xylene, m,p,o-	µg/L	300			< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	0	<1.1	<1.5	<1.5					

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-II	32-93-III	32-93-III	32-93-III	32-93-III
Parameters	Units	ODWQS	24-Jul-18	11-Oct-18	8-May-19	5-May-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	18-Oct-23	6-May-24	16-Oct-24	24-May-17	19-Jul-17	17-Oct-17	8-May-18	
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.1			< 0.5	< 0.5		< 0.5		< 0.5	< 0.5					< 0.5			
1,1,1-Trichloroethane	µg/L	N/A	< 0.1			< 0.5	< 0.5		< 0.5		< 0.5	< 0.5					< 0.5			
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.4			< 1.0	< 1.0		< 0.5		< 0.5	< 0.5					< 0.5			
1,1,2-Trichloroethane	µg/L	N/A	< 0.1			< 0.5	< 0.5		< 0.5		< 0.5	< 0.5					< 0.5			
1,1-Dichloroethane	µg/L	N/A	< 0.1			< 1.1	< 1.1		< 0.5		< 0.5	< 0.5					< 0.5			
1,1-Dichloroethylene	µg/L	14	< 0.1						< 0.5		< 0.5	< 0.5					< 0.5			
Ethylene Dibromide	µg/L	N/A	< 0.1						< 0.2		< 0.2	< 0.2					< 0.2			
1,2-Dichlorobenzene	µg/L	3	< 0.1						< 0.5		< 0.5	< 0.5					< 0.5			
1,2-Dichloroethane	µg/L	5	< 0.1						< 0.5		< 0.5	< 0.5					< 0.5			
1,2-Dichloropropane	µg/L	N/A	< 0.1						< 0.5		< 0.5	< 0.5					< 0.5			
1,3-Dichlorobenzene	µg/L	N/A	< 0.1						< 0.5		< 0.5	< 0.5					< 0.5			
1,4-Dichlorobenzene	µg/L	1	< 0.2						< 0.5		< 0.5	< 0.5					< 0.5			
Methyl Ethyl Ketone	µg/L	N/A	< 1						< 20		< 20	< 20					< 20			
Methyl Isobutyl Ketone	µg/L	N/A	< 1						< 20		< 20	< 20					< 20			
Acetone	µg/L	N/A	< 2						< 30		< 30	< 30					< 30			
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A	< 0.1						< 2		< 2	< 2					< 2			
Bromoform	µg/L	N/A	< 0.1						< 5		< 5	< 5					< 5			
Bromomethane	µg/L	N/A	< 0.3						< 0.5		< 0.5	< 0.5					< 0.5			
Carbon Tetrachloride	µg/L	5	< 0.2						< 0.2		< 0.2	< 0.2					< 0.2			
Chlorobenzene	µg/L	80	< 0.2						< 0.5		< 0.5	< 0.5								
Chloroform	µg/L	N/A	< 0.3						< 1		< 1	< 1					< 1			
cis 1,2-Dichloroethene	µg/L	N/A	< 0.1						< 0.5		< 0.5	< 0.5					< 0.5			
cis 1,3-Dichloroethene	µg/L	N/A	< 0.1						< 0.5		< 0.5	< 0.5					< 0.5			
Dibromochloromethane	µg/L	N/A	< 0.1						< 2		< 2	< 2					< 2			
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	< 0.4	< 1.0	< 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	< 1.0	
Toluene	µg/L	N/A	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Methyl tert-Butyl Ether	µg/L	N/A	< 1						< 2		< 2	< 2					< 2			
Methylene Chloride	µg/L	N/A	< 0.3						< 5		< 5	< 5								
Vinyl Chloride	µg/L	2							< 0.2		< 0.2	< 0.2								
Trichloroethylene	µg/L	5							< 0.5		< 0.5	< 0.5								
Xylene, m,p,o-	µg/L	300						< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1					

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	32-93-III	32-93-III	32-93-III	32-93-III	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I	35-93-I
			8-May-19	5-May-20	3-May-21	3-May-22	24-May-17	16-Oct-17	8-May-18	11-Oct-18	10-May-19	9-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23
1,1,1,2-Tetrachloroethane	µg/L	N/A		< 0.5		< 0.5							< 0.5	< 0.5					
1,1,1-Trichloroethane	µg/L	N/A		< 0.5		< 0.5							< 0.5	< 0.5					
1,1,2,2 Tetrachloroethane	µg/L	N/A		< 1.0		< 0.5							< 1.0	< 1.0					
1,1,2-Trichloroethane	µg/L	N/A		< 0.5		< 0.5							< 0.5	< 0.5					
1,1-Dichloroethane	µg/L	N/A		< 1.1		< 0.5							< 1.1	< 1.1					
1,1-Dichloroethylene	µg/L	14				< 0.5													
Ethylene Dibromide	µg/L	N/A				< 0.2													
1,2-Dichlorobenzene	µg/L	3				< 0.5													
1,2-Dichloroethane	µg/L	5				< 0.5													
1,2-Dichloropropane	µg/L	N/A				< 0.5													
1,3-Dichlorobenzene	µg/L	N/A				< 0.5													
1,4-Dichlorobenzene	µg/L	1				< 0.5													
Methyl Ethyl Ketone	µg/L	N/A				< 20													
Methyl Isobutyl Ketone	µg/L	N/A				< 20													
Acetone	µg/L	N/A				< 30													
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A				< 2													
Bromoform	µg/L	N/A				< 5													
Bromomethane	µg/L	N/A				< 0.5													
Carbon Tetrachloride	µg/L	5				< 0.2													
Chlorobenzene	µg/L	80				< 0.5													
Chloroform	µg/L	N/A				< 1													
cis 1,2-Dichloroethene	µg/L	N/A				< 0.5													
cis 1,3-Dichloroethene	µg/L	N/A				< 0.5													
Dibromochloromethane	µg/L	N/A				< 2													
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A				< 2													
Methylene Chloride	µg/L	N/A				< 5													
Vinyl Chloride	µg/L	2				< 0.2													
Trichloroethylene	µg/L	5				< 0.5													
Xylene, m,p,o-	µg/L	300			< 1.1	< 1.1									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			35-93-I	35-93-I	35-93-I	35-93-I	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II	35-93-II
Parameters	Units	ODWQS	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	
1,1,1,2-Tetrachloroethane	µg/L	N/A											< 0.5	< 0.5						
1,1,1-Trichloroethane	µg/L	N/A											< 0.5	< 0.5						
1,1,2,2 Tetrachloroethane	µg/L	N/A											< 1.0	< 1.0						
1,1,2-Trichloroethane	µg/L	N/A											< 0.5	< 0.5						
1,1-Dichloroethane	µg/L	N/A											< 1.1	< 1.1						
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	<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	
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	35-93-II	35-93-II	35-93-II	35-93-II	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93	36-93
			18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	10-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23
1,1,1,2-Tetrachloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,1-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,2,2 Tetrachloroethane	µg/L	N/A											< 1.0	< 1.0					
1,1,2-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1-Dichloroethane	µg/L	N/A											< 1.1	< 1.1					
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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	0.6
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	36-93	36-93	36-93	36-93	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I
			18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	11-May-16	24-May-17	16-Oct-17	8-May-18	10-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22
1,1,1,2-Tetrachloroethane	µg/L	N/A												< 0.5	< 0.5				
1,1,1-Trichloroethane	µg/L	N/A												< 0.5	< 0.5				
1,1,2,2 Tetrachloroethane	µg/L	N/A												< 1.0	< 1.0				
1,1,2-Trichloroethane	µg/L	N/A												< 0.5	< 0.5				
1,1-Dichloroethane	µg/L	N/A												< 1.1	< 1.1				
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.1										< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	37-93-I	37-93-I	37-93-I	37-93-I	37-93-I	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II	37-93-II
			3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	10-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23
1,1,1,2-Tetrachloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,1-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1,2,2 Tetrachloroethane	µg/L	N/A											< 1.0	< 1.0					
1,1,2-Trichloroethane	µg/L	N/A											< 0.5	< 0.5					
1,1-Dichloroethane	µg/L	N/A											< 1.1	< 1.1					
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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	1.7
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	1.1	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	<1.1	<1.1	<1.1	<1.1								< 1.1	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	37-93-II	37-93-II	37-93-II	37-93-II	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93	38-93
			18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	10-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23
1,1,1,2-Tetrachloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,1-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,2,2 Tetrachloroethane	µg/L	N/A										< 1.0	< 1.0						
1,1,2-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1-Dichloroethane	µg/L	N/A										< 1.1	< 1.1						
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.1								< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	38-93	38-93	38-93	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I	39-93-I
			6-May-24	16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	16-Oct-17	10-Oct-18	10-May-19	7-Oct-19	5-May-20	13-Oct-20	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24
1,1,1,2-Tetrachloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,1-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1,2,2 Tetrachloroethane	µg/L	N/A										< 1.0	< 1.0						
1,1,2-Trichloroethane	µg/L	N/A										< 0.5	< 0.5						
1,1-Dichloroethane	µg/L	N/A										< 1.1	< 1.1						
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	39-93-I	39-93-I	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	39-93-II	43-93-I
			16-Oct-24	15-Oct-25	24-May-17	16-Oct-17	10-Oct-18	10-May-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	24-May-17
1,1,1,2-Tetrachloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,1-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,2,2 Tetrachloroethane	µg/L	N/A							< 1.0	< 1.0									
1,1,2-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1-Dichloroethane	µg/L	N/A							< 1.1	< 1.1									
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	< 1.0
o-Xylene	µg/L	N/A	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1							< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I	43-93-I
			17-Oct-17	8-May-18	11-Oct-18	8-May-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5	< 0.5		< 0.5			< 0.5	< 0.5			<0.5
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5	< 0.5		< 0.5			< 0.5	< 0.5			<0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 0.5	< 1.0		< 0.5			< 0.5	< 0.5			<0.5
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5	< 0.5		< 0.5			< 0.5	< 0.5			<0.5
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 0.5	< 1.1		< 0.5			< 0.5	< 0.5			<0.5
1,1-Dichloroethylene	µg/L	14							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
Ethylene Dibromide	µg/L	N/A							< 0.2			< 0.2			< 0.2	< 0.2			<0.2
1,2-Dichlorobenzene	µg/L	3							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
1,2-Dichloroethane	µg/L	5							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
1,2-Dichloropropane	µg/L	N/A							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
1,3-Dichlorobenzene	µg/L	N/A							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
1,4-Dichlorobenzene	µg/L	1							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
Methyl Ethyl Ketone	µg/L	N/A							< 20			< 20			< 20	< 20			<2
Methyl Isobutyl Ketone	µg/L	N/A	< 1.0						< 20			< 20			< 20	< 20			<20
Acetone	µg/L	N/A							< 30			< 30			< 30	< 30			<30
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A							< 2			< 2			< 2	< 2			<2
Bromoform	µg/L	N/A							< 5			< 5			< 5	< 5			<5
Bromomethane	µg/L	N/A							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
Carbon Tetrachloride	µg/L	5							< 0.2			< 0.2			< 0.2	< 0.2			<0.2
Chlorobenzene	µg/L	80							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
Chloroform	µg/L	N/A							< 1			< 1			< 1	< 1			<1
cis 1,2-Dichloroethene	µg/L	N/A							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
cis 1,3-Dichloroethene	µg/L	N/A							< 0.5			< 0.5			< 0.5	< 0.5			<0.5
Dibromochloromethane	µg/L	N/A							< 2			< 2			< 2	< 2			<2
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 0.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1
o-Xylene	µg/L	N/A	< 1.1	< 1.0	< 1.0	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A							< 2			< 2			< 2	< 2			<2
Methylene Chloride	µg/L	N/A							< 5			< 5			< 5	< 5			<5
Vinyl Chloride	µg/L	2										< 0.2			< 0.2	< 0.2			<0.2
Trichloroethylene	µg/L	5										< 0.5			< 0.5	< 0.5			<0.5
Xylene, m,p,o-	µg/L	300									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	0

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			43-93-I	43-93-I	43-93-I (DUP)	43-93-I	43-93-I (DUP)	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II
Parameters	Units	ODWQS	16-Oct-24	24-Jul-25	24-Jul-25	15-Oct-25	15-Oct-25	24-May-17	17-Oct-17	8-May-18	11-Oct-18	8-May-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	
1,1,1,2-Tetrachloroethane	µg/L	N/A		<0.5	<0.5									< 0.5	< 0.5	< 0.5		< 0.5		
1,1,1-Trichloroethane	µg/L	N/A		<0.5	<0.5									< 0.5	< 0.5	< 0.5		< 0.5		
1,1,2,2 Tetrachloroethane	µg/L	N/A		<0.5	<0.5									< 1.0	< 0.5	< 1.0		< 0.5		
1,1,2-Trichloroethane	µg/L	N/A		<0.5	<0.5									< 0.5	< 0.5	< 0.5		< 0.5		
1,1-Dichloroethane	µg/L	N/A		<0.5	<0.5									< 1.1	< 0.5	< 1.1		< 0.5		
1,1-Dichloroethylene	µg/L	14		<0.5	<0.5										< 0.5			< 0.5		
Ethylene Dibromide	µg/L	N/A		<0.2	<0.2										< 0.2			< 0.2		
1,2-Dichlorobenzene	µg/L	3		<0.5	<0.5										< 0.5			< 0.5		
1,2-Dichloroethane	µg/L	5		<0.5	<0.5										< 0.5			< 0.5		
1,2-Dichloropropane	µg/L	N/A		<0.5	<0.5										< 0.5			< 0.5		
1,3-Dichlorobenzene	µg/L	N/A		<0.5	<0.5										< 0.5			< 0.5		
1,4-Dichlorobenzene	µg/L	1		<0.5	<0.5										< 0.5			< 0.5		
Methyl Ethyl Ketone	µg/L	N/A		<2	<2										< 20			< 20		
Methyl Isobutyl Ketone	µg/L	N/A		<20	<20				< 1.0						< 20			< 20		
Acetone	µg/L	N/A		<30	<30										< 30			< 30		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A		<2	<2										< 2			< 2		
Bromoform	µg/L	N/A		<5	<5										< 5			< 5		
Bromomethane	µg/L	N/A		<0.5	<0.5										< 0.5			< 0.5		
Carbon Tetrachloride	µg/L	5		<0.2	<0.2										< 0.2			< 0.2		
Chlorobenzene	µg/L	80		<0.5	<0.5										< 0.5			< 0.5		
Chloroform	µg/L	N/A		<1	<1										< 1			< 1		
cis 1,2-Dichloroethene	µg/L	N/A		<0.5	<0.5										< 0.5			< 0.5		
cis 1,3-Dichloroethene	µg/L	N/A		<0.5	<0.5										< 0.5			< 0.5		
Dibromochloromethane	µg/L	N/A		<2	<2										< 2			< 2		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	<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	
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	<1	< 1.0	< 0.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 1.1	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	µg/L	N/A	<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	
Methyl tert-Butyl Ether	µg/L	N/A		<2	<2										< 2			< 2		
Methylene Chloride	µg/L	N/A		<5	<5										< 5			< 5		
Vinyl Chloride	µg/L	2		<0.2	<0.2													< 0.2		
Trichloroethylene	µg/L	5		<0.5	<0.5													< 0.5		
Xylene, m,p,o-	µg/L	300	<1.1	<1.5	<1.5	<1.5	<1.5										< 1.1	< 1.1	< 1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	43-93-II	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I
Parameters	Units	ODWQS	3-May-22	28-Jul-22	25-Oct-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	13-Jul-16	24-May-17	19-Jul-17	17-Oct-17	8-May-18	24-Jul-18	
1,1,1,2-Tetrachloroethane	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1	
1,1,1-Trichloroethane	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1	
1,1,2,2 Tetrachloroethane	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.4	
1,1,2-Trichloroethane	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1	
1,1-Dichloroethane	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1	
1,1-Dichloroethylene	µg/L	14		< 0.5			< 0.5			<0.5		<0.5				< 0.5			< 0.1	
Ethylene Dibromide	µg/L	N/A		< 0.2			< 0.2			<0.2		<0.2		< 0.5		< 0.2			< 0.1	
1,2-Dichlorobenzene	µg/L	3		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1	
1,2-Dichloroethane	µg/L	5		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1	
1,2-Dichloropropane	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1	
1,3-Dichlorobenzene	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1	
1,4-Dichlorobenzene	µg/L	1		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.2	
Methyl Ethyl Ketone	µg/L	N/A		< 20			< 20			<2		<2		< 20		< 20			< 1	
Methyl Isobutyl Ketone	µg/L	N/A		< 20			< 20			<20		<20		< 20		< 20	< 1.0		< 1	
Acetone	µg/L	N/A		< 30			< 30			<30		<30		< 30		< 30			< 2	
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A		< 2			< 2			<2		<2		< 2		< 2			< 0.1	
Bromoform	µg/L	N/A		< 5			< 5			<5		<5		< 5		< 5			< 0.1	
Bromomethane	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.3	
Carbon Tetrachloride	µg/L	5		< 0.2			< 0.2			<0.2		<0.2		< 0.2		< 0.2			< 0.2	
Chlorobenzene	µg/L	80		< 0.5			< 0.5			<0.5		<0.5		< 0.5					< 0.2	
Chloroform	µg/L	N/A		< 1			< 1			<1		<1		< 1		< 1			< 0.3	
cis 1,2-Dichloroethene	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1	
cis 1,3-Dichloroethene	µg/L	N/A		< 0.5			< 0.5			<0.5		<0.5				< 0.5			< 0.1	
Dibromochloromethane	µg/L	N/A		< 2			< 2			<2		<2		< 0.5		< 2			< 0.1	
Dichlorodifluoromethane	µg/L	N/A												< 2						
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 0.5	< 1.0	< 0.4	
o-Xylene	µg/L	N/A	< 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	< 1.1	< 1.0	< 0.4	
Toluene	µg/L	N/A	< 0.5	< 0.5	< 0.5	0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	
Methyl tert-Butyl Ether	µg/L	N/A		< 2			< 2			<2		<2				< 2			< 1	
Methylene Chloride	µg/L	N/A		< 5			< 5			<5		<5		<5					< 0.3	
Vinyl Chloride	µg/L	2		< 0.2			< 0.2			<0.2		<0.2								
Trichloroethylene	µg/L	5		< 0.5			< 0.5			<0.5		<0.5								
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	<1.5	<1.5							

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I	44-93-I
			11-Oct-18	8-May-19	15-Jul-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	16-Oct-24	24-Jul-25
1,1,1,2-Tetrachloroethane	µg/L	N/A			< 0.5	< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5				<0.5
1,1,1-Trichloroethane	µg/L	N/A			< 0.5	< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5				<0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A			< 0.5	< 1.0	< 0.5	< 1.0		< 0.5			< 0.5		< 0.5				<0.5
1,1,2-Trichloroethane	µg/L	N/A			< 0.5	< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5				<0.5
1,1-Dichloroethane	µg/L	N/A			< 0.5	< 1.1	< 0.5	< 1.1		< 0.5			< 0.5		< 0.5				<0.5
1,1-Dichloroethylene	µg/L	14			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
Ethylene Dibromide	µg/L	N/A			< 0.2		< 0.2			< 0.2			< 0.2		< 0.2				<0.2
1,2-Dichlorobenzene	µg/L	3			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
1,2-Dichloroethane	µg/L	5			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
1,2-Dichloropropane	µg/L	N/A			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
1,3-Dichlorobenzene	µg/L	N/A			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
1,4-Dichlorobenzene	µg/L	1			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
Methyl Ethyl Ketone	µg/L	N/A			< 20		< 20			< 20			< 20		< 20				<2
Methyl Isobutyl Ketone	µg/L	N/A			< 20		< 20			< 20			< 20		< 20				<20
Acetone	µg/L	N/A			< 30		< 30			< 30			< 30		< 30				<30
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A			< 2		< 2			< 2			< 2		< 2				<2
Bromoform	µg/L	N/A			< 5		< 5			< 5			< 5		< 5				<5
Bromomethane	µg/L	N/A			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
Carbon Tetrachloride	µg/L	5			< 0.2		< 0.2			< 0.2			< 0.2		< 0.2				<0.2
Chlorobenzene	µg/L	80			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
Chloroform	µg/L	N/A			< 1		< 1			< 1			< 1		< 1				<1
cis 1,2-Dichloroethene	µg/L	N/A			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
cis 1,3-Dichloroethene	µg/L	N/A			< 0.5		< 0.5			< 0.5			< 0.5		< 0.5				<0.5
Dibromochloromethane	µg/L	N/A			< 2		< 2			< 2			< 2		< 2				<2
Dichlorodifluoromethane	µg/L	N/A			< 5														
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1
o-Xylene	µg/L	N/A	< 1.0	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A			< 2		< 2			< 2			< 2		< 2				<2
Methylene Chloride	µg/L	N/A					< 5			< 5			< 5		< 5				<5
Vinyl Chloride	µg/L	2								< 0.2			< 0.2		< 0.2				<0.2
Trichloroethylene	µg/L	5								< 0.5			< 0.5		< 0.5				<0.5
Xylene, m,p,o-	µg/L	300							< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.5

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			44-93-I	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II
Parameters	Units	ODWQS	15-Oct-25	13-Jul-16	24-May-17	19-Jul-17	17-Oct-17	8-May-18	11-Oct-18	8-May-19	15-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22
1,1,1,2-Tetrachloroethane	µg/L	N/A		< 0.5		< 0.5					< 0.5		< 0.5	< 0.5	< 0.5		< 0.5		
1,1,1-Trichloroethane	µg/L	N/A		< 0.5		< 0.5					< 0.5		< 0.5	< 0.5	< 0.5		< 0.5		
1,1,2,2 Tetrachloroethane	µg/L	N/A		< 0.5		< 0.5					< 0.5		< 1.0	< 0.5	< 1.0		< 0.5		
1,1,2-Trichloroethane	µg/L	N/A		< 0.5		< 0.5					< 0.5		< 0.5	< 0.5	< 0.5		< 0.5		
1,1-Dichloroethane	µg/L	N/A		< 0.5		< 0.5					< 0.5		< 1.1	< 0.5	< 1.1		< 0.5		
1,1-Dichloroethylene	µg/L	14				< 0.5					< 0.5			< 0.5			< 0.5		
Ethylene Dibromide	µg/L	N/A		< 0.5		< 0.2					< 0.2			< 0.2			< 0.2		
1,2-Dichlorobenzene	µg/L	3		< 0.5		< 0.5					< 0.5			< 0.5			< 0.5		
1,2-Dichloroethane	µg/L	5		< 0.5		< 0.5					< 0.5			< 0.5			< 0.5		
1,2-Dichloropropane	µg/L	N/A		< 0.5		< 0.5					< 0.5			< 0.5			< 0.5		
1,3-Dichlorobenzene	µg/L	N/A		< 0.5		< 0.5					< 0.5			< 0.5			< 0.5		
1,4-Dichlorobenzene	µg/L	1		< 0.5		< 0.5					< 0.5			< 0.5			< 0.5		
Methyl Ethyl Ketone	µg/L	N/A		< 20		< 20					< 20			< 20			< 20		
Methyl Isobutyl Ketone	µg/L	N/A		< 20		< 20	< 1.0				< 20			< 20			< 20		
Acetone	µg/L	N/A		< 30		< 30					< 30			< 30			< 30		
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A		< 2		< 2					< 2			< 2			< 2		
Bromoform	µg/L	N/A		< 5		< 5					< 5			< 5			< 5		
Bromomethane	µg/L	N/A		< 0.5		< 0.5					< 0.5			< 0.5			< 0.5		
Carbon Tetrachloride	µg/L	5		< 0.2		< 0.2					< 0.2			< 0.2			< 0.2		
Chlorobenzene	µg/L	80		< 0.5							< 0.5			< 0.5			< 0.5		
Chloroform	µg/L	N/A		< 1		< 1					< 1			< 1			< 1		
cis 1,2-Dichloroethene	µg/L	N/A		< 0.5		< 0.5					< 0.5			< 0.5			< 0.5		
cis 1,3-Dichloroethene	µg/L	N/A				< 0.5					< 0.5			< 0.5			< 0.5		
Dibromochloromethane	µg/L	N/A		< 0.5		< 2					< 2			< 2			< 2		
Dichlorodifluoromethane	µg/L	N/A		< 2							< 5								
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	< 1.0	< 1.0	< 1.0	< 0.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	<0.5		< 0.5	< 0.5	< 1.1	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A				< 2					< 2			< 2			< 2		
Methylene Chloride	µg/L	N/A		<5										< 5			< 5		
Vinyl Chloride	µg/L	2															< 0.2		
Trichloroethylene	µg/L	5															< 0.5		
Xylene, m,p,o-	µg/L	300	<1.5													< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	44-93-II	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93
			28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	13-Jul-16	24-May-17	20-Jul-17	17-Oct-17	8-May-18	24-Jul-18	11-Oct-18	8-May-19
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1		
1,1,1-Trichloroethane	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1		
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.4		
1,1,2-Trichloroethane	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1		
1,1-Dichloroethane	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1		
1,1-Dichloroethylene	µg/L	14	< 0.5		< 0.5			<0.5		<0.5				< 0.5			< 0.1		
Ethylene Dibromide	µg/L	N/A	< 0.2		< 0.2			<0.2		<0.2		< 0.5		< 0.2			< 0.1		
1,2-Dichlorobenzene	µg/L	3	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1		
1,2-Dichloroethane	µg/L	5	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1		
1,2-Dichloropropane	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1		
1,3-Dichlorobenzene	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1		
1,4-Dichlorobenzene	µg/L	1	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.2		
Methyl Ethyl Ketone	µg/L	N/A	< 20		< 20			<2		<2		< 20		< 20			< 1		
Methyl Isobutyl Ketone	µg/L	N/A	< 20		< 20			<20		<20		< 20		< 20			< 1		
Acetone	µg/L	N/A	< 30		< 30			<30		<30		< 30		< 30			< 2		
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A	< 2		< 2			<2		<2		< 2		< 2			< 0.1		
Bromoform	µg/L	N/A	< 5		< 5			<5		<5		< 5		< 5			< 0.1		
Bromomethane	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.3		
Carbon Tetrachloride	µg/L	5	< 0.2		< 0.2			<0.2		<0.2		< 0.2		< 0.2			< 0.2		
Chlorobenzene	µg/L	80	< 0.5		< 0.5			<0.5		<0.5		< 0.5					< 0.2		
Chloroform	µg/L	N/A	< 1		< 1			<1		<1		< 1		< 1			< 0.3		
cis 1,2-Dichloroethene	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5		< 0.5		< 0.5			< 0.1		
cis 1,3-Dichloroethene	µg/L	N/A	< 0.5		< 0.5			<0.5		<0.5				< 0.5			< 0.1		
Dibromochloromethane	µg/L	N/A	< 2		< 2			<2		<2		< 0.5		< 2			< 0.1		
Dichlorodifluoromethane	µg/L	N/A										< 2							
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 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	< 1.0	< 0.4	< 1.0	< 0.5
Toluene	µg/L	N/A	< 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	< 0.1	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	N/A	< 2		< 2			<2		<2				< 2			< 1		
Methylene Chloride	µg/L	N/A	< 5		< 5			<5		<5							< 0.3		
Vinyl Chloride	µg/L	2	< 0.2		< 0.2			<0.2		<0.2									
Trichloroethylene	µg/L	5	< 0.5		< 0.5			<0.5		<0.5									
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	<1.5	<1.5								

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93	45-93
			15-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5			<0.5		<0.5
1,1,1-Trichloroethane	µg/L	N/A	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5			<0.5		<0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.5		< 1.0	< 0.5	< 1.0		< 0.5			< 0.5		< 0.5			<0.5		<0.5
1,1,2-Trichloroethane	µg/L	N/A	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5			<0.5		<0.5
1,1-Dichloroethane	µg/L	N/A	< 0.5		< 1.1	< 0.5	< 1.1		< 0.5			< 0.5		< 0.5			<0.5		<0.5
1,1-Dichloroethylene	µg/L	14	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
Ethylene Dibromide	µg/L	N/A	< 0.2			< 0.2			< 0.2			< 0.2		< 0.2			<0.2		<0.2
1,2-Dichlorobenzene	µg/L	3	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
1,2-Dichloroethane	µg/L	5	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
1,2-Dichloropropane	µg/L	N/A	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
1,3-Dichlorobenzene	µg/L	N/A	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
1,4-Dichlorobenzene	µg/L	1	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
Methyl Ethyl Ketone	µg/L	N/A	< 20			< 20			< 20			< 20		< 20			<2		<2
Methyl Isobutyl Ketone	µg/L	N/A	< 20			< 20			< 20			< 20		< 20			<20		<20
Acetone	µg/L	N/A	< 30			< 30			< 30			< 30		< 30			<30		<30
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A	< 2			< 2			< 2			< 2		< 2			<2		<2
Bromoform	µg/L	N/A	< 5			< 5			< 5			< 5		< 5			<5		<5
Bromomethane	µg/L	N/A	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
Carbon Tetrachloride	µg/L	5	< 0.2			< 0.2			< 0.2			< 0.2		< 0.2			<0.2		<0.2
Chlorobenzene	µg/L	80	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
Chloroform	µg/L	N/A	< 1			< 1			< 1			< 1		< 1			<1		<1
cis 1,2-Dichloroethene	µg/L	N/A	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
cis 1,3-Dichloroethene	µg/L	N/A	< 0.5			< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5
Dibromochloromethane	µg/L	N/A	< 2			< 2			< 2			< 2		< 2			<2		<2
Dichlorodifluoromethane	µg/L	N/A	< 5																
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1
o-Xylene	µg/L	N/A	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A	< 2			< 2			< 2			< 2		< 2			<2		<2
Methylene Chloride	µg/L	N/A				< 5			< 5			< 5		< 5			<5		<5
Vinyl Chloride	µg/L	2							< 0.2			< 0.2		< 0.2			<0.2		<0.2
Trichloroethylene	µg/L	5							< 0.5			< 0.5		< 0.5			<0.5		<0.5
Xylene, m,p,o-	µg/L	300						< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	<1.5

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			45-93	45-93-II	45-93-II	45-93-II	45-93-II	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I
Parameters	Units	ODWQS	15-Oct-25	24-May-17	18-Oct-17	8-May-18	11-Oct-18	24-May-17	18-Oct-17	8-May-18	24-Jul-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	
1,1,1,2-Tetrachloroethane	µg/L	N/A									< 0.1				< 0.5	< 0.5				
1,1,1-Trichloroethane	µg/L	N/A									< 0.1				< 0.5	< 0.5				
1,1,2,2 Tetrachloroethane	µg/L	N/A									< 0.4				< 1.0	< 1.0				
1,1,2-Trichloroethane	µg/L	N/A									< 0.1				< 0.5	< 0.5				
1,1-Dichloroethane	µg/L	N/A									< 0.1				< 1.1	< 1.1				
1,1-Dichloroethylene	µg/L	14									< 0.1									
Ethylene Dibromide	µg/L	N/A									< 0.1									
1,2-Dichlorobenzene	µg/L	3									< 0.1									
1,2-Dichloroethane	µg/L	5									< 0.1									
1,2-Dichloropropane	µg/L	N/A									< 0.1									
1,3-Dichlorobenzene	µg/L	N/A									< 0.1									
1,4-Dichlorobenzene	µg/L	1									< 0.2									
Methyl Ethyl Ketone	µg/L	N/A									< 1									
Methyl Isobutyl Ketone	µg/L	N/A									< 1									
Acetone	µg/L	N/A									< 2									
Benzene	µg/L	5	<0.5	< 0.5	< 0.5	1.9	< 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	
Bromodichloromethane	µg/L	N/A									< 0.1									
Bromoform	µg/L	N/A									< 0.1									
Bromomethane	µg/L	N/A									< 0.3									
Carbon Tetrachloride	µg/L	5									< 0.2									
Chlorobenzene	µg/L	80									< 0.2									
Chloroform	µg/L	N/A									< 0.3									
cis 1,2-Dichloroethene	µg/L	N/A									< 0.1									
cis 1,3-Dichloroethene	µg/L	N/A									< 0.1									
Dibromochloromethane	µg/L	N/A									< 0.1									
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	<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	
m & p-Xylene	µg/L	N/A	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 1.0		< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	µg/L	N/A	<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	
Methyl tert-Butyl Ether	µg/L	N/A									< 1									
Methylene Chloride	µg/L	N/A									< 0.3									
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300	<1.5														< 1.1	< 1.1	< 1.1	

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-I	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II	45-95-II
			25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24
1,1,1,2-Tetrachloroethane	µg/L	N/A									< 0.5	< 0.5							
1,1,1-Trichloroethane	µg/L	N/A									< 0.5	< 0.5							
1,1,2,2 Tetrachloroethane	µg/L	N/A									< 1.0	< 1.0							
1,1,2-Trichloroethane	µg/L	N/A									< 0.5	< 0.5							
1,1-Dichloroethane	µg/L	N/A									< 1.1	< 1.1							
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1
o-Xylene	µg/L	N/A	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1					< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

			45-95-II	45-95-II	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I	46-95-I
Parameters	Units	ODWQS	16-Oct-24	15-Oct-25	24-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	
1,1,1,2-Tetrachloroethane	µg/L	N/A									< 0.5	< 0.5								
1,1,1-Trichloroethane	µg/L	N/A									< 0.5	< 0.5								
1,1,2,2 Tetrachloroethane	µg/L	N/A									< 1.0	< 1.0								
1,1,2-Trichloroethane	µg/L	N/A									< 0.5	< 0.5								
1,1-Dichloroethane	µg/L	N/A									< 1.1	< 1.1								
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	5	<0.5	<0.5	< 0.5	0.6	0.8	< 0.5	0.8	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	<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	
m & p-Xylene	µg/L	N/A	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	
o-Xylene	µg/L	N/A	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	
Toluene	µg/L	N/A	<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	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300	<1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			46-95-I	46-95-I	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II	46-95-II
Parameters	Units	ODWQS	16-Oct-24	15-Oct-25	24-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	
1,1,1,2-Tetrachloroethane	µg/L	N/A									< 0.5	< 0.5								
1,1,1-Trichloroethane	µg/L	N/A									< 0.5	< 0.5								
1,1,2,2 Tetrachloroethane	µg/L	N/A									< 1.0	< 1.0								
1,1,2-Trichloroethane	µg/L	N/A									< 0.5	< 0.5								
1,1-Dichloroethane	µg/L	N/A									< 1.1	< 1.1								
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	5	<0.5	<0.5	1	0.6	0.9	< 0.5	0.9	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	<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	
m & p-Xylene	µg/L	N/A	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	
o-Xylene	µg/L	N/A	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	
Toluene	µg/L	N/A	<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	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300	<1.1	<1.1									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			46-95-II	46-95-II	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I	47-96-I
Parameters	Units	ODWQS	16-Oct-24	15-Oct-25	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25
1,1,1,2-Tetrachloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,1-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,2,2 Tetrachloroethane	µg/L	N/A							< 1.0	< 1.0									
1,1,2-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1-Dichloroethane	µg/L	N/A							< 1.1	< 1.1									
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1
o-Xylene	µg/L	N/A	<0.5	<0.5	< 1.0	< 1.0	< 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
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1	<1.1							< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II	47-96-II
Parameters	Units	ODWQS	24-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	
1,1,1,2-Tetrachloroethane	µg/L	N/A							< 0.5	< 0.5										
1,1,1-Trichloroethane	µg/L	N/A							< 0.5	< 0.5										
1,1,2,2 Tetrachloroethane	µg/L	N/A							< 1.0	< 1.0										
1,1,2-Trichloroethane	µg/L	N/A							< 0.5	< 0.5										
1,1-Dichloroethane	µg/L	N/A							< 1.1	< 1.1										
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.8	<0.5	<0.5	<0.5	<0.5	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.9	<0.5	<0.5	<0.5	<0.5	
Toluene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.3	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	48-92-II (DUP)	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I	48-96-I (DUP)	48-96-I	48-96-I
			15-Oct-25	23-May-17	18-Oct-17	8-May-18	11-Oct-18	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	18-Oct-23	6-May-24	16-Oct-24
1,1,1,2-Tetrachloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,1-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1,2,2 Tetrachloroethane	µg/L	N/A							< 1.0	< 1.0									
1,1,2-Trichloroethane	µg/L	N/A							< 0.5	< 0.5									
1,1-Dichloroethane	µg/L	N/A							< 1.1	< 1.1									
1,1-Dichloroethylene	µg/L	14																	
Ethylene Dibromide	µg/L	N/A																	
1,2-Dichlorobenzene	µg/L	3																	
1,2-Dichloroethane	µg/L	5																	
1,2-Dichloropropane	µg/L	N/A																	
1,3-Dichlorobenzene	µg/L	N/A																	
1,4-Dichlorobenzene	µg/L	1																	
Methyl Ethyl Ketone	µg/L	N/A																	
Methyl Isobutyl Ketone	µg/L	N/A																	
Acetone	µg/L	N/A																	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																	
Bromoform	µg/L	N/A																	
Bromomethane	µg/L	N/A																	
Carbon Tetrachloride	µg/L	5																	
Chlorobenzene	µg/L	80																	
Chloroform	µg/L	N/A																	
cis 1,2-Dichloroethene	µg/L	N/A																	
cis 1,3-Dichloroethene	µg/L	N/A																	
Dibromochloromethane	µg/L	N/A																	
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1
o-Xylene	µg/L	N/A	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A																	
Methylene Chloride	µg/L	N/A																	
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300	<1.1								< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			48-96-I	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II	48-96-II
Parameters	Units	ODWQS	15-Oct-25	23-May-17	18-Oct-17	8-May-18	9-May-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5											
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5											
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 1.0											
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5											
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 1.1											
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	<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	
m & p-Xylene	µg/L	N/A	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	
o-Xylene	µg/L	N/A	<0.5	< 0.5	< 0.5	< 1.0	< 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	
Toluene	µg/L	N/A	<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	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300	<1.1							< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1		

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-I	49-96-II
			17-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5											
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5											
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 1.0											
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5											
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 1.1											
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 1.0	< 1.0	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300								< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1		

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-II	49-96-III
			17-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	24-May-17	
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5											
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5											
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 1.0											
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5											
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 1.1											
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 1.0	< 1.0	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300								< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1		

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

			49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	49-96-III	53-98	53-98
Parameters	Units	ODWQS	17-Oct-17	8-May-18	11-Oct-18	8-May-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	13-Jul-16	25-May-17	
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5									< 0.5		
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5									< 0.5		
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 1.0									< 0.5		
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5									< 0.5		
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 1.1									< 0.5		
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																< 0.5		
1,2-Dichlorobenzene	µg/L	3																< 0.5		
1,2-Dichloroethane	µg/L	5																< 0.5		
1,2-Dichloropropane	µg/L	N/A																< 0.5		
1,3-Dichlorobenzene	µg/L	N/A																< 0.5		
1,4-Dichlorobenzene	µg/L	1																< 0.5		
Methyl Ethyl Ketone	µg/L	N/A																< 20		
Methyl Isobutyl Ketone	µg/L	N/A																< 20		
Acetone	µg/L	N/A																< 30		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A																< 2		
Bromoform	µg/L	N/A																< 5		
Bromomethane	µg/L	N/A																< 0.5		
Carbon Tetrachloride	µg/L	5																< 0.2		
Chlorobenzene	µg/L	80																< 0.5		
Chloroform	µg/L	N/A																< 1		
cis 1,2-Dichloroethene	µg/L	N/A																< 0.5		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																< 0.5		
Dichlorodifluoromethane	µg/L	N/A																< 2		
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	< 0.5	< 1.0	< 1.0	< 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	
Toluene	µg/L	N/A	< 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	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300								< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1			

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98	53-98
			19-Jul-17	18-Oct-17	8-May-18	24-Jul-18	11-Oct-18	15-Jul-19	7-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.5			< 0.1		< 0.5		< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5
1,1,1-Trichloroethane	µg/L	N/A	< 0.5			< 0.1		< 0.5		< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.5			< 0.4		< 0.5		< 1.0	< 0.5	< 1.0		< 0.5			< 0.5		< 0.5
1,1,2-Trichloroethane	µg/L	N/A	< 0.5			< 0.1		< 0.5		< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5
1,1-Dichloroethane	µg/L	N/A	-			< 0.1		< 0.5		< 1.1	< 0.5	< 1.1		< 0.5			< 0.5		< 0.5
1,1-Dichloroethylene	µg/L	14	< 0.5			< 0.1		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
Ethylene Dibromide	µg/L	N/A	< 0.2			< 0.1		< 0.2			< 0.2			< 0.2			< 0.2		< 0.2
1,2-Dichlorobenzene	µg/L	3	< 0.5			< 0.1		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
1,2-Dichloroethane	µg/L	5	< 0.5			< 0.1		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
1,2-Dichloropropane	µg/L	N/A	< 0.5			< 0.1		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
1,3-Dichlorobenzene	µg/L	N/A	< 0.5			< 0.1		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
1,4-Dichlorobenzene	µg/L	1	< 0.5			< 0.2		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
Methyl Ethyl Ketone	µg/L	N/A	< 20			< 1		< 20			< 20			< 20			< 20		< 20
Methyl Isobutyl Ketone	µg/L	N/A				< 1		< 20			< 20			< 20			< 20		< 20
Acetone	µg/L	N/A	< 0.5			< 2		< 30			< 30			< 30			< 30		< 30
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A	< 30			< 0.1		< 2			< 2			< 2			< 2		< 2
Bromoform	µg/L	N/A	< 0.5			< 0.1		< 5			< 5			< 5			< 5		< 5
Bromomethane	µg/L	N/A	< 2			< 0.3		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
Carbon Tetrachloride	µg/L	5	< 0.2			< 0.2		< 0.2			< 0.2			< 0.2			< 0.2		< 0.2
Chlorobenzene	µg/L	80				< 0.2		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
Chloroform	µg/L	N/A	< 1			< 0.3		< 1			< 1			< 1			< 1		< 1
cis 1,2-Dichloroethene	µg/L	N/A	< 0.5			< 0.1		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
cis 1,3-Dichloroethene	µg/L	N/A	< 0.5			< 0.1		< 0.5			< 0.5			< 0.5			< 0.5		< 0.5
Dibromochloromethane	µg/L	N/A	< 2			< 0.1		< 2			< 2			< 2			< 2		< 2
Dichlorodifluoromethane	µg/L	N/A						< 5											
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 1.0	< 0.4	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	N/A	< 2			< 1		< 2			< 2			< 2			< 2		< 2
Methylene Chloride	µg/L	N/A				< 0.3					< 5			< 5			< 5		< 5
Vinyl Chloride	µg/L	2												< 0.2			< 0.2		< 0.2
Trichloroethylene	µg/L	5												< 0.5			< 0.5		< 0.5
Xylene, m,p,o-	µg/L	300											< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

			53-98	53-98	53-98	53-98	53-98	53-98	54-98	54-98	54-98	54-98	54-98	54-98	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I
Parameters	Units	ODWQS	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	10-May-19	7-Oct-19	13-Jul-16	24-May-17	19-Jul-17	17-Oct-17	24-Jul-18
1,1,1,2-Tetrachloroethane	µg/L	N/A			<0.5		<0.5								< 0.5		< 0.5		< 0.1
1,1,1-Trichloroethane	µg/L	N/A			<0.5		<0.5								< 0.5		< 0.5		< 0.1
1,1,2,2 Tetrachloroethane	µg/L	N/A			<0.5		<0.5								< 0.5		< 0.5		< 0.4
1,1,2-Trichloroethane	µg/L	N/A			<0.5		<0.5								< 0.5		< 0.5		< 0.1
1,1-Dichloroethane	µg/L	N/A			<0.5		<0.5								< 0.5		-		< 0.1
1,1-Dichloroethylene	µg/L	14			<0.5		<0.5										< 0.5		< 0.1
Ethylene Dibromide	µg/L	N/A			<0.2		<0.2								< 0.5		< 0.2		< 0.1
1,2-Dichlorobenzene	µg/L	3			<0.5		<0.5								< 0.5		< 0.5		< 0.1
1,2-Dichloroethane	µg/L	5			<0.5		<0.5								< 0.5		< 0.5		< 0.1
1,2-Dichloropropane	µg/L	N/A			<0.5		<0.5								< 0.5		< 0.5		< 0.1
1,3-Dichlorobenzene	µg/L	N/A			<0.5		<0.5								< 0.5		< 0.5		< 0.1
1,4-Dichlorobenzene	µg/L	1			<0.5		<0.5								< 0.5		< 0.5		< 0.2
Methyl Ethyl Ketone	µg/L	N/A			<2		<2								< 20		< 20		< 1
Methyl Isobutyl Ketone	µg/L	N/A			<20		<20								< 20		< 20		< 1
Acetone	µg/L	N/A			<30		<30								< 30		< 0.5		< 2
Benzene	µg/L	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	N/A			<2		<2								< 2		< 30		< 0.1
Bromoform	µg/L	N/A			<5		<5								< 5		< 0.5		< 0.1
Bromomethane	µg/L	N/A			<0.5		<0.5								< 0.5		< 2		< 0.3
Carbon Tetrachloride	µg/L	5			<0.2		<0.2								< 0.2		< 0.2		< 0.2
Chlorobenzene	µg/L	80			<0.5		<0.5								< 0.5				< 0.2
Chloroform	µg/L	N/A			<1		<1								< 1		< 1		< 0.3
cis 1,2-Dichloroethene	µg/L	N/A			<0.5		<0.5								< 0.5		< 0.5		< 0.1
cis 1,3-Dichloroethene	µg/L	N/A			<0.5		<0.5										< 0.5		< 0.1
Dibromochloromethane	µg/L	N/A			<2		<2								< 0.5		< 2		< 0.1
Dichlorodifluoromethane	µg/L	N/A													< 2				
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.4
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5	< 0.4
Toluene	µg/L	N/A	<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	< 0.1
Methyl tert-Butyl Ether	µg/L	N/A			<2		<2										< 2		< 1
Methylene Chloride	µg/L	N/A			<5		<5												< 0.3
Vinyl Chloride	µg/L	2			<0.2		<0.2												
Trichloroethylene	µg/L	5			<0.5		<0.5												
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.1	<1.5	<1.5											

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I	55-98-I
			11-Oct-18	8-May-19	15-Jul-19	7-Oct-19	5-May-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24
1,1,1,2-Tetrachloroethane	µg/L	N/A			< 0.5		< 0.5	< 0.5		< 0.5			< 0.5		< 0.5			<0.5	
1,1,1-Trichloroethane	µg/L	N/A			< 0.5		< 0.5	< 0.5		< 0.5			< 0.5		< 0.5			<0.5	
1,1,2,2 Tetrachloroethane	µg/L	N/A			< 0.5		< 1.0	< 1.0		< 0.5			< 0.5		< 0.5			<0.5	
1,1,2-Trichloroethane	µg/L	N/A			< 0.5		< 0.5	< 0.5		< 0.5			< 0.5		< 0.5			<0.5	
1,1-Dichloroethane	µg/L	N/A			< 0.5		< 1.1	< 1.1		< 0.5			< 0.5		< 0.5			<0.5	
1,1-Dichloroethylene	µg/L	14			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
Ethylene Dibromide	µg/L	N/A			< 0.2					< 0.2			< 0.2		< 0.2			<0.2	
1,2-Dichlorobenzene	µg/L	3			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
1,2-Dichloroethane	µg/L	5			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
1,2-Dichloropropane	µg/L	N/A			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
1,3-Dichlorobenzene	µg/L	N/A			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
1,4-Dichlorobenzene	µg/L	1			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
Methyl Ethyl Ketone	µg/L	N/A			< 20					< 20			< 20		< 20			<2	
Methyl Isobutyl Ketone	µg/L	N/A			< 20					< 20			< 20		< 20			<20	
Acetone	µg/L	N/A			< 30					< 30			< 30		< 30			<30	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A			< 2					< 2			< 2		< 2			<2	
Bromoform	µg/L	N/A			< 5					< 5			< 5		< 5			<5	
Bromomethane	µg/L	N/A			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
Carbon Tetrachloride	µg/L	5			< 0.2					< 0.2			< 0.2		< 0.2			<0.2	
Chlorobenzene	µg/L	80			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
Chloroform	µg/L	N/A			< 1					< 1			< 1		< 1			<1	
cis 1,2-Dichloroethene	µg/L	N/A			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
cis 1,3-Dichloroethene	µg/L	N/A			< 0.5					< 0.5			< 0.5		< 0.5			<0.5	
Dibromochloromethane	µg/L	N/A			< 2					< 2			< 2		< 2			<2	
Dichlorodifluoromethane	µg/L	N/A			< 5														
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1
o-Xylene	µg/L	N/A	< 1.0	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A			< 2					< 2			< 2		< 2			<2	
Methylene Chloride	µg/L	N/A								< 5			< 5		< 5			<5	
Vinyl Chloride	µg/L	2								< 0.2			< 0.2		< 0.2			<0.2	
Trichloroethylene	µg/L	5								< 0.5			< 0.5		< 0.5			<0.5	
Xylene, m,p,o-	µg/L	300							< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			55-98-I	55-98-I	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II
Parameters	Units	ODWQS	24-Jul-25	15-Oct-25	13-Jul-16	24-May-17	19-Jul-17	17-Oct-17	8-May-18	24-Jul-18	11-Oct-18	8-May-19	15-Jul-19	7-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	
1,1,1,2-Tetrachloroethane	µg/L	N/A	<0.5		< 0.5		< 0.5			< 0.1			< 0.5		< 0.5	< 0.5	< 0.5		< 0.5	
1,1,1-Trichloroethane	µg/L	N/A	<0.5		< 0.5		< 0.5			< 0.1			< 0.5		< 0.5	< 0.5	< 0.5		< 0.5	
1,1,2,2 Tetrachloroethane	µg/L	N/A	<0.5		< 0.5		< 0.5			< 0.4			< 0.5		< 1.0	< 0.5	< 1.0		< 0.5	
1,1,2-Trichloroethane	µg/L	N/A	<0.5		< 0.5		< 0.5			< 0.1			< 0.5		< 0.5	< 0.5	< 0.5		< 0.5	
1,1-Dichloroethane	µg/L	N/A	<0.5		< 0.5		-			< 0.1			< 0.5		< 1.1	< 0.5	< 1.1		< 0.5	
1,1-Dichloroethylene	µg/L	14	<0.5				< 0.5			< 0.1			< 0.5			< 0.5			< 0.5	
Ethylene Dibromide	µg/L	N/A	<0.2		< 0.5		< 0.2			< 0.1			< 0.2			< 0.2			< 0.2	
1,2-Dichlorobenzene	µg/L	3	<0.5		< 0.5		< 0.5			< 0.1			< 0.5			< 0.5			< 0.5	
1,2-Dichloroethane	µg/L	5	<0.5		< 0.5		< 0.5			< 0.1			< 0.5			< 0.5			< 0.5	
1,2-Dichloropropane	µg/L	N/A	<0.5		< 0.5		< 0.5			< 0.1			< 0.5			< 0.5			< 0.5	
1,3-Dichlorobenzene	µg/L	N/A	<0.5		< 0.5		< 0.5			< 0.1			< 0.5			< 0.5			< 0.5	
1,4-Dichlorobenzene	µg/L	1	<0.5		< 0.5		< 0.5			< 0.2			< 0.5			< 0.5			< 0.5	
Methyl Ethyl Ketone	µg/L	N/A	<2		< 20		< 20			< 1			< 20			< 20			< 20	
Methyl Isobutyl Ketone	µg/L	N/A	<20		< 20		< 20	< 1.0		< 1			< 20			< 20			< 20	
Acetone	µg/L	N/A	<30		< 30		< 0.5			< 2			< 30			< 30			< 30	
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A	<2		< 2		< 30			< 0.1			< 2			< 2			< 2	
Bromoform	µg/L	N/A	<5		< 5		< 0.5			< 0.1			< 5			< 5			< 5	
Bromomethane	µg/L	N/A	<0.5		< 0.5		< 2			< 0.3			< 0.5			< 0.5			< 0.5	
Carbon Tetrachloride	µg/L	5	<0.2		< 0.2		< 0.2			< 0.2			< 0.2			< 0.2			< 0.2	
Chlorobenzene	µg/L	80	<0.5		< 0.5					< 0.2			< 0.5			< 0.5			< 0.5	
Chloroform	µg/L	N/A	<1		< 1		< 1			< 0.3			< 1			< 1			< 1	
cis 1,2-Dichloroethene	µg/L	N/A	<0.5		< 0.5		< 0.5			< 0.1			< 0.5			< 0.5			< 0.5	
cis 1,3-Dichloroethene	µg/L	N/A	<0.5				< 0.5			< 0.1			< 0.5			< 0.5			< 0.5	
Dibromochloromethane	µg/L	N/A	<2		< 0.5		< 2			< 0.1			< 2			< 2			< 2	
Dichlorodifluoromethane	µg/L	N/A			< 2								< 5							
Ethylbenzene	µg/L	2.4	<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	
m & p-Xylene	µg/L	N/A	<1	<1	< 1.0	< 1.0	< 1.0	< 0.5	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	<0.5	<0.5		< 0.5	< 0.5	< 1.1	< 1.0		< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	µg/L	N/A	<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	
Methyl tert-Butyl Ether	µg/L	N/A	<2				< 2			< 1			< 2			< 2			< 2	
Methylene Chloride	µg/L	N/A	<5		<5					< 0.3						< 5			< 5	
Vinyl Chloride	µg/L	2	<0.2																< 0.2	
Trichloroethylene	µg/L	5	<0.5																< 0.5	
Xylene, m,p,o-	µg/L	300	<1.5	<1.5														< 1.1	< 1.1	

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	55-98-II	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I
			14-Oct-21	3-May-22	28-Jul-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	24-May-17	16-Oct-17	8-May-18	11-Oct-18	10-May-19	8-Oct-19	5-May-20
1,1,1,2-Tetrachloroethane	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								< 0.5
1,1,1-Trichloroethane	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								< 0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								< 1.0
1,1,2-Trichloroethane	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								< 0.5
1,1-Dichloroethane	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								< 1.1
1,1-Dichloroethylene	µg/L	14			< 0.5	< 0.5			<0.5		<0.5								
Ethylene Dibromide	µg/L	N/A			< 0.2	< 0.2			<0.2		<0.2								
1,2-Dichlorobenzene	µg/L	3			< 0.5	< 0.5			<0.5		<0.5								
1,2-Dichloroethane	µg/L	5			< 0.5	< 0.5			<0.5		<0.5								
1,2-Dichloropropane	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								
1,3-Dichlorobenzene	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								
1,4-Dichlorobenzene	µg/L	1			< 0.5	< 0.5			<0.5		<0.5								
Methyl Ethyl Ketone	µg/L	N/A			< 20	< 20			<2		<2								
Methyl Isobutyl Ketone	µg/L	N/A			< 20	< 20			<20		<20								
Acetone	µg/L	N/A			< 30	< 30			<30		<30								
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A			< 2	< 2			<2		<2								
Bromoform	µg/L	N/A			< 5	< 5			<5		<5								
Bromomethane	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								
Carbon Tetrachloride	µg/L	5			< 0.2	< 0.2			<0.2		<0.2								
Chlorobenzene	µg/L	80			< 0.5	< 0.5			<0.5		<0.5								
Chloroform	µg/L	N/A			< 1	< 1			<1		<1								
cis 1,2-Dichloroethene	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								
cis 1,3-Dichloroethene	µg/L	N/A			< 0.5	< 0.5			<0.5		<0.5								
Dibromochloromethane	µg/L	N/A			< 2	< 2			<2		<2								
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A			< 2	< 2			<2		<2								
Methylene Chloride	µg/L	N/A			< 5	< 5			<5		<5								
Vinyl Chloride	µg/L	2			< 0.2	< 0.2			<0.2		<0.2								
Trichloroethylene	µg/L	5			< 0.5	< 0.5			<0.5		<0.5								
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	<1.5	<1.5							

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I	56-02-I (DUP)	56-02-II	56-02-II
Parameters	Units	ODWQS	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	15-Oct-25			
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.5	< 0.5		< 0.5			< 0.5	< 0.5			<0.5		<0.5					
1,1,1-Trichloroethane	µg/L	N/A	< 0.5	< 0.5		< 0.5			< 0.5	< 0.5			<0.5		<0.5					
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.5	< 1.0		< 0.5			< 0.5	< 0.5			<0.5		<0.5					
1,1,2-Trichloroethane	µg/L	N/A	< 0.5	< 0.5		< 0.5			< 0.5	< 0.5			<0.5		<0.5					
1,1-Dichloroethane	µg/L	N/A	< 0.5	< 1.1		< 0.5			< 0.5	< 0.5			<0.5		<0.5					
1,1-Dichloroethylene	µg/L	14	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
Ethylene Dibromide	µg/L	N/A	< 0.2			< 0.2			< 0.2	< 0.2			<0.2		<0.2					
1,2-Dichlorobenzene	µg/L	3	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
1,2-Dichloroethane	µg/L	5	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
1,2-Dichloropropane	µg/L	N/A	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
1,3-Dichlorobenzene	µg/L	N/A	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
1,4-Dichlorobenzene	µg/L	1	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
Methyl Ethyl Ketone	µg/L	N/A	< 20			< 20			< 20	< 20			<2		<2					
Methyl Isobutyl Ketone	µg/L	N/A	< 20			< 20			< 20	< 20			<20		<20					
Acetone	µg/L	N/A	< 30			< 30			< 30	< 30			<30		<30					
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A	< 2			< 2			< 2	< 2			<2		<2					
Bromoform	µg/L	N/A	< 5			< 5			< 5	< 5			<5		<5					
Bromomethane	µg/L	N/A	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
Carbon Tetrachloride	µg/L	5	< 0.2			< 0.2			< 0.2	< 0.2			<0.2		<0.2					
Chlorobenzene	µg/L	80	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
Chloroform	µg/L	N/A	< 1			< 1			< 1	< 1			<1		<1					
cis 1,2-Dichloroethene	µg/L	N/A	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
cis 1,3-Dichloroethene	µg/L	N/A	< 0.5			< 0.5			< 0.5	< 0.5			<0.5		<0.5					
Dibromochloromethane	µg/L	N/A	< 2			< 2			< 2	< 2			<2		<2					
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1	<1	<1			< 1.0
o-Xylene	µg/L	N/A	< 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
Toluene	µg/L	N/A	< 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
Methyl tert-Butyl Ether	µg/L	N/A	< 2			< 2			< 2	< 2			<2		<2					
Methylene Chloride	µg/L	N/A	< 5			< 5			< 5	< 5			<5		<5				<5	
Vinyl Chloride	µg/L	2				< 0.2			< 0.2	< 0.2			<0.2		<0.2					
Trichloroethylene	µg/L	5				< 0.5			< 0.5	< 0.5			<0.5		<0.5					
Xylene, m,p,o-	µg/L	300			< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	<1.5	<1.5	<1.5			

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	56-02-II	56-02-II	56-02-II	56-02-II	56-02-II	56-02-II	56-02-II	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I	57-02-I
			16-Oct-17	8-May-18	11-Oct-18	10-May-19	8-Oct-19	13-Oct-20	25-Oct-22	13-Jul-16	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18	11-Oct-18	15-Jul-19	9-Oct-19	13-Jul-16
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5		< 0.5		< 0.5			< 0.1		< 0.5		< 0.5
1,1,1-Trichloroethane	µg/L	N/A						< 0.5		< 0.5		< 0.5			< 0.1		< 0.5		< 0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0		< 0.5		< 0.5			< 0.4		< 0.5		< 0.5
1,1,2-Trichloroethane	µg/L	N/A						< 0.5		< 0.5		< 0.5			< 0.1		< 0.5		< 0.5
1,1-Dichloroethane	µg/L	N/A						< 1.1		< 0.5		-			< 0.1		< 0.5		< 0.5
1,1-Dichloroethylene	µg/L	14										< 0.5			< 0.1		< 0.5		
Ethylene Dibromide	µg/L	N/A								< 0.5		< 0.2			< 0.1		< 0.2		< 0.5
1,2-Dichlorobenzene	µg/L	3								< 0.5		< 0.5			< 0.1		< 0.5		< 0.5
1,2-Dichloroethane	µg/L	5								< 0.5		< 0.5			< 0.1		< 0.5		< 0.5
1,2-Dichloropropane	µg/L	N/A								< 0.5		< 0.5			< 0.1		< 0.5		< 0.5
1,3-Dichlorobenzene	µg/L	N/A								< 0.5		< 0.5			< 0.1		< 0.5		< 0.5
1,4-Dichlorobenzene	µg/L	1								< 0.5		< 0.5			< 0.2		< 0.5		< 0.5
Methyl Ethyl Ketone	µg/L	N/A								< 20		< 20			< 1		< 20		< 20
Methyl Isobutyl Ketone	µg/L	N/A								< 20					< 1		< 20		< 20
Acetone	µg/L	N/A								< 30		< 0.5			< 2		< 30		< 30
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A								< 2		< 30			< 0.1		< 2		< 2
Bromoform	µg/L	N/A								< 5		< 5			< 0.1		< 5		< 5
Bromomethane	µg/L	N/A								< 0.5		< 0.5			< 0.3		< 0.5		< 0.5
Carbon Tetrachloride	µg/L	5								< 0.2		< 0.2			< 0.2		< 0.2		< 0.2
Chlorobenzene	µg/L	80								< 0.5					< 0.2		< 0.5		< 0.5
Chloroform	µg/L	N/A								< 1		< 1			< 0.3		< 1		6
cis 1,2-Dichloroethene	µg/L	N/A								< 0.5		< 0.5			< 0.1		< 0.5		< 0.5
cis 1,3-Dichloroethene	µg/L	N/A										< 0.5			< 0.1		< 0.5		
Dibromochloromethane	µg/L	N/A								< 0.5		< 2			< 0.1		< 2		< 0.5
Dichlorodifluoromethane	µg/L	N/A								< 2							< 5		< 2
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	< 0.5	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5	< 1.0	< 0.4	< 1.0	< 0.5	< 0.5	
Toluene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.5	< 0.5	
Methyl tert-Butyl Ether	µg/L	N/A										< 2			< 1		< 2		
Methylene Chloride	µg/L	N/A								<5					< 0.3				<5
Vinyl Chloride	µg/L	2																	
Trichloroethylene	µg/L	5																	
Xylene, m,p,o-	µg/L	300							< 1.1										

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II
Parameters	Units	ODWQS	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18	11-Oct-18	15-Jul-19	9-Oct-19	5-May-20	13-Jul-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	
1,1,1,2-Tetrachloroethane	µg/L	N/A		< 0.5			< 0.1		< 0.5		< 0.5	< 0.5		< 0.5			< 0.5		< 0.5	
1,1,1-Trichloroethane	µg/L	N/A		< 0.5			< 0.1		< 0.5		< 0.5	< 0.5		< 0.5			< 0.5		< 0.5	
1,1,2,2 Tetrachloroethane	µg/L	N/A		< 0.5			< 0.4		< 0.5		< 1.0	< 0.5		< 0.5			< 0.5		< 0.5	
1,1,2-Trichloroethane	µg/L	N/A		< 0.5			< 0.1		< 0.5		< 0.5	< 0.5		< 0.5			< 0.5		< 0.5	
1,1-Dichloroethane	µg/L	N/A		-			< 0.1		< 0.5		< 1.1	< 0.5		< 0.5			< 0.5		< 0.5	
1,1-Dichloroethylene	µg/L	14		< 0.5			< 0.1		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
Ethylene Dibromide	µg/L	N/A		< 0.2			< 0.1		< 0.2			< 0.2		< 0.2			< 0.2		< 0.2	
1,2-Dichlorobenzene	µg/L	3		< 0.5			< 0.1		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
1,2-Dichloroethane	µg/L	5		< 0.5			< 0.1		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
1,2-Dichloropropane	µg/L	N/A		< 0.5			< 0.1		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
1,3-Dichlorobenzene	µg/L	N/A		< 0.5			< 0.1		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
1,4-Dichlorobenzene	µg/L	1		< 0.5			< 0.2		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
Methyl Ethyl Ketone	µg/L	N/A		< 20			< 1		< 20			< 20		< 20			< 20		< 20	
Methyl Isobutyl Ketone	µg/L	N/A					< 1		< 20			< 20		< 20			< 20		< 20	
Acetone	µg/L	N/A		< 0.5			< 2		< 30			< 30		< 30			< 30		< 30	
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A		< 30			< 0.1		< 2			< 2		< 2			< 2		< 2	
Bromoform	µg/L	N/A		< 5			< 0.1		< 5			< 5		< 5			< 5		< 5	
Bromomethane	µg/L	N/A		< 0.5			< 0.3		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
Carbon Tetrachloride	µg/L	5		< 0.2			< 0.2		< 0.2			< 0.2		< 0.2			< 0.2		< 0.2	
Chlorobenzene	µg/L	80					< 0.2		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
Chloroform	µg/L	N/A		< 1			< 0.3		< 1			< 1		< 1			< 1		< 1	
cis 1,2-Dichloroethene	µg/L	N/A		< 0.5			< 0.1		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
cis 1,3-Dichloroethene	µg/L	N/A		< 0.5			< 0.1		< 0.5			< 0.5		< 0.5			< 0.5		< 0.5	
Dibromochloromethane	µg/L	N/A		< 2			< 0.1		< 2			< 2		< 2			< 2		< 2	
Dichlorodifluoromethane	µg/L	N/A							< 5											
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 1.0	< 0.4	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	µg/L	N/A	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Methyl tert-Butyl Ether	µg/L	N/A		< 2			< 1		< 2			< 2		< 2			< 2		< 2	
Methylene Chloride	µg/L	N/A					< 0.3					< 5		< 5			< 5		< 5	
Vinyl Chloride	µg/L	2												< 0.2			< 0.2		< 0.2	
Trichloroethylene	µg/L	5												< 0.5			< 0.5		< 0.5	
Xylene, m,p,o-	µg/L	300											< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	57-02-II	57-02-II	57-02-II	57-02-II	57-02-II	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I
			18-Oct-23	6-May-24	16-Oct-24	24-Jul-25	15-Oct-25	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18	11-Oct-18	16-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21
1,1,1,2-Tetrachloroethane	µg/L	N/A				<0.5			< 0.5					< 0.5		< 0.5	< 0.5	< 0.5	
1,1,1-Trichloroethane	µg/L	N/A				<0.5			< 0.5					< 0.5		< 0.5	< 0.5	< 0.5	
1,1,2,2 Tetrachloroethane	µg/L	N/A				<0.5			< 0.5					< 0.5		< 1.0	< 0.5	< 1.0	
1,1,2-Trichloroethane	µg/L	N/A				<0.5			< 0.5					< 0.5		< 0.5	< 0.5	< 0.5	
1,1-Dichloroethane	µg/L	N/A				<0.5			-					< 0.5		< 1.1	< 0.5	< 1.1	
1,1-Dichloroethylene	µg/L	14				<0.5			< 0.5					< 0.5			< 0.5		
Ethylene Dibromide	µg/L	N/A				<0.2			< 0.2					< 0.2			< 0.2		
1,2-Dichlorobenzene	µg/L	3				<0.5			< 0.5					< 0.5			< 0.5		
1,2-Dichloroethane	µg/L	5				<0.5			< 0.5					< 0.5			< 0.5		
1,2-Dichloropropane	µg/L	N/A				<0.5			< 0.5					< 0.5			< 0.5		
1,3-Dichlorobenzene	µg/L	N/A				<0.5			< 0.5					< 0.5			< 0.5		
1,4-Dichlorobenzene	µg/L	1				<0.5			< 0.5					< 0.5			< 0.5		
Methyl Ethyl Ketone	µg/L	N/A				<2			< 20					< 20			< 20		
Methyl Isobutyl Ketone	µg/L	N/A				<20								< 20			< 20		
Acetone	µg/L	N/A				<30			< 0.5					< 30			< 30		
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A				<2			< 30					< 2			< 2		
Bromoform	µg/L	N/A				<5			< 5					< 5			< 5		
Bromomethane	µg/L	N/A				<0.5			< 0.5					< 0.5			< 0.5		
Carbon Tetrachloride	µg/L	5				<0.2			< 0.2					< 0.2			< 0.2		
Chlorobenzene	µg/L	80				<0.5								< 0.5			< 0.5		
Chloroform	µg/L	N/A				<1			< 1					< 1			< 1		
cis 1,2-Dichloroethene	µg/L	N/A				<0.5			< 0.5					< 0.5			< 0.5		
cis 1,3-Dichloroethene	µg/L	N/A				<0.5			< 0.5					< 0.5			< 0.5		
Dibromochloromethane	µg/L	N/A				<2			< 2					< 2			< 2		
Dichlorodifluoromethane	µg/L	N/A												< 5					
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 0.4	< 0.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A				<2			< 2					< 2			< 2		
Methylene Chloride	µg/L	N/A				<5											< 5		
Vinyl Chloride	µg/L	2				<0.2													
Trichloroethylene	µg/L	5				<0.5													
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.5	<1.5												< 1.1

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

			58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	58-I	59-05	59-05	59-05	59-05	59-05
Parameters	Units	ODWQS	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	23-May-17	18-Oct-17	8-May-18	11-Oct-18	9-May-19	
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
1,1,1-Trichloroethane	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
1,1,2-Trichloroethane	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
1,1-Dichloroethane	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
1,1-Dichloroethylene	µg/L	14	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
Ethylene Dibromide	µg/L	N/A	< 0.2			< 0.2		< 0.2			<0.2		<0.2							
1,2-Dichlorobenzene	µg/L	3	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
1,2-Dichloroethane	µg/L	5	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
1,2-Dichloropropane	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
1,3-Dichlorobenzene	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
1,4-Dichlorobenzene	µg/L	1	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
Methyl Ethyl Ketone	µg/L	N/A	< 20			< 20		< 20			<2		<2							
Methyl Isobutyl Ketone	µg/L	N/A	< 20			< 20		< 20			<20		<20							
Acetone	µg/L	N/A	< 30			< 30		< 30			<30		<30							
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A	< 2			< 2		< 2			<2		<2							
Bromoform	µg/L	N/A	< 5			< 5		< 5			<5		<5							
Bromomethane	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
Carbon Tetrachloride	µg/L	5	< 0.2			< 0.2		< 0.2			<0.2		<0.2							
Chlorobenzene	µg/L	80	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
Chloroform	µg/L	N/A	< 1			< 1		< 1			<1		<1							
cis 1,2-Dichloroethene	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
cis 1,3-Dichloroethene	µg/L	N/A	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
Dibromochloromethane	µg/L	N/A	< 2			< 2		< 2			<2		<2							
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	< 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	< 1.0	< 1.0	< 0.5	
Toluene	µg/L	N/A	< 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	
Methyl tert-Butyl Ether	µg/L	N/A	< 2			< 2		< 2			<2		<2							
Methylene Chloride	µg/L	N/A	< 5			< 5		< 5			<5		<5							
Vinyl Chloride	µg/L	2	< 0.2			< 0.2		< 0.2			<0.2		<0.2							
Trichloroethylene	µg/L	5	< 0.5			< 0.5		< 0.5			<0.5		<0.5							
Xylene, m,p,o-	µg/L	300	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	<1.5	<1.5						

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	59-05	60-05	60-05	60-05	60-05	60-05
Parameters	Units	ODWQS	8-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	23-May-17	18-Oct-17	11-Oct-18	9-May-19	8-Oct-19	
1,1,1,2-Tetrachloroethane	µg/L	N/A		< 0.5	< 0.5															
1,1,1-Trichloroethane	µg/L	N/A		< 0.5	< 0.5															
1,1,2,2 Tetrachloroethane	µg/L	N/A		< 1.0	< 1.0															
1,1,2-Trichloroethane	µg/L	N/A		< 0.5	< 0.5															
1,1-Dichloroethane	µg/L	N/A		< 1.1	< 1.1															
1,1-Dichloroethylene	µg/L	14																		
Ethylene Dibromide	µg/L	N/A																		
1,2-Dichlorobenzene	µg/L	3																		
1,2-Dichloroethane	µg/L	5																		
1,2-Dichloropropane	µg/L	N/A																		
1,3-Dichlorobenzene	µg/L	N/A																		
1,4-Dichlorobenzene	µg/L	1																		
Methyl Ethyl Ketone	µg/L	N/A																		
Methyl Isobutyl Ketone	µg/L	N/A																		
Acetone	µg/L	N/A																		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A																		
Bromoform	µg/L	N/A																		
Bromomethane	µg/L	N/A																		
Carbon Tetrachloride	µg/L	5																		
Chlorobenzene	µg/L	80																		
Chloroform	µg/L	N/A																		
cis 1,2-Dichloroethene	µg/L	N/A																		
cis 1,3-Dichloroethene	µg/L	N/A																		
Dibromochloromethane	µg/L	N/A																		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	µg/L	N/A	< 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	< 1.0	< 0.5	< 0.5	
Toluene	µg/L	N/A	< 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	
Methyl tert-Butyl Ether	µg/L	N/A																		
Methylene Chloride	µg/L	N/A																		
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300				< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1						

ODWQS - Ontario Drinking Water Quality
Standards
Bold & Highlighted - ODWQS exceedance
Bold - Detection

Ground Water Chemistry Summary - VOC

			60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	60-05	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I
Parameters	Units	ODWQS	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	25-Oct-22	3-May-23	18-Oct-23	6-May-24	16-Oct-24	15-Oct-25	13-Jul-16	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18	
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.5	< 0.5										< 0.5		< 0.5			< 0.1	
1,1,1-Trichloroethane	µg/L	N/A	< 0.5	< 0.5										< 0.5		< 0.5			< 0.1	
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 1.0	< 1.0										< 0.5		< 0.5			< 0.4	
1,1,2-Trichloroethane	µg/L	N/A	< 0.5	< 0.5										< 0.5		< 0.5			< 0.1	
1,1-Dichloroethane	µg/L	N/A	< 1.1	< 1.1										< 0.5		< 0.5			< 0.1	
1,1-Dichloroethylene	µg/L	14														< 0.5			< 0.1	
Ethylene Dibromide	µg/L	N/A												< 0.5		< 0.2			< 0.1	
1,2-Dichlorobenzene	µg/L	3												< 0.5		< 0.5			< 0.1	
1,2-Dichloroethane	µg/L	5												< 0.5		< 0.5			< 0.1	
1,2-Dichloropropane	µg/L	N/A												< 0.5		< 0.5			< 0.1	
1,3-Dichlorobenzene	µg/L	N/A												< 0.5		< 0.5			< 0.1	
1,4-Dichlorobenzene	µg/L	1												< 0.5		< 0.5			< 0.2	
Methyl Ethyl Ketone	µg/L	N/A												< 20		< 20			< 1	
Methyl Isobutyl Ketone	µg/L	N/A												< 20		< 20			< 1	
Acetone	µg/L	N/A												< 30		< 30			< 2	
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A												< 2		< 2			< 0.1	
Bromoform	µg/L	N/A												< 5		< 5			< 0.1	
Bromomethane	µg/L	N/A												< 0.5		< 0.5			< 0.3	
Carbon Tetrachloride	µg/L	5												< 0.2		< 0.2			< 0.2	
Chlorobenzene	µg/L	80												< 0.5					< 0.2	
Chloroform	µg/L	N/A												< 1		< 1			< 0.3	
cis 1,2-Dichloroethene	µg/L	N/A												< 0.5		< 0.5			< 0.1	
cis 1,3-Dichloroethene	µg/L	N/A														< 0.5			< 0.1	
Dibromochloromethane	µg/L	N/A												< 0.5		< 2			< 0.1	
Dichlorodifluoromethane	µg/L	N/A												< 2						
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.4	
o-Xylene	µg/L	N/A	< 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	
Toluene	µg/L	N/A	< 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	
Methyl tert-Butyl Ether	µg/L	N/A														< 2			< 1	
Methylene Chloride	µg/L	N/A												< 5					< 0.3	
Vinyl Chloride	µg/L	2																		
Trichloroethylene	µg/L	5																		
Xylene, m,p,o-	µg/L	300			< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1							

ODWQS - Ontario Drinking Water Quality
Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I
			24-Jul-18	24-Jul-18	11-Oct-18	9-May-19	16-Jul-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.1				< 0.5		< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5	
1,1,1-Trichloroethane	µg/L	N/A	< 0.1				< 0.5		< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5	
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.4				< 0.5		< 1.0	< 0.5	< 1.0		< 0.5			< 0.5		< 0.5	
1,1,2-Trichloroethane	µg/L	N/A	< 0.1				< 0.5		< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5	
1,1-Dichloroethane	µg/L	N/A	< 0.1				< 0.5		< 1.1	< 0.5	< 1.1		< 0.5			< 0.5		< 0.5	
1,1-Dichloroethylene	µg/L	14	< 0.1				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
Ethylene Dibromide	µg/L	N/A	< 0.1				< 0.2			< 0.2			< 0.2			< 0.2		< 0.2	
1,2-Dichlorobenzene	µg/L	3	< 0.1				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
1,2-Dichloroethane	µg/L	5	< 0.1				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
1,2-Dichloropropane	µg/L	N/A	< 0.1				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
1,3-Dichlorobenzene	µg/L	N/A	< 0.1				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
1,4-Dichlorobenzene	µg/L	1	< 0.2				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
Methyl Ethyl Ketone	µg/L	N/A	< 1				< 20			< 20			< 20			< 20		< 20	
Methyl Isobutyl Ketone	µg/L	N/A	< 1				< 20			< 20			< 20			< 20		< 20	
Acetone	µg/L	N/A	< 2				< 30			< 30			< 30			< 30		< 30	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A	< 0.1				< 2			< 2			< 2			< 2		< 2	
Bromoform	µg/L	N/A	< 0.1				< 5			< 5			< 5			< 5		< 5	
Bromomethane	µg/L	N/A	< 0.3				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
Carbon Tetrachloride	µg/L	5	< 0.2				< 0.2			< 0.2			< 0.2			< 0.2		< 0.2	
Chlorobenzene	µg/L	80	< 0.2				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
Chloroform	µg/L	N/A	< 0.3				< 1			< 1			< 1			< 1		< 1	
cis 1,2-Dichloroethene	µg/L	N/A	< 0.1				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
cis 1,3-Dichloroethene	µg/L	N/A	< 0.1				< 0.5			< 0.5			< 0.5			< 0.5		< 0.5	
Dibromochloromethane	µg/L	N/A	< 0.1				< 2			< 2			< 2			< 2		< 2	
Dichlorodifluoromethane	µg/L	N/A					< 5												
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 0.4	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1
o-Xylene	µg/L	N/A	< 0.4	< 0.1	< 1.0	< 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
Toluene	µg/L	N/A	< 0.1		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	N/A	< 1				< 2			< 2			< 2			< 2		< 2	
Methylene Chloride	µg/L	N/A	< 0.3							< 5			< 5			< 5		< 5	
Vinyl Chloride	µg/L	2											< 0.2			< 0.2		< 0.2	
Trichloroethylene	µg/L	5											< 0.5			< 0.5		< 0.5	
Xylene, m,p,o-	µg/L	300										< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I	61-10-I (DUP)	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II
			6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	15-Oct-25	13-Jul-16	25-May-17	20-Jul-17	18-Oct-17	8-May-18	24-Jul-18	24-Jul-18	11-Oct-18	9-May-19	16-Jul-19	9-Oct-19
1,1,1,2-Tetrachloroethane	µg/L	N/A		<0.5		<0.5			< 0.5		< 0.5			< 0.1				< 0.5	
1,1,1-Trichloroethane	µg/L	N/A		<0.5		<0.5			< 0.5		< 0.5			< 0.1				< 0.5	
1,1,2,2 Tetrachloroethane	µg/L	N/A		<0.5		<0.5			< 0.5		< 0.5			< 0.4				< 0.5	
1,1,2-Trichloroethane	µg/L	N/A		<0.5		<0.5			< 0.5		< 0.5			< 0.1				< 0.5	
1,1-Dichloroethane	µg/L	N/A		<0.5		<0.5			< 0.5		< 0.5			< 0.1				< 0.5	
1,1-Dichloroethylene	µg/L	14		<0.5		<0.5					< 0.5			< 0.1				< 0.5	
Ethylene Dibromide	µg/L	N/A		<0.2		<0.2			< 0.5		< 0.2			< 0.1				< 0.2	
1,2-Dichlorobenzene	µg/L	3		<0.5		<0.5			< 0.5		< 0.5			< 0.1				< 0.5	
1,2-Dichloroethane	µg/L	5		<0.5		<0.5			< 0.5		< 0.5			< 0.1				< 0.5	
1,2-Dichloropropane	µg/L	N/A		<0.5		<0.5			< 0.5		< 0.5			< 0.1				< 0.5	
1,3-Dichlorobenzene	µg/L	N/A		<0.5		<0.5			< 0.5		< 0.5			< 0.1				< 0.5	
1,4-Dichlorobenzene	µg/L	1		<0.5		<0.5			< 0.5		< 0.5			< 0.2				< 0.5	
Methyl Ethyl Ketone	µg/L	N/A		<2		<2			< 20		< 20			< 1				< 20	
Methyl Isobutyl Ketone	µg/L	N/A		<20		<20			< 20		< 20			< 1				< 20	
Acetone	µg/L	N/A		<30		<30			< 30		< 30			< 2				< 30	
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A		<2		<2			< 2		< 2			< 0.1				< 2	
Bromoform	µg/L	N/A		<5		<5			< 5		< 5			< 0.1				< 5	
Bromomethane	µg/L	N/A		<0.5		<0.5			< 0.5		< 0.5			< 0.3				< 0.5	
Carbon Tetrachloride	µg/L	5		<0.2		<0.2			< 0.2		< 0.2			< 0.2				< 0.2	
Chlorobenzene	µg/L	80		<0.5		<0.5			< 0.5					< 0.2				< 0.5	
Chloroform	µg/L	N/A		<1		<1			< 1		< 1			< 0.3				< 1	
cis 1,2-Dichloroethene	µg/L	N/A		<0.5		<0.5			< 0.5		< 0.5			< 0.1				< 0.5	
cis 1,3-Dichloroethene	µg/L	N/A		<0.5		<0.5					< 0.5			< 0.1				< 0.5	
Dibromochloromethane	µg/L	N/A		<2		<2			< 0.5		< 2			< 0.1				< 2	
Dichlorodifluoromethane	µg/L	N/A							< 2									< 5	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.4	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.4	< 0.1	< 1.0	< 0.5	< 0.5	< 0.5
Toluene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		< 0.5	< 0.5	< 0.5		< 0.1		< 0.5	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	N/A		<2		<2					< 2			< 1				< 2	
Methylene Chloride	µg/L	N/A		<5		<5								< 0.3					
Vinyl Chloride	µg/L	2		<0.2		<0.2													
Trichloroethylene	µg/L	5		<0.5		<0.5													
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.5	<1.5	<1.5											

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-10-II	61-17-I
Parameters	Units	ODWQS	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	8-May-18	
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5			<0.5		<0.5			
1,1,1-Trichloroethane	µg/L	N/A	< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5			<0.5		<0.5			
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 1.0	< 0.5	< 1.0		< 0.5			< 0.5		< 0.5			<0.5		<0.5			
1,1,2-Trichloroethane	µg/L	N/A	< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5			<0.5		<0.5			
1,1-Dichloroethane	µg/L	N/A	< 1.1	< 0.5	< 1.1		< 0.5			< 0.5		< 0.5			<0.5		<0.5			
1,1-Dichloroethylene	µg/L	14		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
Ethylene Dibromide	µg/L	N/A		< 0.2			< 0.2			< 0.2		< 0.2			<0.2		<0.2			
1,2-Dichlorobenzene	µg/L	3		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
1,2-Dichloroethane	µg/L	5		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
1,2-Dichloropropane	µg/L	N/A		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
1,3-Dichlorobenzene	µg/L	N/A		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
1,4-Dichlorobenzene	µg/L	1		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
Methyl Ethyl Ketone	µg/L	N/A		< 20			< 20			< 20		< 20			<2		<2			
Methyl Isobutyl Ketone	µg/L	N/A		< 20			< 20			< 20		< 20			<20		<20			
Acetone	µg/L	N/A		< 30			< 30			< 30		< 30			<30		<30			
Benzene	µg/L	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	0.7	
Bromodichloromethane	µg/L	N/A		< 2			< 2			< 2		< 2			<2		<2			
Bromoform	µg/L	N/A		< 5			< 5			< 5		< 5			<5		<5			
Bromomethane	µg/L	N/A		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
Carbon Tetrachloride	µg/L	5		< 0.2			< 0.2			< 0.2		< 0.2			<0.2		<0.2			
Chlorobenzene	µg/L	80		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
Chloroform	µg/L	N/A		< 1			< 1			< 1		< 1			<1		<1			
cis 1,2-Dichloroethene	µg/L	N/A		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
cis 1,3-Dichloroethene	µg/L	N/A		< 0.5			< 0.5			< 0.5		< 0.5			<0.5		<0.5			
Dibromochloromethane	µg/L	N/A		< 2			< 2			< 2		< 2			<2		<2			
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	< 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	
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1	<1	< 1.0	
o-Xylene	µg/L	N/A	< 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	
Toluene	µg/L	N/A	< 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		
Methyl tert-Butyl Ether	µg/L	N/A		< 2			< 2			< 2		< 2			<2		<2			
Methylene Chloride	µg/L	N/A		< 5			< 5			< 5		< 5			<5		<5			
Vinyl Chloride	µg/L	2					< 0.2			< 0.2		< 0.2			<0.2		<0.2			
Trichloroethylene	µg/L	5					< 0.5			< 0.5		< 0.5			<0.5		<0.5			
Xylene, m,p,o-	µg/L	300				< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.1	<1.5	<1.5		

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I
			11-Oct-18	11-Oct-18	9-May-19	9-May-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5		
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5		
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 0.5	< 1.0		< 0.5			< 0.5		< 0.5		
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5	< 0.5		< 0.5			< 0.5		< 0.5		
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 0.5	< 1.1		< 0.5			< 0.5		< 0.5		
1,1-Dichloroethylene	µg/L	14						< 0.5				< 0.5			< 0.5		< 0.5		
Ethylene Dibromide	µg/L	N/A						< 0.2				< 0.2			< 0.2		< 0.2		
1,2-Dichlorobenzene	µg/L	3						< 0.5				< 0.5			< 0.5		< 0.5		
1,2-Dichloroethane	µg/L	5						< 0.5				< 0.5			< 0.5		< 0.5		
1,2-Dichloropropane	µg/L	N/A						< 0.5				< 0.5			< 0.5		< 0.5		
1,3-Dichlorobenzene	µg/L	N/A						< 0.5				< 0.5			< 0.5		< 0.5		
1,4-Dichlorobenzene	µg/L	1						< 0.5				< 0.5			< 0.5		< 0.5		
Methyl Ethyl Ketone	µg/L	N/A						< 20				< 20			< 20		< 20		
Methyl Isobutyl Ketone	µg/L	N/A						< 20				< 20			< 20		< 20		
Acetone	µg/L	N/A						< 30				< 30			< 30		< 30		
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A						< 2				< 2			< 2		< 2		
Bromoform	µg/L	N/A						< 5				< 5			< 5		< 5		
Bromomethane	µg/L	N/A						< 0.5				< 0.5			< 0.5		< 0.5		
Carbon Tetrachloride	µg/L	5						< 0.2				< 0.2			< 0.2		< 0.2		
Chlorobenzene	µg/L	80						< 0.5				< 0.5			< 0.5		< 0.5		
Chloroform	µg/L	N/A						< 1				< 1			< 1		< 1		
cis 1,2-Dichloroethene	µg/L	N/A						< 0.5				< 0.5			< 0.5		< 0.5		
cis 1,3-Dichloroethene	µg/L	N/A						< 0.5				< 0.5			< 0.5		< 0.5		
Dibromochloromethane	µg/L	N/A						< 2				< 2			< 2		< 2		
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	< 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
m & p-Xylene	µg/L	N/A	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1
o-Xylene	µg/L	N/A	< 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
Toluene	µg/L	N/A			< 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
Methyl tert-Butyl Ether	µg/L	N/A							< 2			< 2			< 2		< 2		
Methylene Chloride	µg/L	N/A							< 5			< 5			< 5		< 5		
Vinyl Chloride	µg/L	2										< 0.2			< 0.2		< 0.2		
Trichloroethylene	µg/L	5										< 0.5			< 0.5		< 0.5		
Xylene, m,p,o-	µg/L	300									< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	61-17-I	61-17-I	61-17-I	61-17-I	61-17-I (DUP)	62-17-I	62-17-I	61-17-II	62-17-I	62-17-I	62-17-I	62-17-I	62-17-I	62-17-I	62-17-I	62-17-I	62-17-I
			29-Jul-24	16-Oct-24	24-Jul-25	15-Oct-25	15-Oct-25	13-Oct-20	3-May-21	5-Jul-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	16-Oct-24	24-Jul-25
1,1,1,2-Tetrachloroethane	µg/L	N/A	<0.5		<0.5			< 0.5		< 0.5			< 0.5		< 0.5				<0.5
1,1,1-Trichloroethane	µg/L	N/A	<0.5		<0.5			< 0.5		< 0.5			< 0.5		< 0.5				<0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A	<0.5		<0.5			< 1.0		< 0.5			< 0.5		< 0.5				<0.5
1,1,2-Trichloroethane	µg/L	N/A	<0.5		<0.5			< 0.5		< 0.5			< 0.5		< 0.5				<0.5
1,1-Dichloroethane	µg/L	N/A	<0.5		<0.5			< 1.1		< 0.5			< 0.5		< 0.5				<0.5
1,1-Dichloroethylene	µg/L	14	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
Ethylene Dibromide	µg/L	N/A	<0.2		<0.2					< 0.2			< 0.2		< 0.2				<0.2
1,2-Dichlorobenzene	µg/L	3	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
1,2-Dichloroethane	µg/L	5	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
1,2-Dichloropropane	µg/L	N/A	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
1,3-Dichlorobenzene	µg/L	N/A	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
1,4-Dichlorobenzene	µg/L	1	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
Methyl Ethyl Ketone	µg/L	N/A	<2		<2					< 20			< 20		< 20				<2
Methyl Isobutyl Ketone	µg/L	N/A	<20		<20					< 20			< 20		< 20				<20
Acetone	µg/L	N/A	<30		<30					< 30			< 30		< 30				<30
Benzene	µg/L	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
Bromodichloromethane	µg/L	N/A	<2		<2					< 2			< 2		< 2				<2
Bromoform	µg/L	N/A	<5		<5					< 5			< 5		< 5				<5
Bromomethane	µg/L	N/A	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
Carbon Tetrachloride	µg/L	5	<0.2		<0.2					< 0.2			< 0.2		< 0.2				<0.2
Chlorobenzene	µg/L	80	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
Chloroform	µg/L	N/A	<1		<1					< 1			< 1		< 1				<1
cis 1,2-Dichloroethene	µg/L	N/A	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
cis 1,3-Dichloroethene	µg/L	N/A	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
Dibromochloromethane	µg/L	N/A	<2		<2					< 2			< 2		< 2				<2
Dichlorodifluoromethane	µg/L	N/A																	
Ethylbenzene	µg/L	2.4	<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
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1
o-Xylene	µg/L	N/A	<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
Toluene	µg/L	N/A	<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
Methyl tert-Butyl Ether	µg/L	N/A	<2		<2					< 2			< 2		< 2				<2
Methylene Chloride	µg/L	N/A	<5		<5					< 5			< 5		< 5				<5
Vinyl Chloride	µg/L	2	<0.2		<0.2					< 0.2			< 0.2		< 0.2				<0.2
Trichloroethylene	µg/L	5	<0.5		<0.5					< 0.5			< 0.5		< 0.5				<0.5
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.5	<1.5	<1.5		< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	<1.5

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			62-17-I	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II	62-17-II
Parameters	Units	ODWQS	15-Oct-25	8-May-18	11-Oct-18	9-May-19	9-Oct-19	5-May-20	13-Jul-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	6-May-24	29-Jul-24	
1,1,1,2-Tetrachloroethane	µg/L	N/A						< 0.5	< 0.5	< 0.5				< 0.5		< 0.5			<0.5	
1,1,1-Trichloroethane	µg/L	N/A						< 0.5	< 0.5	< 0.5				< 0.5		< 0.5			<0.5	
1,1,2,2 Tetrachloroethane	µg/L	N/A						< 1.0	< 0.5	< 1.0				< 0.5		< 0.5			<0.5	
1,1,2-Trichloroethane	µg/L	N/A						< 0.5	< 0.5	< 0.5				< 0.5		< 0.5			<0.5	
1,1-Dichloroethane	µg/L	N/A						< 1.1	< 0.5	< 1.1				< 0.5		< 0.5			<0.5	
1,1-Dichloroethylene	µg/L	14							< 0.5					< 0.5		< 0.5			<0.5	
Ethylene Dibromide	µg/L	N/A							< 0.2					< 0.2		< 0.2			<0.2	
1,2-Dichlorobenzene	µg/L	3							< 0.5					< 0.5		< 0.5			<0.5	
1,2-Dichloroethane	µg/L	5							< 0.5					< 0.5		< 0.5			<0.5	
1,2-Dichloropropane	µg/L	N/A							< 0.5					< 0.5		< 0.5			<0.5	
1,3-Dichlorobenzene	µg/L	N/A							< 0.5					< 0.5		< 0.5			<0.5	
1,4-Dichlorobenzene	µg/L	1							< 0.5					< 0.5		< 0.5			<0.5	
Methyl Ethyl Ketone	µg/L	N/A							< 20					< 20		< 20			<2	
Methyl Isobutyl Ketone	µg/L	N/A							< 20					< 20		< 20			<20	
Acetone	µg/L	N/A							< 30					< 30		< 30			<30	
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A							< 2					< 2		< 2			<2	
Bromoform	µg/L	N/A							< 5					< 5		< 5			<5	
Bromomethane	µg/L	N/A							< 0.5					< 0.5		< 0.5			<0.5	
Carbon Tetrachloride	µg/L	5							< 0.2					< 0.2		< 0.2			<0.2	
Chlorobenzene	µg/L	80							< 0.5					< 0.5		< 0.5			<0.5	
Chloroform	µg/L	N/A							< 1					< 1		< 1			<1	
cis 1,2-Dichloroethene	µg/L	N/A							< 0.5					< 0.5		< 0.5			<0.5	
cis 1,3-Dichloroethene	µg/L	N/A							< 0.5					< 0.5		< 0.5			<0.5	
Dibromochloromethane	µg/L	N/A							< 2					< 2		< 2			<2	
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	<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	
m & p-Xylene	µg/L	N/A	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	
o-Xylene	µg/L	N/A	<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	
Toluene	µg/L	N/A	<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	
Methyl tert-Butyl Ether	µg/L	N/A							< 2					< 2		< 2			<2	
Methylene Chloride	µg/L	N/A							< 5					< 5		< 5			<5	
Vinyl Chloride	µg/L	2												< 0.2		< 0.2			<0.2	
Trichloroethylene	µg/L	5												< 0.5		< 0.5			<0.5	
Xylene, m,p,o-	µg/L	300	<1.5								< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

			62-17-II	62-17-II	62-17-II (DUP)	62-17-II	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III	62-17-III
Parameters	Units	ODWQS	16-Oct-24	24-Jul-25	24-Jul-25	15-Oct-25	8-May-18	11-Oct-18	16-Jul-19	9-Oct-19	5-May-20	13-Oct-20	3-May-21	14-Oct-21	3-May-22	28-Jul-22	25-Oct-22	12-Jul-23	18-Oct-23	
1,1,1,2-Tetrachloroethane	µg/L	N/A		<0.5	<0.5						< 0.5	< 0.5				< 0.5		< 0.5		
1,1,1-Trichloroethane	µg/L	N/A		<0.5	<0.5						< 0.5	< 0.5				< 0.5		< 0.5		
1,1,2,2 Tetrachloroethane	µg/L	N/A		<0.5	<0.5						< 1.0	< 1.0				< 0.5		< 0.5		
1,1,2-Trichloroethane	µg/L	N/A		<0.5	<0.5						< 0.5	< 0.5				< 0.5		< 0.5		
1,1-Dichloroethane	µg/L	N/A		<0.5	<0.5						< 1.1	< 1.1				< 0.5		< 0.5		
1,1-Dichloroethylene	µg/L	14		<0.5	<0.5											< 0.5		< 0.5		
Ethylene Dibromide	µg/L	N/A		<0.2	<0.2											< 0.2		< 0.2		
1,2-Dichlorobenzene	µg/L	3		<0.5	<0.5											< 0.5		< 0.5		
1,2-Dichloroethane	µg/L	5		<0.5	<0.5											< 0.5		< 0.5		
1,2-Dichloropropane	µg/L	N/A		<0.5	<0.5											< 0.5		< 0.5		
1,3-Dichlorobenzene	µg/L	N/A		<0.5	<0.5											< 0.5		< 0.5		
1,4-Dichlorobenzene	µg/L	1		<0.5	<0.5											< 0.5		< 0.5		
Methyl Ethyl Ketone	µg/L	N/A		<2	<2											< 20		< 20		
Methyl Isobutyl Ketone	µg/L	N/A		<20	<20											< 20		< 20		
Acetone	µg/L	N/A		<30	<30											< 30		< 30		
Benzene	µg/L	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	
Bromodichloromethane	µg/L	N/A		<2	<2											< 2		< 2		
Bromoform	µg/L	N/A		<5	<5											< 5		< 5		
Bromomethane	µg/L	N/A		<0.5	<0.5											< 0.5		< 0.5		
Carbon Tetrachloride	µg/L	5		<0.2	<0.2											< 0.2		< 0.2		
Chlorobenzene	µg/L	80		<0.5	<0.5											< 0.5		< 0.5		
Chloroform	µg/L	N/A		<1	<1											< 1		< 1		
cis 1,2-Dichloroethene	µg/L	N/A		<0.5	<0.5											< 0.5		< 0.5		
cis 1,3-Dichloroethene	µg/L	N/A		<0.5	<0.5											< 0.5		< 0.5		
Dibromochloromethane	µg/L	N/A		<2	<2											< 2		< 2		
Dichlorodifluoromethane	µg/L	N/A																		
Ethylbenzene	µg/L	2.4	<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	
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	
o-Xylene	µg/L	N/A	<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	
Toluene	µg/L	N/A	<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	
Methyl tert-Butyl Ether	µg/L	N/A		<2	<2											< 2		< 2		
Methylene Chloride	µg/L	N/A		<5	<5											< 5		< 5		
Vinyl Chloride	µg/L	2		<0.2	<0.2											< 0.2		< 0.2		
Trichloroethylene	µg/L	5		<0.5	<0.5											< 0.5		< 0.5		
Xylene, m,p,o-	µg/L	300	<1.1	<1.5	<1.5	<1.5							< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	62-17-III	62-17-III	62-17-III	62-17-III
			6-May-24	29-Jul-24	16-Oct-24	24-Jul-25
1,1,1,2-Tetrachloroethane	µg/L	N/A		<0.5		<0.5
1,1,1-Trichloroethane	µg/L	N/A		<0.5		<0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A		<0.5		<0.5
1,1,2-Trichloroethane	µg/L	N/A		<0.5		<0.5
1,1-Dichloroethane	µg/L	N/A		<0.5		<0.5
1,1-Dichloroethylene	µg/L	14		<0.5		<0.5
Ethylene Dibromide	µg/L	N/A		<0.2		<0.2
1,2-Dichlorobenzene	µg/L	3		<0.5		<0.5
1,2-Dichloroethane	µg/L	5		<0.5		<0.5
1,2-Dichloropropane	µg/L	N/A		<0.5		<0.5
1,3-Dichlorobenzene	µg/L	N/A		<0.5		<0.5
1,4-Dichlorobenzene	µg/L	1		<0.5		<0.5
Methyl Ethyl Ketone	µg/L	N/A		<2		<2
Methyl Isobutyl Ketone	µg/L	N/A		<20		<20
Acetone	µg/L	N/A		<30		<30
Benzene	µg/L	5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	N/A		<2		<2
Bromoform	µg/L	N/A		<5		<5
Bromomethane	µg/L	N/A		<0.5		<0.5
Carbon Tetrachloride	µg/L	5		<0.2		<0.2
Chlorobenzene	µg/L	80		<0.5		<0.5
Chloroform	µg/L	N/A		<1		<1
cis 1,2-Dichloroethene	µg/L	N/A		<0.5		<0.5
cis 1,3-Dichloroethene	µg/L	N/A		<0.5		<0.5
Dibromochloromethane	µg/L	N/A		<2		<2
Dichlorodifluoromethane	µg/L	N/A				
Ethylbenzene	µg/L	2.4	<0.5	<0.5	<0.5	<0.5
m & p-Xylene	µg/L	N/A	<1	<1	<1	<1
o-Xylene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	N/A	<0.5	<0.5	<0.5	<0.5
Methyl tert-Butyl Ether	µg/L	N/A		<2		<2
Methylene Chloride	µg/L	N/A		<5		<5
Vinyl Chloride	µg/L	2		<0.2		<0.2
Trichloroethylene	µg/L	5		<0.5		<0.5
Xylene, m,p,o-	µg/L	300	<1.1	<1.1	<1.1	<1.5

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water- Polychlorinated Biphenyls

Units ODWQS	PCB µg/L 3	Units ODWQS	PCB µg/L 3	Units ODWQS	PCB µg/L 3	Units ODWQS	PCB µg/L 3
MW 6-90-II		MW 16-91-I		MW 21-91-I		MW 21-91-III	
12-May-06	0.200	5-May-10	< 0.001	5-May-10	< 0.001	5-May-10	< 0.001
26-Oct-06	< 0.04	26-Oct-10	< 0.001	26-Oct-10	< 0.001	26-Oct-10	< 0.001
25-Oct-07	< 0.001	3-May-11	0.001	3-May-11	< 0.001	3-May-11	< 0.01
17-Apr-08	0.502	25-Oct-11	< 0.001	25-Oct-11	< 0.001	25-Oct-11	< 0.001
22-Oct-08	< 0.001	14-May-12	< 0.001	14-May-12	< 0.001	14-May-12	< 0.001
6-May-09	0.049	23-Oct-12	< 0.001	23-Oct-12	< 0.001	23-Oct-12	< 0.001
29-Oct-09	0.050	29-May-13	< 0.05	29-May-13	< 0.05	29-May-13	< 0.05
6-May-10	0.171	22-Oct-13	< 0.4	22-Oct-13	< 0.05	7-May-14	< 0.05
28-Oct-10	0.315	7-May-14	< 0.05	7-May-14	< 0.05	22-Oct-14	< 0.05
5-May-11	0.046	22-Oct-14	< 0.05	22-Oct-14	< 0.05	29-May-15	< 0.05
27-Oct-11	0.160	27-May-15	< 0.05	29-May-15	< 0.05	15-Oct-15	< 0.2
17-May-12	0.064	15-Oct-15	< 0.2	15-Oct-15	< 0.2	17-May-16	< 0.05
25-Oct-12	0.052	17-May-16	< 0.05	17-May-16	< 0.05	12-Oct-16	< 0.05
24-Oct-13	< 2	13-Oct-16	< 0.05	12-Oct-16	< 0.05	23-May-17	< 0.05
7-May-14	< 0.05	23-May-17	< 0.05	23-May-17	< 0.05	17-Oct-17	< 0.05
23-Oct-14	< 0.05	31-Oct-17	< 0.05	23-May-17	< 0.05	8-May-18	< 0.05
16-May-16	< 0.05	8-May-18	< 0.05	17-Oct-17	< 0.05	11-Oct-18	< 0.05
23-May-17	0.480	11-Oct-18	< 0.05	8-May-18	< 0.05	9-May-19	< 0.05
12-Nov-19	0.510	9-May-19	< 0.05	11-Oct-18	< 0.05	8-Oct-19	< 0.05
MW 7-90-II		8-Oct-19	< 0.05	9-May-19	< 0.05	MW 32-93-I	
26-Apr-07	< 0.001	MW 16-91-II		8-Oct-19	< 0.05	29-Jul-08	< 0.001
17-Apr-08	0.450	5-May-10	< 0.001	MW 21-91-II		29-Jul-14	< 0.05
22-Oct-08	< 0.001	26-Oct-10	< 0.001	5-May-10	< 0.001	14-Jul-15	< 0.05
6-May-09	0.049	3-May-11	< 0.001	26-Oct-10	< 0.001	19-Jul-17	< 0.05
29-Oct-09	0.114	25-Oct-11	< 0.001	3-May-11	< 0.01	24-Jul-18	< 0.05
6-May-10	0.854	14-May-12	< 0.001	26-Oct-11	< 0.001	15-Jul-19	< 0.05
28-Oct-10	0.129	23-Oct-12	< 0.001	14-May-12	< 0.002	13-Jul-20	< 0.05
5-May-11	< 0.002	29-May-13	< 0.05	23-Oct-12	< 0.001	12-Jul-23	< 0.05
27-Oct-11	< 0.02	22-Oct-13	< 0.4	29-May-13	< 0.05	29-Jul-24	< 0.05
17-May-12	0.028	7-May-14	< 0.05	7-May-14	< 0.05	24-Jul-25	< 0.05
25-Oct-12	< 0.03	22-Oct-14	< 0.05	22-Oct-14	< 0.05	MW 32-93-II	
24-Oct-13	< 0.2	27-May-15	< 0.05	29-May-15	< 0.05	26-Jul-07	0.049
7-May-14	< 0.05	15-Oct-15	< 0.2	15-Oct-15	< 0.2	5-Jul-10	< 0.001
16-May-16	< 0.05	17-May-16	< 0.05	17-May-16	< 0.05	29-Jul-14	< 0.05
18-Oct-16	< 0.05	13-Oct-16	< 0.05	12-Oct-16	< 0.05	14-Jul-15	< 0.05
8-May-18	< 0.05	23-May-17	< 0.05	23-May-17	< 0.05	19-Jul-17	< 0.05
8-May-19	< 0.06	17-Oct-17	< 0.05	17-Oct-17	< 0.05	24-Jul-18	< 0.05
8-Oct-19	< 0.05	11-Oct-18	< 0.05	8-May-18	< 0.05	28-Jul-22	< 0.05
MW 11-90		9-May-19	< 0.05	11-Oct-18	< 0.05	MW 32-93-III	
5-Jul-10	< 0.001			9-May-19	< 0.05	19-Jul-17	< 0.05
27-Jul-11	< 0.001			8-Oct-19	< 0.05	MW 43-93-I	
23-Jul-12	< 0.001					13-Jul-20	< 0.05
30-Jul-13	< 0.05					5-Jul-21	< 0.05
29-Jul-14	< 0.05					28-Jul-22	< 0.05
13-Jul-15	< 0.05					12-Jul-23	< 0.05
13-Jul-16	< 0.05					29-Jul-24	< 0.05
20-Jul-17	< 0.05					24-Jul-25	< 0.05
24-Jul-18	< 0.05					24-Jul-25	< 0.05
16-Jul-19	< 0.05					MW 43-93-II	
26-Jul-22	< 0.05					13-Jul-20	< 0.05
12-Jul-23	< 0.05					5-Jul-21	< 0.05
29-Jul-24	< 0.05					28-Jul-22	< 0.05
24-Jul-25	< 0.05					12-Jul-23	< 0.05
						29-Jul-24	< 0.05
						24-Jul-25	< 0.05

DUP

Ground Water- Polychlorinated Biphenyls

Units ODWQS	PCB µg/L 3
MW 44-93-I	
26-Jul-07	0.018
29-Jul-08	< 0.001
15-Jul-09	< 0.001
12-Jul-10	< 0.001
28-Jul-11	< 0.001
24-Jul-12	< 0.001
29-Jul-14	< 0.05
14-Jul-15	< 0.05
13-Jul-16	< 0.05
19-Jul-17	< 0.05
24-Jul-18	< 0.05
15-Jul-19	< 0.05
13-Jul-20	< 0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
MW 44-93-II	
26-Jul-07	0.017
29-Jul-08	< 0.001
15-Jul-09	< 0.001
12-Jul-10	< 0.001
28-Jul-11	< 0.001
24-Jul-12	< 0.001
30-Jul-13	< 0.05
29-Jul-14	< 0.05
13-Jul-16	< 0.05
19-Jul-17	< 0.05
24-Jul-18	< 0.05
15-Jul-19	< 0.05
13-Jul-20	< 0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
MW 45-93	
26-Jul-07	0.013
14-Jul-08	< 0.001
15-Jul-09	< 0.001
12-Jul-10	< 0.001
27-Jul-11	0.001
24-Jul-12	< 0.001
30-Jul-13	< 0.05
29-Jul-14	< 0.05
14-Jul-15	< 0.05
13-Jul-16	< 0.05
20-Jul-17	< 0.05
24-Jul-18	< 0.05
15-Jul-19	< 0.05
13-Jul-20	< 0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05

Units ODWQS	PCB µg/L 3
MW 53-98	
30-Jul-07	< 0.001
14-Jul-08	< 0.001
15-Jul-09	< 0.001
12-Jul-10	< 0.001
27-Jul-11	< 0.001
28-Jul-11	< 0.001
23-Jul-12	< 0.001
29-Jul-14	< 0.05
13-Jul-15	< 0.05
19-Jul-17	1.04
24-Jul-18	< 0.05
15-Jul-19	< 0.05
13-Jul-20	< 0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
MW 55-98-I	
26-Jul-07	0.02
14-Jul-08	< 0.001
15-Jul-09	< 0.001
5-Jul-10	< 0.001
27-Jul-11	< 0.001
24-Jul-12	< 0.001
24-Jul-13	< 0.05
29-Jul-14	< 0.05
14-Jul-15	< 0.05
13-Jul-16	< 0.05
19-Jul-17	0.84
24-Jul-18	< 0.05
15-Jul-19	< 0.05
13-Jul-20	< 0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
MW 55-98-II	
26-Jul-07	0.021
14-Jul-08	< 0.001
15-Jul-09	< 0.001
5-Jul-10	< 0.001
28-Jul-11	< 0.001
24-Jul-12	< 0.001
29-Jul-14	< 0.05
14-Jul-15	< 0.05
13-Jul-16	< 0.05
19-Jul-17	0.653
24-Jul-18	< 0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	<0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
MW 56-02-I	
13-Jul-20	<0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
24-Jul-25	<0.05
MW 56-02-II	
13-Jul-20	<0.05

Units ODWQS	PCB µg/L 3
MW 57-02-I	
31-Jul-07	< 0.001
14-Jul-08	< 0.001
15-Jul-09	< 0.001
5-Jul-10	< 0.001
26-Jul-11	< 0.001
23-Jul-12	< 0.001
23-Jul-13	< 0.05
29-Jul-14	< 0.05
13-Jul-15	< 0.05
13-Jul-16	< 0.05
20-Jul-17	0.879
24-Jul-18	< 0.05
15-Jul-19	< 0.05
13-Jul-20	<0.05
5-Jul-21	<0.05
MW 57-02-II	
30-Jul-07	< 0.001
14-Jul-08	< 0.001
15-Jul-09	< 0.001
5-Jul-10	< 0.001
27-Jul-11	< 0.001
24-Jul-12	< 0.001
23-Jul-13	< 0.05
29-Jul-14	< 0.05
13-Jul-15	< 0.05
13-Jul-16	< 0.05
20-Jul-17	1.01
24-Jul-18	< 0.05
15-Jul-19	< 0.05
13-Jul-20	<0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
24-Jul-25	<0.05
MW 58-02	
30-Jul-07	0.011
14-Jul-08	< 0.001
15-Jul-09	< 0.001
12-Jul-10	< 0.001
27-Jul-11	< 0.001
23-Jul-12	< 0.001
23-Jul-13	< 0.05
29-Jul-14	< 0.05
13-Jul-15	< 0.05
13-Jul-16	< 0.05
20-Jul-17	0.982
16-Jul-19	< 0.05
13-Jul-20	<0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
MW 59-05	
4-May-09	0.012
26-Oct-09	< 0.001
10-Feb-10	< 0.001
4-May-10	< 0.001
26-Oct-10	< 0.001
2-May-11	< 0.001
14-May-12	< 0.001
27-May-13	< 0.05
6-May-14	< 0.05
27-May-15	< 0.05
25-May-16	< 0.05
23-May-17	< 0.05
7-May-18	< 0.05
9-May-19	< 0.05

Units ODWQS	PCB µg/L 3
MW 60-05	
4-May-09	0.009
26-Oct-09	0.010
10-Feb-10	< 0.001
4-May-10	< 0.001
26-Oct-10	< 0.001
2-May-11	< 0.002
14-May-12	< 0.001
27-May-13	< 0.2
7-May-14	< 0.05
27-May-15	< 0.05
25-May-16	< 0.05
23-May-17	< 0.05
9-May-19	< 0.05
MW 61-10-I	
5-Jul-10	< 0.001
3-Aug-10	< 0.001
26-Jul-11	< 0.001
23-Jul-12	< 0.001
23-Jul-13	< 0.05
29-Jul-14	< 0.05
13-Jul-15	< 0.05
13-Jul-16	< 0.05
20-Jul-17	< 0.05
24-Jul-18	< 0.05
16-Jul-19	< 0.05
13-Jul-20	<0.05
5-Jul-21	<0.05
12-Jul-23	< 0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
MW 61-10-II	
5-Jul-10	< 0.001
3-Aug-10	< 0.001
26-Jul-11	< 0.001
23-Jul-12	< 0.001
23-Jul-13	< 0.05
29-Jul-14	< 0.05
13-Jul-15	< 0.05
13-Jul-16	< 0.05
20-Jul-17	< 0.05
24-Jul-18	< 0.05
16-Jul-19	< 0.05
13-Jul-20	<0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
MW 61-17-I	
13-Jul-20	<0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
MW 62-17-II	
13-Jul-20	<0.05
5-Jul-21	<0.05
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05
24-Jul-25	<0.05
MW 62-17-III	
28-Jul-22	<0.05
12-Jul-23	< 0.05
29-Jul-24	<0.05
24-Jul-25	<0.05

ODWQS - Ontario Drinking Water Quality Standards

Bold indicates detection

Bold Highlighting indicates exceedance

**Leachate Chamber
Chemistry Summary -
General Water Quality**

Parameters	Units	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1
		27-Jan-16	4-Feb-16	30-Mar-16	12-Apr-16	21-Apr-16	24-May-16	14-Jun-16	14-Jul-16	2-Aug-16	29-Sep-16	17-Oct-16	21-Nov-16	21-Dec-16	23-Jan-17	23-Feb-17	29-Mar-17	24-Apr-17	25-May-17	20-Jul-17
Alkalinity	mg/L	607	478	543	518	638	665	709	734	750	771	731	734	694	422	393	573	617	657	645
Unionized Ammonia	mg/L			< 0.01	0.09	0.18	0.01	0.05	0.23			0.04							0.03	
Ammonia	mg/L	11.7	7.1	9.57	9.13	15.5	18.1	21.3	21.8	22	39.5	26	35.4	22.8	5.72	4.38	12.3	14.3	16.6	15.9
BOD	mg/L	3		4	< 3	6	9	6	9	4	6	10	7	4	5	< 3	12	2	8	8
Calcium	mg/L	172	146	160	137	195	177	188	179	183	159	172	149	172	166	131	176	170	188	156
COD	mg/L	40	46	34	29	53	55	50	55	82	86	114	89	76	34	23	42	89	61	53
Chloride	mg/L	119	84.3	95.4	84.7	133	143	170	196	206	229	231	223	221	78.6	76.4	128	126	116	121
Conductivity	µs/cm	1530	1200	1330	1270	1610	1750	1870	2010	2070	2230	2160	2160	2060	1290	1050	1540	1630	1720	1720
Cyanide	mg/L			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005							< 0.005	
DOC	mg/L	11.4	8.7	9.7	11.1	12.6	12.1	12.9	19.2	12.7	12.7	11.4	11.9	11.8	9.8	9.4	13.6	10.9	12	12
Fluoride	mg/L	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	536	438	490	420	624	583	630	617	653	591	628	560	620	487	402	572	539	604	553
Iron	mg/L	11.5	16.2	14.6	9.4	30.5	11	21.1	14.9	9.7	6.27	11.3	6.59	7.42	10.3	7.14	12.2	12.5	37.1	16.5
Magnesium	mg/L	25.8	17.5	21.9	18.8	33.4	34.1	38.9	41.4	47.4	47.1	48.2	45.3	46.2	17.7	14.8	27.5	27.5	32.5	28.2
Manganese	mg/L	0.525	0.336	0.439	0.306	0.62	0.545	0.463	0.418	0.382	0.278	0.255	0.263	0.279	0.331	0.18	0.423	0.446	0.51	0.458
Mercury	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.02	< 0.02	< 0.02	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Nitrate	mg/L	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.5	0.5	0.2	< 0.1	< 0.05	< 0.05
Nitrite	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.05
Tot Kjel N	mg/L	14.2	9.2	11.6	10.8	15.7	26.3	24.1	36.1	28.5	39.5	28.8	38.4	28.5	7.8	5.8	14.3	17.1	16.7	19.8
pH - lab	pH unit	7.13	7.27	7.17	7.23	7.32	7.39	7.15	7.22	7.2	7.32	7.56	7.47	7.01	7.09	6.93	7.33	7.14	7.37	7.05
Phenols	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	0.014	0.051	0.004	0.07	0.01	< 0.001	< 0.001	< 0.001	< 0.001	0.009	< 0.001	0.007	0.018
Phosphorus	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	12.9	7.3	10.1	8.8	17.4	18.7	21.7	23.1	26.5	25.8	26.9	23.9	25.4	8.6	6.3	13.7	13.1	16.9	15.3
Sodium	mg/L	83.1	56.2	66.2	53.8	105	116	136	149	165	164	179	152	167	54.3	51.1	91.4	87.2	108	93.8
Sulphate	mg/L	40	40	42	38	45	44	40	38	38	39	39	43	32	146	52	60	62	46	34
Total Dissolved Solids	mg/L	830	665	737	675	963	945	1040	1110	1130	1190	1180	1130	1120	738	582	873	888	961	852
TSS	mg/L			105	32	46	42	70	45			28							98	
Turbidity	NTU			134	119	159	80.9	140	169			101							164	
Colour	TCU			10	9	10	12	46	27			24							5	
Aluminum	mg/L	0.05	0.1	0.05	0.04	0.09	0.08	0.06	0.06	0.08	0.05	0.09	0.11	0.06	0.06	0.04	0.09		0.09	0.05
Antimony	mg/L	< 0.0005	0.0002	0.0001	< 0.0001	< 0.0001	< 0.0005	< 0.0005	0.0002	< 0.0005	< 0.0005	< 0.0005	0.0001	< 0.0005	< 0.0005	0.0001	< 0.0001	< 0.0001	0.0001	0.0002
Arsenic	mg/L	0.0033	0.002	0.003	0.0012	0.0021	0.0017	0.0021	0.0011	0.0022	0.0008	0.0048	0.002	0.0018	0.0032	0.0011	0.0013	0.0016	0.003	0.0029
Barium	mg/L	0.185	0.146	0.155	0.119	0.254	0.238	0.327	0.349	0.362	0.377	0.411	0.338	0.385	0.128	0.124	0.215	0.182	0.258	0.201
Beryllium	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	µg/L	0.25	0.16	0.2	0.182	0.332	0.361	0.435	0.478	0.534	0.556	0.56	0.503	0.533	0.117	0.129	0.269	0.264	0.337	0.29
Cadmium	µg/L	< 0.0001	0.00007	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.00002	< 0.0001	< 0.0001	0.00006	< 0.00002	< 0.000014	< 0.000014	0.00002
Chromium	mg/L	< 0.001	0.0007	< 0.0002	0.0002	0.0008	< 0.001	0.001	0.0009	0.001	< 0.001	0.001	0.0007	< 0.001	< 0.001	0.0004	0.0111	0.008	0.002	< 0.001
Cobalt	mg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0009	0.0011	0.0008	0.0006	< 0.0001	0.0006	< 0.005	0.0013
Copper	mg/L	0.0009	0.009	0.0009	0.0005	0.0009	0.0014	0.0014	0.0012	0.002	< 0.0005	< 0.0005	0.0008	0.0007	0.0018	0.0035	0.0013	0.0008	0.0015	0.0018
Lead	mg/L	< 0.0001	0.00102	0.00002	< 0.00002	0.00033	< 0.0001	< 0.0001	0.00003	0.0002	< 0.0001	< 0.0001	0.00032	< 0.0001	0.0001	0.00071	0.00007	< 0.00002	0.00064	0.00135
Molybdenum	mg/L	< 0.0005	0.0004	0.0002	0.0002	0.0001	< 0.0005	< 0.0005	0.0003	< 0.0005	< 0.0005	< 0.0005	0.0002	< 0.0005	< 0.0005	0.0004	0.0003	0.0002	0.0002	0.0003
Nickel	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.01	0.01	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	< 0.005	0.001	0.002	< 0.001	< 0.001	< 0.005	< 0.005	0.002	0.007	< 0.005	0.011	0.004	< 0.005	< 0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	< 0.0001	0.00007	0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.00006	< 0.0001	< 0.0001	0.00005	< 0.00002	0.00022	< 0.00002	0.00005
Strontium	mg/L	0.573	0.427	0.526	0.445	0.706	0.637	0.753	0.749	0.729	0.722	0.764	0.627	0.713	0.469	0.413	0.546	0.551	0.657	0.589
Thallium	mg/L	< 0.0003	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.0003	< 0.0003	< 0.00005	< 0.0003	< 0.0003	< 0.0003	< 0.00005	< 0.0003	< 0.0003	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	0.0007	0.0006	0.0023	0.0003	0.0008	< 0.0005	0.001	0.0008	0.001	< 0.0005	0.0008	0.0007	0.0011	< 0.0005	0.0003	0.0005	0.0004	0.0004	0.0015
Zinc	mg/L	0.024	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005	0.006	0.01

**Leachate Chamber
Chemistry Summary -
General Water Quality**

Parameters	Units	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1
		27-Jan-16	24-Aug-17	21-Sep-17	17-Oct-17	13-Nov-17	7-Dec-17	15-Jan-18	15-Feb-18	14-Mar-18	25-Apr-18	8-May-18	4-Jun-18	25-Jul-18	22-Aug-18	24-Sep-18	9-Oct-18	10-Oct-18	6-Nov-18	19-Dec-18
Alkalinity	mg/L	607	666	725	656	624	632	556	659	619	569	590	618	203	734	660	1160	598	580	591
Unionized Ammonia	mg/L				0.02							0.01		0.22			0.13	0.61		
Ammonia	mg/L	11.7	17.9	22.4	18.6	16.2	15.6	12.8	18.3	16.4	12.6	15	16.6	8.88	23.3	42.7	35.7	17.8	12.7	15
BOD	mg/L	3	6	8	4	4	9	5	< 3	6	< 3	5	5	14	65	> 21	39	8	10	17
Calcium	mg/L	172	190	183	180	175	184	329	193	177	557	190	182	69.2	252	180	221	176	176	164
COD	mg/L	40	67	75	61	71	70	83	77	56	400	38	89	29	1100	399	120	63	59	97
Chloride	mg/L	119	155	176	114	144	141	118	142	136	111	137	156	186	230	238	159	217	166	151
Conductivity	µs/cm	1530	1840	2040	1880	1760	1730	1490	1790	1670	1430	1540	1630	1140	1990	2050	2520	1890	1670	1690
Cyanide	mg/L				< 5							< 0.005		< 0.005			< 0.005	< 0.005		
DOC	mg/L	11.4	12.2	16.1	11.8	13.2	12.7	13	10.6	13.4	30.7	18.6	13.8	6.7	27.1	16.9	8.6	14.1	10.4	29
Fluoride	mg/L	0.2	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.5	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	536	638	646	605	580	601	985	616	574	1530	602	595	224	800	639	898	599	572	534
Iron	mg/L	11.5	110	7.76	11	0.42	20.8	123	118	25.8	1730	49.1	52.4	0.088	314	218	103	8.32	13.1	20
Magnesium	mg/L	25.8	35.2	45.9	37.7	34.7	34.3	39.6	32.4	31.9	32.5	30.9	34	12.4	41.4	46	84.1	38.8	32.2	30.1
Manganese	mg/L	0.525	0.544	0.408	0.459	0.426	0.476	1.63	0.532	0.47	1.75	0.526	0.481	0.059	0.579	0.3	0.46	0.337	0.426	0.447
Mercury	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.02	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00028	< 0.00002	< 0.00002	< 0.00002	0.00041	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Nitrate	mg/L	0.2	< 0.05	< 0.05	0.21	0.05	0.11	0.14	0.07	0.12	0.13	0.14	0.15	0.2	< 0.05	< 0.05	< 0.05	< 0.05	0.37	0.09
Nitrite	mg/L	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.13	< 0.05	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Tot Kjel N	mg/L	14.2	21.9	26.4	30.1	20.6	20.1	14.4	21.7	19.6	20.9	16.3	21.8	10.4	34.6	53.7	40.1	20.1	15.9	17.2
pH - lab	pH unit	7.13	6.95	7.1	7.12	7.5	7.15	7.59	7.34	7.46	7.39	7.58	7.33	7.89	7.49	7.4	7.41	7.45	7.3	7.37
Phenols	mg/L	< 0.001	0.012	0.016	0.016	0.003	< 0.001	0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.023	0.141	0.016	0.012	0.003	0.017
Phosphorus	mg/L	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.01	0.83	0.11	3.65	0.04	0.42	0.14	14.2	1.15	0.99	0.06	0.07	0.05
Potassium	mg/L	12.9	18.9	27.5	21.9	20.2	20.3	19	17.1	17	14.6	16.3	19.7	11.1	24.3	34.3	33	22.5	15.4	15.2
Sodium	mg/L	83.1	116	162	138	128	125	136	115	114	84.3	101	119	126	148	189	162	156	110	104
Sulphate	mg/L	40	35	32	34	34	32	54	34	51	43	43	42	70	40	21	10	28	49	39
Total Dissolved Solids	mg/L	830	1083	1098	956	932	957	1170	1071	945	778	941	998	608	1521	1379	1518	1029	926	898
TSS	mg/L				26							60		4			15000	350		
Turbidity	NTU				84							323		2.9			9530	48.9		
Colour	TCU				16							9		18			33	13		
Aluminum	mg/L	0.05	0.1	0.1	0.1	0.09	0.21	47.9	0.74	0.79	9.91	0.23	0.2	0.36	4.1	1.7	0.1	0.08	0.12	0.12
Antimony	mg/L	< 0.0005	0.0004	< 0.0001	< 0.0005	< 0.0001	0.0001	0.0063	< 0.0005	< 0.0005	0.0008	< 0.0001	< 0.0005	< 0.0005	0.0007	0.0005	< 0.0005	< 0.0005	< 0.0005	0.0001
Arsenic	mg/L	0.0033	0.0049	0.0022	0.002	0.0013	0.003	0.0123	0.008	0.0031	0.0305	0.0007	0.0038	< 0.0005	0.0171	0.0157	0.0068	0.0013	0.0015	0.002
Barium	mg/L	0.185	0.536	0.339	0.336	0.246	0.306	0.138	0.605	0.258	5.76	0.319	0.343	0.044	1.43	1.3	0.986	0.339	0.281	0.249
Beryllium	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.2	< 0.002	< 0.002	< 0.002	< 0.002
Boron	µg/L	0.25	0.45	0.543	0.435	0.363	0.383	0.362	0.378	0.339	1.24	0.325	0.408	0.136	0.754	1.3	1.11	0.416	0.293	0.339
Cadmium	µg/L	< 0.0001	0.000101	< 0.000014	< 0.00007	< 0.000014	0.000014	0.000197	< 0.00007	< 0.00007	0.00073	< 0.000015	< 0.00007	< 0.00007	0.000332	0.000166	< 0.00007	< 0.00007	< 0.00007	0.000028
Chromium	mg/L	< 0.001	0.006	< 0.001	< 0.001	0.001	0.026	2.21	0.358	0.1	0.372	0.007	0.005	0.001	0.032	0.1	0.005	0.002	0.009	0.006
Cobalt	mg/L	< 0.005	0.0019	< 0.005	0.005	< 0.005	< 0.005	0.038	0.0013	0.0008	0.0192	0.0002	0.0013	< 0.0005	0.0105	0.0082	0.0032	< 0.005	0.001	0.0013
Copper	mg/L	0.0009	0.005	0.0008	0.0087	0.0009	0.0022	0.0037	0.0039	< 0.0005	0.0543	0.0008	0.0092	0.0007	0.0206	0.015	0.0133	< 0.0005	0.0072	0.0021
Lead	mg/L	< 0.0001	0.00307	< 0.00002	0.0004	0.00004	0.00066	0.00095	0.0019	0.0001	0.0512	0.00021	0.0015	0.00024	0.0143	0.0073	0.0011	0.0001	0.0003	0.00034
Molybdenum	mg/L	< 0.0005	0.0005	0.0002	< 0.0005	0.0002	0.0002	0.0009	0.0007	< 0.0005	0.002	< 0.0001	< 0.0005	0.0018	0.001	0.0009	< 0.0005	< 0.0005	< 0.0005	0.0002
Nickel	mg/L	< 0.01	< 0.01	< 0.01	0.01	0.01	0.01	1.95	0.01	0.03	0.05	< 0.01	< 0.01	< 0.01	0.02	< 1	0.02	0.01	< 0.01	< 0.01
Selenium	mg/L	< 0.005	< 0.001	0.001	< 0.005	< 0.001	< 0.001	< 0.001	< 0.005	< 0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.001
Silver	mg/L	< 0.0001	0.00002	< 0.00002	< 0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Strontium	mg/L	0.573	0.746	0.785	0.588	0.647	0.675	0.953	0.722	0.639	1.59	0.655	0.672	0.255	0.982	1	0.952	0.641	0.65	0.591
Thallium	mg/L	< 0.0003	< 0.00005	< 0.00005	< 0.0003	< 0.00005	< 0.00005	< 0.00005	< 0.0003	< 0.0003	< 0.0003	< 0.00005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.00005
Vanadium	mg/L	0.0007	0.0029	0.0054	< 0.0005	0.0013	0.003	< 0.0001	0.0121	0.0015	0.0475	0.0003	0.0019	< 0.0005	0.0178	0.0193	0.0032	0.0008	0.001	0.0013
Zinc	mg/L	0.024	0.053	< 0.005	< 0.005	< 0.005	0.014	0.579	0.065	0.019	0.283	0.045	0.02	0.024	0.103	< 0.5	0.024	0.012	0.018	0.019

Leachate Chamber
Chemistry Summary -
General Water Quality

Parameters	Units	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1
		27-Jan-16	29-Jan-19	14-Feb-19	11-Mar-19	9-May-19	15-May-19	11-Jun-19	15-Jul-19	14-Aug-19	30-Sep-19	9-Oct-19	12-Nov-19	18-Dec-19	21-Jan-20	5-Feb-20	18-Mar-20	30-Apr-20	11-May-20	24-Jun-20
Alkalinity	mg/L	607	609	599	601	482	528	531	693	773	759	731	610	543	579	560	529	603	626	697
Unionized Ammonia	mg/L						0.03					0.45							0.01	
Ammonia	mg/L	11.7	17.6	17.6	16.9	14.1	9.71	10.5	20.9	26.6	28.4	27.9	17.4	11.8	13.6	12.8	10.6	16.6	16.2	21.2
BOD	mg/L	3	< 3	19	8	7	4	3	5	4		< 3	5	5	5	5	< 3	4	3	5
Calcium	mg/L	172	179	175	160	211	184	154	184	186	180	182	184	185	192	196	182	179	188	194
COD	mg/L	40	73	62	63	56	40	38	76	78	112	87	59	50	44	51	35	73	54	63
Chloride	mg/L	119	176	199	198	127	107	106	138	202	307	278	201	146	135	162	116	136	142	185
Conductivity	µs/cm	1530	1750	1780	1790	1590	1370	1350	1860	2000	2160	2110	1750	1540	1590	1590	1430	1600	1650	1840
Cyanide	mg/L						< 0.005					< 0.005							< 0.005	
DOC	mg/L	11.4	13.1	13.4	13.5	12.9	14.8	12.1	16.1	18.5	1.3	11.4	10	8.2	11.1	12.9	10.9	10.6	12.4	11.6
Fluoride	mg/L	0.2	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.4	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	536	593	596	544	653	557	475	628	649	664	666	610	580	609	616	556	574	602	654
Iron	mg/L	11.5	27.7	11	5.64	21	20.9	10.8	45.5	14.4	15.1	11.8	13.9	13	33.6	26	21.3	15.3	14.8	16.4
Magnesium	mg/L	25.8	35.3	38.6	35.1	30.6	23.6	21.9	40.9	44.8	52	51.3	36.6	28.5	31.4	30.7	24.5	30.9	32.1	41.2
Manganese	mg/L	0.525	0.45	0.363	0.355	0.618	0.439	0.35	0.447	0.379	0.299	0.272	0.404	0.416	0.487	0.44	0.424	0.431	0.463	0.408
Mercury	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00013	< 0.00002
Nitrate	mg/L	0.2	0.08	0.15	0.18	0.16	0.42	0.32	< 0.05	< 0.05	< 0.05	< 0.05	0.21	0.49	0.11	0.18	0.36	0.16	0.15	0.09
Nitrite	mg/L	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05
Tot Kjel N	mg/L	14.2	19.7	20.5	20.8	17.6	10.9	10.5	25.2	30.7	35.8	35.3	18	14.9	15.8	15.8	13.2	18	19.1	27.8
pH - lab	pH unit	7.13	7.34	7.68	7.6	7.34	7.13	7.35	6.95	7.4	7.28	7.66	7.6	7.37	7.27	7.6	7.29	8	7.53	7.31
Phenols	mg/L	< 0.001	0.012	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	< 0.1	0.05	0.03	0.03	0.1	0.05	0.02	< 0.1	0.03	0.03	0.06	0.02	0.04	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Potassium	mg/L	12.9	18.1	21.3	19.1	14.5	11.7	10.8	24	27.4	28.9	31.5	19	12.8	14.6	15.2	11.8	16.3	16.9	22.4
Sodium	mg/L	83.1	121	136	123	97.6	81.6	73	136	149	168	179	124	91.6	95.8	100	75.4	99.5	107	137
Sulphate	mg/L	40	45	42	48	139	38	34	33	22	15	17	49	50	46	44	42	45	39	34
Total Dissolved Solids	mg/L	830	991	1005	972	928	796	743	1045	1144	1258	1226	1017	868	896	927	791	906	936	1076
TSS	mg/L						98					30							25	
Turbidity	NTU						206					97							115	
Colour	TCU						9					18							12	
Aluminum	mg/L	0.05	0.27	0.12	0.12	0.68	0.1	0.08	0.15	0.1	0.07	0.1	0.11	0.11	0.18	0.06	0.09	0.09	0.08	0.02
Antimony	mg/L	< 0.0005	< 0.0005	< 0.0001	< 0.0005	0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0012
Arsenic	mg/L	0.0033	0.0024	0.0013	0.0008	0.0013	0.0013	0.0009	0.0026	0.0012	0.0014	0.0013	0.0015	0.0012	0.0022	0.0016	0.0014	0.0012	0.001	0.0055
Barium	mg/L	0.185	0.331	0.297	0.253	0.245	0.211	0.159	0.394	0.382	0.471	0.462	0.313	0.226	0.299	0.27	0.213	0.23	0.255	0.353
Beryllium	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	µg/L	0.25	0.382	0.426	0.37	0.299	0.281	0.278	0.509	0.54	0.632	0.605	0.411	0.3	0.336	0.327	0.258	0.334	0.324	0.519
Cadmium	µg/L	< 0.0001	< 0.00007	< 0.000015	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Chromium	mg/L	< 0.001	0.017	0.011	0.012	0.161	0.004	0.001	0.013	< 0.001	0.004	0.003	0.01	0.004	0.023	0.048	0.001	0.004	0.001	0.003
Cobalt	mg/L	< 0.005	0.0013	0.007	0.0013	0.0025	0.0009	0.0011	0.0015	0.001	0.0011	0.0013	0.001	0.0008	0.0008	0.0009	0.001	0.0009	0.0008	0.0046
Copper	mg/L	0.0009	0.0042	0.0011	0.0011	0.0062	0.001	0.0015	0.0021	< 0.0005	< 0.0005	< 0.0005	0.0006	0.0011	0.0021	0.0006	0.0036	< 0.0005	< 0.0005	0.0022
Lead	mg/L	< 0.0001	0.0025	0.00012	0.0002	0.0016	0.0004	0.0001	0.0005	< 0.0001	< 0.0001	0.0002	0.0005	0.0002	0.0005	0.0004	0.0002	< 0.0001	< 0.0001	0.0006
Molybdenum	mg/L	< 0.0005	< 0.0005	0.0002	< 0.0005	0.0022	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0007	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0009
Nickel	mg/L	< 0.01	0.01	0.01	0.01	0.07	< 0.01	< 0.01	0.01	< 0.01	0.01	0.01	0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.01
Selenium	mg/L	< 0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006
Silver	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001
Strontium	mg/L	0.573	0.64	0.715	0.622	0.678	0.572	0.515	0.774	0.732	0.794	0.828	0.679	0.6	0.664	0.641	0.54	0.6	0.644	0.73
Thallium	mg/L	< 0.0003	< 0.0003	< 0.00005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Vanadium	mg/L	0.0007	0.0018	0.0009	0.0008	0.0025	0.0009	0.0005	0.0018	0.0007	0.001	0.001	0.001	0.0007	0.0015	0.0007	0.0008	0.0006	0.0006	0.0036
Zinc	mg/L	0.024	0.023	0.009	0.03	0.035	0.009	< 0.005	0.006	< 0.005	0.005	< 0.005	0.018	< 0.005	0.006	0.006	0.007	< 0.005	< 0.005	0.013

Leachate Chamber
Chemistry Summary -
General Water Quality

Parameters	Units	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1
		27-Jan-16	13-Jul-20	11-Aug-20	9-Sep-20	13-Oct-20	25-Nov-20	16-Dec-20	18-Jan-21	3-Mar-21	29-Mar-21	4-May-21	31-May-21	22-Jun-21	26-Jul-21	16-Aug-21	28-Sep-21	13-Oct-21	29-Nov-21	13-Dec-21
Alkalinity	mg/L	607	710	719	688	700	556	585	578	518	420	536	621	740	646	742	644	624	563	525
Unionized Ammonia	mg/L					0.24							0.02					0.03		
Ammonia	mg/L	11.7	25.4	29.6	21.6	26.8	14.7	12.2	14.2	10.1	4.91	6.8	15.7	19.2	11.8	17.2	11	13.7	8.48	5.4
BOD	mg/L	3	5	7	6	< 30	< 10	< 3	6	< 10	3	< 3	< 3	5	4	< 3	< 3	< 3	< 3	< 3
Calcium	mg/L	172	202	192	183	177	175	183	192	179	185	191	204	215	191	207	203	202	197	151
COD	mg/L	40	80	88	63	78	47	38	42	25	135	33	35	51	59	48	33	39	43	19
Chloride	mg/L	119	215	241	199	229	185	141	155	147	79.6	92.2	107	124	115	134	120	140	124	80.1
Conductivity	µs/cm	1530	2010	2080	1870	2010	1700	1560	1640	1540	1140	1330	1540	1680	1500	1630	1500	1600	1490	1220
Cyanide	mg/L					< 0.005							< 0.005					< 0.005		
DOC	mg/L	11.4	15.8	17.5	12.5	19.6	9.5	12	13.7	8.8	19.3	8.8	9	9.7	7.5	11.8	10.4	9.1	6.4	4.7
Fluoride	mg/L	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hardness	mg/L	536	694	684	620	596	571	568	612	563	537	571	640	692	588	667	620	637	596	449
Iron	mg/L	11.5	15.3	14.1	15.8	0.036	7.47	26.3	19.4	8.86	319	15.5	30.9	16.7	48.3	13.8	16.6	51.1	127	7.02
Magnesium	mg/L	25.8	45.9	49.6	39.5	47	32.5	27	32.2	28.1	18.4	22.8	31.7	37.5	27	36.3	27.3	32.2	25.3	17.2
Manganese	mg/L	0.525	0.361	0.29	0.322	0.247	0.416	0.598	0.517	0.461	0.439	0.468	0.545	0.485	0.615	0.522	0.561	0.563	0.564	0.329
Mercury	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Nitrate	mg/L	0.2	0.91	0.99	0.18	0.16	0.09	0.06	0.27	0.64	0.98	0.46	< 0.05	< 0.05	0.76	< 0.05	< 0.05	0.09	< 0.05	0.12
Nitrite	mg/L	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	0.09	< 0.05	0.12	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05
Tot Kjel N	mg/L	14.2	33.3	38.2	25.1	32.7	19.6	14.7	18	14.4	9.4	8.2	17.4	20.6	13	19.5	11.2	16	11.3	6.1
pH - lab	pH unit	7.13	7.36	7.5	7.34	7.65	7.36	7.5	7.29	7.35	7.53	7.68	7.43	7.58	7.34	7.47	7.38	7.63	7.82	7.46
Phenols	mg/L	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.002	< 0.002
Phosphorus	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Potassium	mg/L	12.9	27.5	31.5	22.7	32.2	17.1	12.6	16.3	11.5	7.5	9.5	15.6	19.8	11.4	18.9	12.4	15.5	9.9	6.8
Sodium	mg/L	83.1	155	161	138	151	121	91.8	112	98.5	59.2	70.9	82	102	75.6	94.4	82.4	94	76.5	50.6
Sulphate	mg/L	40	29	19	21	19	34	36	34	44	35	37	27	20	35	24	28	29	39	37
Total Dissolved Solids	mg/L	830	1148	1178	1059	1110	925	885	927	841	963	770	244	1004	907	996	890	956	947	673
TSS	mg/L					48							80					67		
Turbidity	NTU					146							7					253		
Colour	TCU					17							899					8		
Aluminum	mg/L	0.05	0.09	0.11	0.1	0.09	0.09	0.09	0.1	0.08	0.55	0.1	0.11	0.11	0.12	0.08	0.11	0.12	0.7	0.05
Antimony	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0001	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0001	0.0006	0.0006	< 0.0005	< 0.0005	0.0006	< 0.0005	< 0.0005	0.0005
Arsenic	mg/L	0.0033	0.0012	0.0014	0.001	0.0018	0.0011	0.0018	0.0013	0.0005	0.0128	0.0008	0.0014	0.0009	0.0029	0.0006	0.0009	0.0024	0.0066	0.0008
Barium	mg/L	0.185	0.427	0.489	0.396	0.361	0.271	0.285	0.286	0.241	1.03	0.2	0.33	0.351	0.309	0.313	0.283	0.405	0.52	0.141
Beryllium	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	µg/L	0.25	0.559	0.668	0.484	0.554	0.344	0.281	0.336	0.273	0.361	0.226	0.299	0.374	0.241	0.373	0.261	0.31	0.274	0.155
Cadmium	µg/L	< 0.0001	< 0.000070	< 0.000070	< 0.000010	< 0.000015	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000015	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070
Chromium	mg/L	< 0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	< 0.001	0.009	< 0.001	0.001	0.006	0.009	0.001	0.001	0.009	0.003	< 0.001
Cobalt	mg/L	< 0.005	0.0012	0.0012	0.0013	< 0.005	0.001	0.0009	0.0008	0.0007	0.0027	< 0.005	0.001	0.0008	0.001	0.001	0.001	0.001	0.0015	0.001
Copper	mg/L	0.0009	0.0006	0.0015	< 0.0005	0.0003	< 0.0005	0.0007	< 0.0005	0.0005	0.0033	0.0006	< 0.0005	< 0.0005	0.0008	< 0.0005	< 0.0005	0.0009	0.0041	0.0106
Lead	mg/L	< 0.0001	0.0001	0.0003	0.0002	0.00018	0.0001	0.0002	0.0002	0.0001	0.0034	0.0001	< 0.0001	0.0002	0.0005	< 0.0001	0.0001	0.0006	0.004	< 0.0001
Molybdenum	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0002	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0012	0.0001	0.0009	< 0.0005	0.0006	< 0.0005	< 0.0005	0.001	0.0006	< 0.0005
Nickel	mg/L	< 0.01	0.01	< 0.01	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	< 0.005	< 0.005	< 0.005	< 0.001	0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Silver	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	0.573	0.734	0.78	0.695	0.717	0.637	0.618	0.679	0.657	0.623	0.62	0.709	0.78	0.687	0.752	0.675	0.744	0.67	0.458
Thallium	mg/L	< 0.0003	< 0.0003	< 0.0003	< 0.0001	< 0.005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.00005	< 0.005	< 0.0003	< 0.0003	< 0.0003	< 0.0003	0	< 0.0003	< 0.0003
Vanadium	mg/L	0.0007	0.0008	0.0011	0.0011	0.0014	< 0.0005	0.0009	0.0006	< 0.0005	0.0067	0.0004	0.0008	0.0006	0.0022	< 0.0005	< 0.0005	0.0017	0.0045	< 0.0005
Zinc	mg/L	0.024	< 0.005	0.016	0.011	< 0.005	0.008	0.006	< 0.005	0.013	0.107	0.005	0.014	0.011	0.006	0.015	0.013	0.022	0.01	0.031

Leachate Chamber
Chemistry Summary -
General Water Quality

Parameters	Units	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1
		27-Jan-16	25-Jan-22	22-Feb-22	21-Mar-22	4-May-22	19-May-22	21-Jun-22	27-Jul-22	24-Aug-22	13-Sep-22	26-Oct-22	17-Nov-22	7-Dec-22	18-Jan-23	10-Feb-23	1-Mar-23	24-Apr-23	25-May-23	14-Jun-23
Alkalinity	mg/L	607	657	584	477	563	662	622	749	754	793	802	770	632	632	443	617	598	682	673
Unionized Ammonia	mg/L						0.02					0.07	0.45						0.23	
Ammonia	mg/L	11.7	12.1	9.98	6.19	10.7	14	14.4	21.6	24.2	26	31.3	29.3	16.5	13.9	4.9	13.5	11.9	14.9	16.3
BOD	mg/L	3	< 3	4	< 3	< 3	< 3	5	< 3	7	4	6	5	7	6	5	7	10	8	8
Calcium	mg/L	172	180	178	170	197	182	196	187	173	175	171	161	191	211	165	212	183	178	187
COD	mg/L	40	40	35	22	35	38	37	59	74	77	80	82	52	43	51	51	29	55	69
Chloride	mg/L	119	150	117	103	109	130	125	143	176	188	177	178	154	140	85.8	148	98.5	127	137
Conductivity	µs/cm	1530	1610	1470	1290	1477	1580	1650	1800	1960	1940	2020	1990	1710	1610	1150	1640	1510	1630	1700
Cyanide	mg/L						< 0.005					< 0.005	< 0.005						< 0.005	
DOC	mg/L	11.4	6.2	6.7	4.9	7.4	9	8.4	12	13.3	4.8	8.6	10.4	6.9	6.4	12.6	6.4	6.4	6	6.3
Fluoride	mg/L	0.2	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1	< 1
Hardness	mg/L	536	568	542	501	595	576	620	617	603	619	617	569	621	660	492	700	564	571	605
Iron	mg/L	11.5	19.3	14	39.2	89.6	15.3	31	9.9	15	13	6.87	5.83	11.2	33.9	88.1	19.2	16.2	15.9	16.5
Magnesium	mg/L	25.8	29	23.6	18.6	25	29.3	31.5	36.4	41.3	43.9	46.2	40.5	35	32	17.2	30.9	26.1	30.9	33.5
Manganese	mg/L	0.525	0.488	0.454	0.345	0.548	0.499	0.552	0.39	0.292	0.269	0.312	0.331	0.447	0.493	0.284	0.517	0.455	0.455	0.442
Mercury	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Nitrate	mg/L	0.2	0.63	0.14	< 0.05	0.77	0.07	< 0.05	< 0.05	0.05	< 0.05	0.12	0.16	0.25	0.07	0.81	0.09	0.08	< 0.5	< 0.5
Nitrite	mg/L	< 0.1	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5	< 0.5
Tot Kjel N	mg/L	14.2	14.5	12.2	8.4	13.8	15.8	18.8	25	40.4	33.9	35.1	32.3	19.3	14.7	6.7	16.4	14.9	17.2	19.5
pH - lab	pH unit	7.13	7.69	7.26	7.28	7.45	7.77	7.38	7.48	7.31	7.73	7.54	7.44	7.37	7.54	7.64	7.11	7.22	7.45	6.81
Phenols	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.01	< 0.1	< 0.1	< 0.1
Potassium	mg/L	12.9	13.9	10.2	8	11.1	13.4	15	21	24.6	27.3	29.6	25.1	16.2	14.7	6.8	14.4	12.5	15.5	17.9
Sodium	mg/L	83.1	84.5	73.2	68.7	77.1	89.6	92.3	115	130	144	138	126	104	97.1	56.6	92.6	79.5	93.4	101
Sulphate	mg/L	40	46	40	39	39	39	34	22	17	16	29	21	68	48	43	39	35	40	42
Total Dissolved Solids	mg/L	830	932	820	734	900	915	917	1011	1061	1083	1119	1057	959	974	647	899	810	929	960
TSS	mg/L						34					26	40						240	
Turbidity	NTU						204					93.2	189						279	
Colour	TCU						8					15	16						14	
Aluminum	mg/L	0.05	0.08	0.1	0.08	0.18	0.06	0.09	0.11	0.08	0.07	0.1	0.09	0.27	0.25	0.86	0.118	0.05	0.06	0.06
Antimony	mg/L	< 0.0005	< 0.0005	0.0006	0.0005	< 0.0005	< 0.0005	0.0006	< 0.0005	< 0.0005	0.0005	0.0005	< 0.0005	< 0.0005	0.0008	0.0006	< 0.0005	< 0.0005	< 0.0005	0.0008
Arsenic	mg/L	0.0033	0.0012	0.0011	0.0019	0.0032	0.0009	0.0016	0.0008	0.001	0.001	0.0012	0.0011	0.0014	0.0021	0.0052	0.0011	0.0009	0.0008	0.0087
Barium	mg/L	0.185	0.278	0.22	0.235	0.394	0.231	0.305	0.324	0.39	0.419	0.396	0.35	0.326	0.325	0.335	0.275	0.222	0.249	0.287
Beryllium	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.002	< 0.002	< 0.002
Boron	µg/L	0.25	0.269	0.208	0.185	0.28	0.287	0.318	0.419	0.516	0.573	0.604	0.516	0.36	0.336	0.262	0.309	0.266	0.303	0.385
Cadmium	µg/L	< 0.0001	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	0.000113	< 0.005	< 0.000070	< 0.000070	< 0.000070
Chromium	mg/L	< 0.001	0.004	0.01	0.007	0.002	< 0.001	< 0.001	0.001	0.002	< 0.001	0.017	0.013	0.066	0.005	0.024	0.004	0.001	0.001	< 0.001
Cobalt	mg/L	< 0.005	0.001	0.0007	0.0009	0.0011	0.0008	0.0011	0.0007	0.0011	0.0009	0.0012	< 0.005	0.0017	0.0012	0.0025	< 0.005	0.0008	0.0006	0.0026
Copper	mg/L	0.0009	0.0005	0.0005	0.0016	0.0026	< 0.0005	0.0007	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.004	0.0016	0.0073	< 0.002	< 0.0005	< 0.0005	0.0021
Lead	mg/L	< 0.0001	< 0.0001	0.0002	0.0004	0.0013	< 0.0001	0.0002	< 0.0001	0.0002	0.0001	0.0002	< 0.0001	0.001	0.0009	0.0043	< 0.02	0.0002	< 0.0001	0.0014
Molybdenum	mg/L	< 0.0005	0.0016	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0058	0.0006	0.0018	< 0.01	< 0.0005	< 0.0005	0.0014
Nickel	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.01	0.02	0.01	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Silver	mg/L	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.005	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	0.573	0.632	0.554	0.5	0.651	0.615	0.698	0.7	0.733	0.756	0.764	0.684	0.722	0.734	0.446	0.676	0.622	0.686	0.716
Thallium	mg/L	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Vanadium	mg/L	0.0007	0.0007	0.0007	0.0014	0.0021	0.0006	0.001	< 0.0005	0.0011	0.0009	0.001	0.001	0.0018	0.0016	0.0049	< 0.005	< 0.0005	< 0.0005	0.006
Zinc	mg/L	0.024	< 0.005	0.036	0.01	0.014	< 0.005	< 0.005	0.006	< 0.005	0.006	0.006	< 0.005	0.01	0.013	0.045	0.018	0.009	< 0.005	< 0.005

Leachate Chamber
Chemistry Summary -
General Water Quality

Parameters	Units	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1
		27-Jan-16	6-Jul-23	15-Aug-23	18-Sep-23	18-Oct-23	2-Nov-23	18-Dec-23	25-Jan-24	7-Feb-24	14-Mar-24	25-Apr-24	8-May-24	12-Jun-24	30-Jul-24	15-Aug-24	30-Sep-24	10-Oct-24	14-Nov-24	18-Dec-24
Alkalinity	mg/L	607	751	702	801	715	685	663	655	625	625	1050	629	661	672	1140	710	680	765	602
Unionized Ammonia	mg/L					0.05							0.03			0.38		0.09		
Ammonia	mg/L	11.7	20.2	20.3	28.3	23.8	22.3	16.6	17.9	17.6	17.6	80.9	7.5	19.7	23	63.2	22.9	24.2	27.5	14.5
BOD	mg/L	3	3	4	12	6	6	4	4	8	8	<3	5	6	8	12	8	4	4	6
Calcium	mg/L	172	191	191	171	162	172	192	180	190	190	284	173	188	176	375	240	178	179	205
COD	mg/L	40	70	67	110	28	66	48	44	191	191	389	124	64	59	4140	191	82	83	54
Chloride	mg/L	119	146	158	238	160	166	183	152	164	164	304	138	159	151	155	179	175	237	198
Conductivity	µs/cm	1530	1780	1780	1960	1790	1780	1780	1680	1630	1630	2990	1660	1770	1800	2530	1830	1900	2000	1740
Cyanide	mg/L					<0.005							<0.005			0.01		<0.005		
DOC	mg/L	11.4	49.7	7.8	7.1	15.5	12.2	23.4	17.3	43.9	43.9	45.6	10.2	11.7	21.9	42.6	41.7	16.4	10.7	5.9
Fluoride	mg/L	0.2	< 1	<0.7	<0.7	<0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.7	<0.1	<0.7	<0.7	<0.1	<0.1	<0.1	<0.7	<0.1
Hardness	mg/L	536	622	600	600	500	600	600	600	600	600	900	500	611	585	1280	752	611	632	667
Iron	mg/L	11.5	5.08	23.3	20.7	12.6	0.024	16.7	11.7	103	103	158	6.37	30.7	14.5	1790	215	19.7	13.2	13.8
Magnesium	mg/L	25.8	35.1	34.9	42.6	33.6	32.8	36.2	29.5	28.6	28.6	45.7	27.4	34.4	35.6	82.5	36.8	40.1	45.1	37.5
Manganese	mg/L	0.525	0.437	0.491	0.351	0.385	0.42	0.53	0.474	0.545	0.545	1.23	0.385	0.455	0.461	1.25	0.65	0.388	0.345	0.47
Mercury	mg/L	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002	<0.00002	<0.00002	0.00007	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Nitrate	mg/L	0.2	< 0.5	<0.40	<0.40	<0.40	<0.05	0.14	<0.05	0.07	0.07	1.87	<0.05	<0.40	<0.40	0.22	<0.05	<0.05	<0.40	0.09
Nitrite	mg/L	< 0.1	< 0.5	<0.40	<0.40	<0.40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.40	<0.05	<0.40	<0.40	<0.05	<0.05	<0.05	<0.40	<0.05
Tot Kjel N	mg/L	14.2	21.4	24	34.5	26.4	29.3	19.8	18.7	21	21	97.1	8.8	21.7	26.5	158	27.4	29.1	33.3	17.5
pH - lab	pH unit	7.13	7.35	7.11	7.54	7.49	7.59	7.34	7.52	7.29	7.29	7.88	7.38	7.04	6.84	7.31	7.38	7.8	7.49	7.13
Phenols	mg/L	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	< 0.1	< 0.1	0.04	0.07	0.09	0.02	0.04	0.03	0.33	0.33	5.67	0.04	0.02	0.08	166	0.69	0.18	0.11	0.02
Potassium	mg/L	12.9	20.3	20.9	27.5	21.3	20.8	20	16.4	14.9	14.9	98.9	13.7	19	20	41.1	21.6	22.6	26.4	16.9
Sodium	mg/L	83.1	107	112	131	104	106	125	102	98.7	98.7	252	90.1	116	118	141	114	131	146	138
Sulphate	mg/L	40	18	23	14	42	25	36	37	34	34	100	38	30	22	7	26	25	29	50
Total Dissolved Solids	mg/L	830	973	985	1130	966	934	1010	921	964	964	1880	875	975	971	1490	1070	1000	1130	1040
TSS	mg/L					52							1200			18200		500		
Turbidity	NTU					1000							991			10600		920		
Colour	TCU					14							8			23		13		
Aluminum	mg/L	0.05	0.07	0.1	0.19	0.09	0.09	0.06	0.06	0.22	0.22	1.88	0.12	0.1	0.3	2.43	2.42	0.16	0.07	0.12
Antimony	mg/L	< 0.0005	< 0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0101	<0.0005	0.0005	<0.0005	0.0022	0.0008	<0.0005	<0.0005	<0.0005
Arsenic	mg/L	0.0033	0.0006	0.0015	0.0017	0.0015	0.001	0.0014	0.001	0.0064	0.0064	0.0431	0.0008	0.0014	0.0011	0.324	0.0147	0.0018	0.0021	0.0009
Barium	mg/L	0.185	0.3	0.358	0.425	0.316	0.264	0.325	0.271	0.604	0.604	1.87	0.333	0.363	0.3	13.9	0.925	0.364	0.419	0.346
Beryllium	mg/L	< 0.002	< 0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	µg/L	0.25	0.392	0.412	0.581	0.389	0.402	0.422	0.331	0.359	0.359	3	0.276	0.391	0.415	2.05	0.549	0.461	0.536	0.368
Cadmium	µg/L	< 0.0001	< 0.000070	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.043	<0.005	<0.005	<0.005	<0.005
Chromium	mg/L	< 0.001	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	0.004	0.087	0.002	0.002	<0.002	0.034	0.011	<0.002	0.002	<0.002
Cobalt	mg/L	< 0.005	0.0009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.027	<0.005	<0.005	<0.005	0.096	<0.005	<0.005	<0.005	<0.005
Copper	mg/L	0.0009	< 0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.085	<0.002	<0.002	<0.002	0.166	0.01	<0.002	<0.002	<0.002
Lead	mg/L	< 0.0001	< 0.0001	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.34	0.02	<0.02	<0.02	<0.02
Molybdenum	mg/L	< 0.0005	< 0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nickel	mg/L	< 0.01	< 0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	<0.01	<0.01	0.03	0.02	<0.01	<0.01	0.01
Selenium	mg/L	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	<0.005	<0.005
Silver	mg/L	< 0.0001	< 0.0001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Strontium	mg/L	0.573	0.693	0.7	0.751	0.637	0.636	0.76	0.652	0.689	0.689	1.83	0.628	0.703	0.666	2.08	0.877	0.718	0.766	0.786
Thallium	mg/L	< 0.0003	< 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0004	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Vanadium	mg/L	0.0007	< 0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.056	<0.005	<0.005	<0.005	0.062	0.011	<0.005	<0.005	<0.005
Zinc	mg/L	0.024	0.008	0.005	<0.005	0.007	<0.005	<0.005	<0.005	<0.005	0.01	0.01	0.65	0.02	0.012	<0.005	0.629	0.066	0.008	0.012

Leachate Chamber
Chemistry Summary -
General Water Quality

Parameters	Units	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2
		27-Jan-16	30-Jan-25	26-Feb-25	18-Mar-25	28-Apr-25	15-May-25	17-Jun-25	23-Jul-25	21-Aug-25	10-Sep-25	15-Oct-25	4-Nov-25	1-Dec-25	21-Apr-16	14-Jul-16	17-Oct-16	24-Apr-17	17-Oct-17	25-Apr-18
Alkalinity	mg/L	607	663	638	501	619	628	659	846	893	902	845	819	792	1930	2850	2140	1300	1660	1370
Unionized Ammonia	mg/L						0.02					0.02			4.25	1.1	2.43		2.52	
Ammonia	mg/L	11.7	16.6	18.4	9.53	14.1	15.8	17	35.5	36.4	35.5	28.2	28.4	25.4	168	369	212	99.4	141	92.6
BOD	mg/L	3	5	7	<3	<3	<3	5	<3	8	13	8	11	8	11	49	22	19	16	
Calcium	mg/L	172	194	192	174	191	184	176	185	194	194	181	208	179	245	171	162	183	217	282
COD	mg/L	40	56	58	33	38	50	55	98	127	115	116	140	87	362	593	445	201	348	744
Chloride	mg/L	119	181	184	123	155	153	166	229	261	267	270	266	290	513	981	842	314	300	280
Conductivity	µs/cm	1530	1780	1840	1370	1630	1660	1760	2240	2460	2450	2340	2240	2110	5020	7910	6570	3370	4200	3540
Cyanide	mg/L						<0.005					<0.005			< 0.005	0.006	< 0.005		< 5	
DOC	mg/L	11.4	8.9	8.4	6.9	7.7	7.5	9.8	20.3	23	29.2	21.6	29.1	26.2	52.7	186	21.2	22.2	80.4	108
Fluoride	mg/L	0.2	<0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	0.2	< 3	<1	< 0.1	0.1	< 0.1
Hardness	mg/L	536	633	629	524	606	592	581	659	727	740	668	767	647	975	913	827	660	803	941
Iron	mg/L	11.5	12.6	21.4	24	13.2	13.5	14.5	16.3	22.7	25.6	20.3	106	8.9	12.6	14	6.78	8.93	7.3	12.6
Magnesium	mg/L	25.8	36.2	36.6	21.8	31.2	32	34.5	47.9	58.8	62	52.5	60	48.6	88.1	119	103	49.1	63.3	57.5
Manganese	mg/L	0.525	0.451	0.476	0.401	0.496	0.561	0.444	0.348	0.34	0.311	0.389	0.566	0.351	0.595	0.292	0.267	0.421	0.526	1.33
Mercury	mg/L	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00005	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Nitrate	mg/L	0.2	0.76	<0.05	0.16	0.08	<0.05	<0.05	<0.40	<0.40	1.63	1.16	<0.40	<0.40	0.3	2.8	6.7	2.3	< 0.05	< 0.05
Nitrite	mg/L	< 0.1	<0.40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	< 0.1	< 3	2.8	0.7	< 0.05	< 0.05
Tot Kjel N	mg/L	14.2	20.2	23.2	10.2	17.9	17.6	21.5	47.9	51.9	52.2	37.2	42.4	32.1	200	369	270	111	167	102
pH - lab	pH unit	7.13	7.73	7.49	7.29	7.61	6.96	7.2	7.52	7.34	7.44	7.59	8.19	7.93	7.66	7.74	7.85	7.5	7.49	7.59
Phenols	mg/L	< 0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.002	0.002	0.002	0.003	0.005	<0.001	< 0.001	0.201	0.007	0.018	0.046	0.279
Phosphorus	mg/L	< 0.1	0.04	0.04	0.02	0.09	0.03	0.02	0.04	0.09	0.05	0.13	0.49	0.04	0.5	1.3	0.7	0.3	0.8	0.53
Potassium	mg/L	12.9	18.3	19	9.8	14.2	16.1	18.3	32.8	37.8	38.9	30.6	36	30.2	184	276	247	103	139	122
Sodium	mg/L	83.1	126	130	75.2	98.8	106	113	162	181	188	162	179	164	523	834	705	279	370	280
Sulphate	mg/L	40	35	33	40	40	40	37	17	17	18	15	15	15	81	49	174	70	53	124
Total Dissolved Solids	mg/L	830	1000	1010	769	915	921	954	1200	1310	1340	1240	1240	1210	3030	4640	3830	1930	2329	1984
TSS	mg/L						32					48			360	100	68		70	
Turbidity	NTU						133					136			154	114	55.7		39.2	
Colour	TCU						8					15			453	510	280	1250	180	
Aluminum	mg/L	0.05	0.11	0.11	0.1	0.07	0.07	0.06	0.11	0.08	0.06	0.18	0.65	0.19	0.14	0.12	0.11		0.14	0.16
Antimony	mg/L	< 0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0005	0.0007	<0.0005	0.0008	0.0011	<0.0005	<0.0005	<0.0005	0.001	0.0017	0.002	0.0014	0.021	0.0021
Arsenic	mg/L	0.0033	0.0011	0.0016	0.0014	0.0008	0.001	0.001	0.0011	0.0016	0.0018	0.0032	0.0102	0.0018	< 0.005	0.0213	0.0195	0.0065	0.0111	0.0077
Barium	mg/L	0.185	0.302	0.343	0.219	0.229	0.251	0.305	0.481	0.59	0.597	0.554	1.23	1.75	0.418	0.591	0.444	0.261	0.505	0.34
Beryllium	mg/L	< 0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	µg/L	0.25	0.367	0.376	0.187	0.291	0.331	0.369	0.661	0.79	0.833	0.708	0.805	1	6.45	10.4	9.02	3.53	4.95	3.24
Cadmium	µg/L	< 0.0001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00004	0.00005	0.00008	0.000041	< 0.00007	< 0.00007
Chromium	mg/L	< 0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	0.006	<0.002	0.0093	0.0177	0.0136	0.006	0.013	0.016
Cobalt	mg/L	< 0.005	<0.005	0.007	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	0.005	0.01	0.011	0.0123	0.0048	0.0045	0.0069
Copper	mg/L	0.0009	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	0.0051	0.0077	0.0116	0.0061	0.0075	0.0055
Lead	mg/L	< 0.0001	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.00024	0.00017	0.00067	0.00025	0.0005	0.0004
Molybdenum	mg/L	< 0.0005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0009	0.0021	0.0036	0.0012	0.001	0.0008
Nickel	mg/L	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.01	0.02	0.02	<0.01	0.05	0.07	0.09	0.02	0.04	0.03
Selenium	mg/L	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	0.009	0.022	< 0.001	< 0.005	< 0.005
Silver	mg/L	< 0.0001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00005	0.00122	0.00016	0.00029	< 0.0001	< 0.0001
Strontium	mg/L	0.573	0.697	0.738	0.529	0.634	0.666	0.678	0.828	0.904	0.892	0.839	1.08	0.844	1.74	1.98	1.62	1.19	1.42	1.24
Thallium	mg/L	< 0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.0003	< 0.0003
Vanadium	mg/L	0.0007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	0.0085	0.0207	0.0127	0.0053	0.0108	0.0079
Zinc	mg/L	0.024	0.009	0.011	0.005	<0.005	0.016	0.007	<0.005	0.005	0.005	<0.005	0.015	0.458	0.018	0.024	0.052	0.071	0.589	0.12

Leachate Chamber
Chemistry Summary -
General Water Quality

Parameters	Units	LPC-1	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2
		27-Jan-16	31-Jul-18	10-Oct-18	10-May-19	9-Oct-19	30-Apr-20	13-Oct-20	4-May-21	13-Oct-21	4-May-22	24-Aug-22	26-Oct-22	24-Apr-23	18-Oct-23	25-Apr-24	10-Oct-24	28-Apr-25	15-Oct-25
Alkalinity	mg/L	607	660	2210	1270	2380	442	1910	1390	1840	1100	1430	1910	1380	1300	617	1620	1500	2580
Unionized Ammonia	mg/L			2.3	1.41	0.23	0.01	1.56	1.49	2.7	0.15	0.03	5.42	0.05	0.17	0.07	0.47	0.33	0.81
Ammonia	mg/L	11.7	19.3	220	10	350	0.31	250	112	289	124	36.7	278	110	229	13.8	244	128	300
BOD	mg/L	3	9	320	262	62	4	80	198	44	20	7	25	17	15	0	18	30	13
Calcium	mg/L	172	234	311	273	267	83.3	239	252	231	228	486	176	203	149	187	210	325	235
COD	mg/L	40	58	780	644	692	104	548	620	602	232	1490	419	251	396	45	394	583	756
Chloride	mg/L	119	191	617	27.5	887	274	705	431	881	413	156	786	443	630	135	596	512	804
Conductivity	µs/cm	1530	1890	5990	3490	7050	2010	5620	4130	6090	4060	3000	6140	3990	5350	1570	4910	4070	6710
Cyanide	mg/L			0.01	0.01	0.009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.008	< 0.005	< 0.005	< 0.005	< 0.005
DOC	mg/L	11.4	12	156	207	130	34.4	67.5	122	82.4	53.9	77.6	40.8	44.2	73.7	11.5	26.4	59.3	36.8
Fluoride	mg/L	0.2	< 0.1	9.4	0.8	< 3	< 0.1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1.8	< 0.1	< 1.8	< 0.4	< 0.7
Hardness	mg/L	536	751	1200	925	1090	370	875	952	982	824	1550	823	742	700	600	807	1050	956
Iron	mg/L	11.5	340	16.8	7.96	59.6	0.226	36.1	8.2	24.4	4.84	3520	3.34	7.57	5.78	23.8	4.07	80.5	4.24
Magnesium	mg/L	25.8	40.4	102	59.1	104	39.4	86.7	78.3	98.4	61.8	81.7	93.3	57.1	68.3	28.7	68.4	58.7	89.6
Manganese	mg/L	0.525	0.583	1.48	0.63	0.837	0.026	0.519	0.48	0.36	0.379	1.39	0.176	0.392	0.179	0.46	0.454	0.958	0.404
Mercury	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005	0.00003
Nitrate	mg/L	0.2	< 0.05	< 0.5	< 0.05	< 1	8.54	0.61	< 0.5	< 0.5	9.61	0.97	< 0.5	0.87	10.3	< 0.05	< 1.00	< 0.20	< 0.40
Nitrite	mg/L	< 0.1	< 0.05	< 0.5	< 0.05	< 1	0.07	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.55	< 0.05	< 1.00	< 0.20	0.91
Tot Kjel N	mg/L	14.2	25.8	231	104	364	4.1	309	135	330	157	63.7	280	137	263	15.1	269	177	428
pH - lab	pH unit	7.13	7.44	7.27	7.74	7.87	8.54	7.8	7.84	7.72	7.73	7.09	7.88	7.76	7.99	7.64	7.97	7.67	7.88
Phenols	mg/L	< 0.001	0.02	0.364	0.14	< 0.002	< 0.002	0.036	0.274	0.044	< 0.001	< 0.01	0.004	0.013	0.001	< 0.001	0.006	0.155	0.006
Phosphorus	mg/L	< 0.1	1.3	0.9	0.3	3.21	< 0.1	1.1	0.3	1.1	0.2	21.3	0.7	0.4	0.81	0.03	0.91	1.98	11.5
Potassium	mg/L	12.9	23	222	139	260	94.4	210	153	218	142	33.7	219	135	191	14.2	168	136	227
Sodium	mg/L	83.1	141	534	257	740	244	496	398	615	373	157	624	335	627	95.8	469	341	643
Sulphate	mg/L	40	32	23	10	121	94	58	124	56	139	18	89	80	158	37	42	74	96
Total Dissolved Solids	mg/L	830	1423	3446	1550	4318	1095	3296	2423	3673	2179	1837	3495	2089	2660	892	2530	2420	4040
TSS	mg/L			100	100	1000	10	360	16	114	42	35700	25	400	142	180	250	3240	2800
Turbidity	NTU			21	57	237	4.7	119	18.8	122	27.7	20.6	24.8	1010	205	476	23	155	151
Colour	TCU			350	148	367	89	256	531	301	185	242	253	131	258	9	246	188	358
Aluminum	mg/L	0.05	0.2	0.22	0.13	0.62	0.07	0.29	0.13	0.25	0.12	0.84	0.09	0.08	0.44	0.08	0.12	1.79	0.1
Antimony	mg/L	< 0.0005	0.0032	0.0032	0.0022	0.002	0.0009	0.0021	0.0042	0.0034	0.0026	0.0008	0.0024	0.0026	0.0025	< 0.0005	0.0016	0.0053	0.003
Arsenic	mg/L	0.0033	0.0157	0.0162	0.0107	0.0189	0.0018	0.0171	0.0094	0.0208	0.0059	0.001	0.0115	0.0081	0.0151	0.0012	0.0148	0.0285	0.0222
Barium	mg/L	0.185	0.635	0.645	0.362	0.82	0.076	0.649	0.35	0.692	0.336	28.8	0.589	0.36	0.462	0.273	0.484	0.562	0.446
Beryllium	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Boron	µg/L	0.25	5.99	6.06	2.95	9.68	2.74	6.5	4.22	6.85	4.3	3.33	7.13	3.6	6.45	0.304	5.34	3.79	7.57
Cadmium	µg/L	< 0.0001	0.00002	0.00003	< 0.00007	< 0.00007	< 0.00007	< 0.000059	< 0.000059	< 0.000070	< 0.000070	0.000377	< 0.000070	< 0.000070	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chromium	mg/L	< 0.001	0.037	0.038	0.013	0.037	0.004	0.025	0.023	0.03	0.012	0.043	0.02	0.013	0.018	< 0.002	0.019	0.038	0.024
Cobalt	mg/L	< 0.005	0.009	0.008	0.0052	0.0159	0.0039	0.013	0.009	0.0109	0.0071	0.0845	0.0107	0.008	0.014	< 0.005	0.012	0.018	0.012
Copper	mg/L	0.0009	0.0028	0.003	0.011	0.008	0.0055	0.0009	0.0049	0.0081	0.0056	0.0431	0.003	0.0061	0.006	< 0.002	0.002	0.041	< 0.002
Lead	mg/L	< 0.0001	0.00061	0.00066	0.0016	0.0013	0.0002	0.00031	0.00042	0.0012	0.0001	0.0408	0.0002	0.0008	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Molybdenum	mg/L	< 0.0005	0.0013	0.0014	0.0009	0.0021	0.0017	0.0029	0.0021	0.0019	0.0021	< 0.0005	0.002	0.0014	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	mg/L	< 0.01	0.06	0.06	0.03	0.09	0.03	0.06	0.04	0.06	0.04	0.04	0.06	0.03	0.05	< 0.01	0.04	0.05	0.06
Selenium	mg/L	< 0.005	0.006	0.006	< 0.005	0.012	< 0.005	0.005	0.004	0.012	0.005	0.009	0.007	< 0.005	0.007	< 0.005	< 0.005	< 0.005	0.007
Silver	mg/L	< 0.0001	0.0009	0.0006	< 0.0001	< 0.0001	0.0001	< 0.0002	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Strontium	mg/L	0.573	1.72	1.76	1.35	2.73	0.671	2.39	1.84	2.56	1.59	4.11	2.37	1.66	1.8	0.64	1.85	1.74	2.2
Thallium	mg/L	< 0.0003	< 0.00005	< 0.00005	< 0.0003	< 0.0003	< 0.0003	0.04	0.021	0	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	0.0004	< 0.0003	
Vanadium	mg/L	0.0007	0.0177	0.0181	0.0074	0.0239	0.0017	0.0155	0.0084	0.0182	0.0057	0.0874	0.0148	0.0071	0.014	< 0.005	0.012	0.025	0.016
Zinc	mg/L	0.024	0.049	0.048	0.034	0.185	0.363	0.194	0.069	0.32	0.028	0.324	0.044	0.041	0.026	0.01	0.195	0.35	0.03

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1	LPC-1
			25-Jul-18	9-Oct-18	31-May-21	18-Oct-23	15-Aug-24	30-Sep-24	10-Oct-24	14-Nov-24	18-Dec-24	30-Jan-25	26-Feb-25
1,1,1,2-Tetrachloroethane	µg/L	N/A	< 0.1	< 0.5	< 0.5	<0.5	<0.5						
1,1,1-Trichloroethane	µg/L	N/A	< 0.1	< 0.5	< 0.5	<0.5	<0.5						
1,1,2,2 Tetrachloroethane	µg/L	N/A	< 0.4	< 0.5	< 0.5	<0.5	<0.5						
1,1,2-Trichloroethane	µg/L	N/A	< 0.1	< 0.5	< 0.5	<0.5	<0.5						
1,1-Dichloroethane	µg/L	N/A	< 0.1	< 0.5	< 0.5	<0.5	<0.5						
1,1-Dichloroethylene	µg/L	14	< 0.1	< 0.5	< 0.5	<0.5	<0.5						
Ethylene Dibromide	µg/L	N/A	< 0.1	< 0.2	< 0.2	<0.2	<0.2						
1,2-Dichlorobenzene	µg/L	3	< 0.1	< 0.5	< 0.5	<0.5	0.6						
1,2-Dichloroethane	µg/L	5	< 0.1	< 0.5	< 0.5	<0.5	<0.5						
1,2-Dichloropropane	µg/L	N/A	< 0.1	< 0.5	< 0.5	<0.5	<0.5						
1,3-Dichlorobenzene	µg/L	N/A	< 0.1	< 0.5	< 0.5	<0.5	<0.5						
1,4-Dichlorobenzene	µg/L	1	< 0.2	2.7	1.5	1.6	5.2						
Methyl Ethyl Ketone	µg/L	N/A	< 1	< 20	< 20	<20	<2						
Methyl Isobutyl Ketone	µg/L	N/A	< 1	< 20	< 20	<20	<20						
Acetone	µg/L	N/A	< 2	< 30	< 30	<30	<30						
Benzene	µg/L	5	< 0.5	1.1	1.7	2.9	4.8	2.4	1.4	1.5	1.3	0.8	1.4
Bromodichloromethane	µg/L	N/A	0.1	< 2	< 2	<2	<2		<2				
Bromoform	µg/L	N/A	< 0.1	< 5	< 5	<5	<5		<5				
Bromomethane	µg/L	N/A	< 0.3	< 0.5	< 0.5	<0.5	<0.5						
Carbon Tetrachloride	µg/L	5	< 0.2	5.7	< 0.2	<0.2	<0.2						
Chlorobenzene	µg/L	80	2.1	< 1	1.2	1.8	26						
Chloroform	µg/L	N/A	< 0.1	< 0.5	< 1	<1	<1		<1				
cis 1,2-Dichloroethene	µg/L	N/A	< 0.1	< 0.5	< 0.5								
cis 1,3-Dichloroethene	µg/L	N/A	< 0.1	< 2	< 0.5								
Dibromochloromethane	µg/L	N/A			< 2	<2	<2		<2				
Dichlorodifluoromethane	µg/L	N/A											
Ethylbenzene	µg/L	2.4	< 0.5	< 0.5	< 0.5	1.1	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5
m & p-Xylene	µg/L	N/A	< 0.4	< 1.0	< 1.0	2	16	2	1	<1	<1	<1	<1
o-Xylene	µg/L	N/A	< 0.1	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	N/A	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl tert-Butyl Ether	µg/L	N/A	< 1	< 2	< 2	<2	<2						
Methylene Chloride	µg/L	N/A	< 0.3	< 0.3	< 5	<5	<5						
Vinyl Chloride	µg/L	2	< 0.2	< 0.5	< 0.2	<0.2	<0.2						
Trichloroethylene	µg/L	5			< 0.5	<0.5	<0.5						
Xylene, m,p,o-	µg/L	300	< 0.4	< 1.1	< 1.1	2	<1.1	1.9	1.2	<1.1	<1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Ground Water Chemistry Summary - VOC

Parameters	Units	ODWQS	LPC-1	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2	LPC-2
			18-Mar-25	14-Jul-16	25-Apr-18	10-May-19	11-May-19	4-May-21	4-May-22	24-Aug-22	24-Apr-23	25-Apr-24	28-Apr-25
1,1,1,2-Tetrachloroethane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1,2,2 Tetrachloroethane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1-Dichloroethane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1-Dichloroethylene	µg/L	14			< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Ethylene Dibromide	µg/L	N/A		< 0.2	< 0.2	< 0.2	< 0.2	< 4	< 0.2	< 0.2	<0.2	<0.2	<0.2
1,2-Dichlorobenzene	µg/L	3		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	5		< 0.5	< 0.5	< 0.5	< 0.5	< 10	0.5	< 0.5	< 0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,3-Dichlorobenzene	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	1		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	2.9	< 0.5	1	<0.5
Methyl Ethyl Ketone	µg/L	N/A		< 20	660	310	< 20	1500	< 20	< 20	30	<2	227
Methyl Isobutyl Ketone	µg/L	N/A		< 20	< 20	< 20	< 20	< 400	< 20	< 20	< 20	<20	<20
Acetone	µg/L	N/A		< 30	510	320	< 30	1340	< 30	< 30	50	<30	344
Benzene	µg/L	5	1	< 0.5	1.4	0.7	< 0.5	< 10	< 0.5	2.5	< 0.5	0.8	0.7
Bromodichloromethane	µg/L	N/A		< 2	< 2	< 2	< 2	< 40	< 2	< 2	< 2	<2	<2
Bromoform	µg/L	N/A		< 5	< 5	< 5	< 5	< 100	< 5	< 5	< 5	<5	<5
Bromomethane	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 3	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	5		< 0.2		< 0.2	< 0.2	< 4	< 0.2	< 0.2	< 0.2	<0.2	<0.2
Chlorobenzene	µg/L	80		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	17	< 0.5	0.8	<0.5
Chloroform	µg/L	N/A		< 1	< 1	< 1	< 1	< 20	< 1	< 1	< 1	<1	<1
cis 1,2-Dichloroethene	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
cis 1,3-Dichloroethene	µg/L	N/A		< 0.5	< 0.5	< 0.5	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Dibromochloromethane	µg/L	N/A		< 2	< 2	< 2	< 2	< 40	< 2	< 2	< 2	<2	<2
Dichlorodifluoromethane	µg/L	N/A											
Ethylbenzene	µg/L	2.4	0.6	< 0.5	1.4	0.6	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	3
m & p-Xylene	µg/L	N/A	1	< 1.0	1.7	1.2	< 1.0	< 20	< 1.0	2.4	< 1.0	<1	2
o-Xylene	µg/L	N/A	<0.5	< 0.5	1	0.6	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	0.8
Toluene	µg/L	N/A	<0.5	< 0.5	1.8	12.6	< 0.5	< 10	< 0.5	< 0.5	< 0.5	<0.5	5.6
Methyl tert-Butyl Ether	µg/L	N/A		< 2	< 2	< 2	< 2	< 40	< 2	< 2	< 2	<2	<2
Methylene Chloride	µg/L	N/A		< 5	< 5	< 5	< 5	< 6	< 5	< 5	< 5	<5	<5
Vinyl Chloride	µg/L	2		< 0.5	< 0.5	< 0.2	< 0.2	< 2	< 0.2	< 0.2	< 0.2	<0.2	<0.2
Trichloroethylene	µg/L	5				< 0.5	< 0.5	< 10			< 0.5	<0.5	<0.5
Xylene, m,p,o-	µg/L	300	1.3	< 1.1	2.7	1.8	< 1.1	< 22	< 1.1	2.4	< 1.1	<1.1	2.8

ODWQS - Ontario Drinking Water Quality Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Leachate - PCBs

Parameters Units	PCB µg/L	NTA mg/L
Leachate Pumping Chamber (LPC1)		
12-May-06	< 0.04	ND
29-Jun-06	< 0.04	
26-Oct-06	< 0.04	< 0.05
21-Dec-06	< 0.1	
27-Apr-07		< 0.05
30-May-07	< 0.001	< 0.05
22-Oct-07	< 0.001	< 0.05
27-Feb-08	< 0.001	
18-Mar-08	< 0.001	
17-Apr-08	< 0.001	< 0.05
18-Jun-08	< 0.001	
28-Jul-08	< 0.001	
22-Oct-08	< 0.001	0.10
4-May-09	0.015	
7-Jul-09	< 0.001	
27-Oct-09	< 0.001	
16-Nov-09	< 0.001	
5-May-10	< 0.001	
28-Oct-10	< 0.001	< 0.05
17-May-12	0.002	0.07
23-Jul-12	0.002	
25-Oct-12	< 0.001	0.09
27-May-14	< 0.05	
29-Oct-14	< 0.05	
27-May-15	< 0.05	
20-Oct-15	< 0.05	
24-May-16	< 0.05	< 0.03
17-Oct-16	< 0.05	< 0.03
25-May-17	< 0.05	< 0.03
17-Oct-17	< 0.05	< 0.03
8-May-18	< 0.05	< 0.03
10-Oct-18	< 0.05	< 0.03
15-May-19	< 0.05	< 0.03
9-Oct-19	< 0.05	< 0.03
11-May-20	<0.05	<0.03
13-Oct-20	<0.05	<0.03
20-Apr-21	<0.05	
31-May-21	<0.05	<0.03
11-Aug-21	<0.05	
19-May-22	<0.05	<0.03
25-May-23	<0.05	<0.03
18-Oct-23	<0.05	<0.03
8-May-24	<0.05	<0.03
10-Oct-24	<0.05	<0.1
15-May-25	<0.05	<0.03
15-Oct-25	<0.05	<0.03
Leachate Pumping Chamber New Cell (LPC2)		
24-May-06	< 0.1	
26-Oct-06	< 0.4	
26-Feb-08	< 0.001	
7-Jul-09	< 0.001	
12-Jul-10	< 0.001	
21-Jul-14	< 0.05	
13-Jul-15	< 0.05	
14-Jul-16	< 0.05	
25-Apr-18	< 0.05	
10-May-19	< 0.05	
30-Apr-20	< 0.05	
4-May-21	<0.05	
4-May-22	<0.05	
24-Apr-23	<0.05	
25-Apr-24	<0.05	
28-Apr-25	<0.05	

Leachate - BTEX compounds

Parameters	Benzene	Ethyl benzene	m/p-Xylene	o-Xylene	Toluene
Units	µg/L	µg/L	µg/L	µg/L	µg/L
Leachate Pumping Chamber (LPC1)					
5-Jan-06	<1		5.1	3.1	2.7
1-Mar-06	<1		1.2	4.4	<1
12-May-06	3.0		26.9	10.4	18.9
29-Jun-06	2.6		21.5	6.8	6.8
10-Aug-06	1.6		0.8	1.0	0.4
21-Sep-06	<2		<4	<3	<2
26-Oct-06	0.6		1.0	1.1	< 0.3
21-Dec-06	2.8		9.7	4.3	2.5
29-Jan-07	2.5		5.7	2.1	2.4
14-Feb-07	3.2		7.7	2.6	4.0
21-Mar-07	3.0		14.4	0.7	0.2
10-Apr-07	1.1		1.6	0.9	0.3
27-Apr-07	2.8		2.8	1.7	0.9
30-May-07	2.9		12.1	4.3	1.8
7-Jun-07	2.3		10.8	3.3	2.5
31-Jul-07	1.6		7.7	3.3	0.8
22-Oct-07	2.4		3.0	1.1	1.2
20-Nov-07	2.6		1.8	< 0.2	< 0.2
27-Feb-08	2.7		7.6	2.5	2.4
18-Mar-08	2.9		10.4	2.0	1.8
17-Apr-08	4.3		10.9	1.2	0.5
18-Jun-08	3.2		6.1	0.9	0.4
22-Oct-08	1.9		4.0	0.8	0.2
10-Dec-08	2.5		4.2	0.7	0.8
13-Jan-09	4.8	1.3	12.2	1.2	0.8
4-May-09	2.7	< 0.1	2.3	< 0.1	< 0.1
7-Jul-09	2.9	0.2	2.8	0.3	0.2
27-Oct-09	2.3	0.3	3.6	0.3	< 0.1
16-Nov-09	0.5	< 0.1	0.2	0.1	< 0.1
13-Jan-10	3.4	2.7	14.1	3.8	2.3
10-Feb-10	1.1	< 0.1	2.3	1.6	0.1
16-Mar-10	1.2	< 0.1	1.8	0.4	< 0.1
20-Apr-10	3.3	0.6	7.2	0.5	0.4
5-May-10	2.8	0.4	5.2	0.3	< 0.1
15-Jun-10	3.0	0.4	3.7	0.3	0.5
7-May-10	3.7	2.3	11.3	2.1	1.1
30-Sep-10	2.0	2.4	4.2	0.5	0.2
28-Oct-10	2.2	3.1	6.6	0.7	0.3
16-Nov-10	2.2	2.8	4.7	0.5	0.2
13-Dec-10	1.0	1.6	2.7	0.4	0.2
10-Jan-11	2.3	1.8	5.6	1.5	0.6
14-Feb-11	3.7	3.0	14.0	2.5	0.9
11-Mar-11	1.4	2.6	4.6	0.9	< 0.4
11-Apr-11	1.8	1.1	3.6	0.5	< 0.4
5-May-11	2.1	2.7	6.2	0.9	0.3
16-Jun-11	2.8	2.2	5.1	0.7	0.6
28-Jul-11	2.5	1.2	3.7	0.5	0.6
22-Aug-11	2.2	0.9	3.1	0.4	< 0.5
3-Oct-11	2.1	1.3	5.1	< 0.5	< 1.0
27-Oct-11	2.3	1.6	5.0	0.6	0.3
1-Dec-11	1.8	1.2	4.1	0.5	4.3
21-Dec-11	2.7	1.8	8.0	0.8	< 0.4
24-Jan-12	1.5	1.0	2.8	< 0.5	< 1.0
21-Feb-12	2.6	1.2	3.2	< 0.5	< 1.0
19-Mar-12	2.2	1.5	4.4	0.6	< 0.4
17-May-12	3.4	3.3	8.2	1.5	0.7
20-Jun-12	2.3	0.9	2.7	0.6	0.3
23-Jul-12	4.3	2.2	9.4	1.2	< 0.5
21-Aug-12	2.3	< 1.0	3.3	< 1.0	< 2.0
25-Oct-12	2.4	0.6	1.1	0.3	< 0.2
22-Nov-12	2.1	1.2	4.6	0.4	< 0.5
18-Dec-12	2.5	1.7	8.3	0.8	0.2
21-Apr-14	2.8	< 0.5	4.9	< 0.5	< 0.5
27-May-14	1.4	< 0.5	2.7	< 0.5	< 0.5
25-Jun-14	3.6	< 0.5	3.1	< 0.5	< 0.5
21-Jul-14	1.5	< 0.5	1.8	< 0.5	< 0.5
20-Aug-14	1.7	< 0.5	1.3	< 0.5	< 0.5
29-Sep-14	0.8	< 0.5	1.9	< 0.5	< 0.5
29-Oct-14	1.5	< 0.5	1.8	< 0.5	< 0.5
22-Dec-14	< 0.5	0.5	1.4	< 0.1	< 0.5
21-Jan-15	1.9	0.7	2.5	< 0.5	< 0.5
16-Mar-15	1.3	< 0.5	1.3	< 0.5	< 0.5
20-Apr-15	0.6	< 0.5	< 1.0	< 0.5	< 0.5
27-May-15	2.8	< 0.5	3.5	< 0.5	< 0.5

Leachate - BTEX compounds

Parameters	Benzene	Ethyl benzene	m/p-Xylene	o-Xylene	Toluene
Units	µg/L	µg/L	µg/L	µg/L	µg/L
22-Jun-15	2.6	< 0.5	1.3	< 0.5	< 0.5
13-Jul-15	3.3	< 0.5	2.1	< 0.5	< 0.5
5-Aug-15	2.2	< 0.5	1.0	< 0.5	< 0.5
20-Oct-15	1.0	< 0.5	< 0.4	< 0.1	< 0.5
18-Nov-15	1.6	1.2	1.8	< 0.5	< 0.5
16-Dec-15	1.4	1.4	1.3	< 0.5	< 0.5
27-Jan-16	1.6	2.8	4.6	0.7	0.9
4-Feb-16	0.8	1.4	1.6	< 0.5	< 0.5
30-Mar-16	1.1	< 0.5	1.1	< 0.5	< 0.5
12-Apr-16	0.9	0.8	< 1.0	< 0.5	< 0.5
21-Apr-16	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
24-May-16	2.0	< 0.5	< 1.0	< 0.5	< 0.5
14-Jun-16	1.6	< 0.5	< 1.0	< 0.5	< 0.5
14-Jul-16	1.9	< 0.5	1.3	< 0.5	< 0.5
2-Aug-16	1.4	< 0.5	< 1.0	< 0.5	< 0.5
29-Sep-16	1.5	< 0.5	< 1.0	< 0.5	< 0.5
17-Oct-16	1.6	< 0.5	< 1.0	< 0.5	< 0.5
21-Nov-16	1.2	< 0.5	< 1.0	< 0.5	< 0.5
21-Dec-16	1.2	0.7	1.4	< 0.5	< 0.5
23-Jan-17	0.5	< 0.5	< 1.0	< 0.5	< 0.5
23-Feb-17	0.9	0.7	1.1	< 0.5	< 0.5
29-Mar-17	1.1	< 0.5	< 1.0	< 0.5	< 0.5
24-Apr-17	< 0.5	< 0.5	< 0.4	< 0.1	< 0.5
25-May-17	1.3	< 0.5	< 1.0	< 0.5	< 0.5
20-Jul-17	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
24-Aug-17	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
21-Sep-17	2.5	< 0.5	< 1.0	< 0.5	< 0.5
17-Oct-17	1.5	< 0.5	< 1.0	< 0.5	< 0.5
13-Nov-17	1.4	< 0.5	< 1.0	< 0.5	< 0.5
7-Dec-17	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
15-Jan-18	1.2	1.6	1.2	0.9	2.1
15-Feb-18	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
14-Mar-18	2.4	1.5	1.8	< 0.5	< 0.5
25-Apr-18	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
8-May-18	2.5	1.9	2.2	< 0.5	< 0.5
4-Jun-18	0.7	1.3	2.1	< 0.5	< 0.5
25-Jul-18	< 0.5	< 0.5	< 0.4	< 0.1	< 0.5
22-Aug-18	0.9	< 0.5	< 0.4	< 0.1	< 0.5
24-Sep-18	1.5	< 0.5	< 1.0	< 0.5	0.9
9-Oct-18	1.1	< 0.5	< 1.0	< 0.5	< 0.5
10-Oct-18	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
6-Nov-18	1.8	0.7	< 1.0	< 0.5	< 0.5
19-Dec-18	3.4	2.5	2.5	< 0.5	< 0.5
29-Jan-19	2.3	2.7	4.2	< 0.5	< 0.5
14-Feb-19	0.7	< 0.5	< 1.0	< 0.5	< 0.5
11-Mar-19	0.6	< 0.5	< 1.0	< 0.5	< 0.5
9-May-19	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
11-Jun-19	1.6	1.1	1.1	< 0.5	< 0.5
15-Jul-19	0.6	< 0.5	< 1.0	< 0.5	< 0.5
14-Aug-19	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
30-Sep-19	1.8	< 0.5	< 1.0	< 0.5	< 0.5
9-Oct-19	1.7	< 0.5	< 1.0	< 0.5	< 0.5
12-Nov-19	1.5	< 0.5	< 1.0	< 0.5	< 0.5
18-Dec-19	1.9	0.8	< 1.0	< 0.5	< 0.5
21-Jan-20	1.4	3.0	1.9	< 0.5	< 0.5
5-Feb-20	1.0	0.6	< 1.0	< 0.5	< 0.5
18-Mar-20	1.2	0.7	< 1.0	< 0.5	< 0.5
30-Apr-20	1.5	0.7	1.0	< 0.5	< 0.5
11-May-20	1.6	0.7	< 0.5	< 1.0	< 0.5
24-Jun-20	1.3	0.6	< 1.0	< 0.5	< 0.5
13-Jul-20	1.4	< 0.5	< 1.0	< 0.5	< 0.5
11-Aug-20	1.5	< 0.5	< 1.0	< 0.5	< 0.5
9-Sep-20	1.2	< 0.5	< 1.0	< 0.5	< 0.5
13-Oct-20	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
25-Nov-20	1.1	< 0.5	< 1.0	< 0.5	< 0.5
18-Jan-21	1.2	< 0.5	< 1.0	< 0.5	< 0.5
3-Mar-21	1.0	0.6	< 1.0	< 0.5	< 0.5
29-Mar-21	0.6	0.6	< 1.0	< 0.5	< 0.5
4-May-21	1.7	1.0	1.1	< 0.5	< 0.5
31-May-21	1.7	< 0.5	< 1.0	< 0.5	< 0.5
22-Jun-21	1.4	< 0.5	< 1.0	< 0.5	< 0.5
26-Jul-21	2.5	0.8	1.2	< 0.5	< 0.5
16-Aug-21	1.3	< 0.5	< 1.0	< 0.5	< 0.5
28-Sep-21	1.5	< 0.5	1.2	< 0.5	< 0.5
13-Oct-21	1.9	< 0.5	< 1.0	< 0.5	< 0.5
29-Nov-21	0.6	< 0.5	< 1.0	< 0.5	< 0.5
13-Dec-21	1.0	0.8	1.5	< 0.5	< 0.5
25-Jan-22	1.3	2.4	2.4	< 0.5	< 0.5
22-Feb-22	1.8	0.5	1.2	< 0.5	< 0.5
21-Mar-22	0.8	< 0.5	< 1.0	< 0.5	< 0.5
4-May-22	1.4	0.7	1.0	< 0.5	< 0.5
19-May-22	1.3	< 0.5	< 1.0	< 0.5	< 0.5
21-Jun-22	1.8	0.6	< 1.0	< 0.5	< 0.5

Leachate - BTEX compounds

Parameters	Benzene	Ethyl benzene	m/p-Xylene	o-Xylene	Toluene
Units	µg/L	µg/L	µg/L	µg/L	µg/L
27-Jul-22	2.3	< 0.5	< 1.0	< 0.5	< 0.5
24-Aug-22	1.3	< 0.5	< 1.0	< 0.5	< 0.5
13-Sep-22	1.5	< 0.5	< 1.0	< 0.5	< 0.5
26-Oct-22	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
17-Nov-22	1.9	< 0.5	< 1.0	< 0.5	< 0.5
7-Dec-22	1.4	< 0.5	< 1.0	< 0.5	< 0.5
18-Jan-23	1.4	0.6	< 1.0	< 0.5	< 0.5
10-Feb-23	0.7	< 0.5	< 1.0	< 0.5	< 0.5
1-Mar-23	1.5	0.6	<1	<0.5	<0.5
24-Apr-23	1.8	0.8	1.1	< 0.5	< 0.5
25-May-23	1.8	0.5	< 1.0	< 0.5	< 0.5
14-Jun-23	3.6	0.6	1.8	< 0.5	< 0.5
6-Jul-23	4.0	0.6	1.6	<0.5	<0.5
15-Aug-23	3.2	1.2	2.0	<0.5	<0.5
18-Sep-23	3.4	0.6	1.0	<0.5	<0.5
18-Oct-23	2.9	1.1	2.0	<0.5	<0.5
2-Nov-23	1.9	0.8	2.0	<0.5	<0.5
18-Dec-23	2.7	1.0	1.0	<0.5	<0.5
25-Jan-24	1.9	0.9	1.0	<0.5	<0.5
7-Feb-24	2.1	0.7	<1	<0.5	<0.5
14-Mar-24	2.1	0.7	<1	<0.5	<0.5
25-Apr-24	<0.5	<0.5	<1	<0.5	<0.5
8-May-24	1.0	<0.5	<1	<0.5	<0.5
12-Jun-24	1.9	<0.5	<1	<0.5	<0.5
30-Jul-24	3.3	0.8	2.0	<0.5	<0.5
15-Aug-24	4.8	<0.5	16.0	<0.5	<0.5
30-Sep-24	2.4	1.0	2.0	<0.5	<0.5
10-Oct-24	1.4	<0.5	1.0	<0.5	<0.5
14-Nov-24	1.5	<0.5	<1	<0.5	<0.5
18-Dec-24	1.3	<0.5	<1	<0.5	<0.5
30-Jan-25	0.8	<0.5	<1	<0.5	<0.5
26-Feb-25	1.4	<0.5	<1	<0.5	<0.5
18-Mar-25	1.0	0.6	1.0	<0.5	<0.5
15-May-25	1.2	<0.5	<1	<0.5	<0.5
17-Jun-25	2.4	<0.5	<1	<0.5	<0.5
23-Jul-25	2.6	<0.5	<1	<0.5	<0.5
21-Aug-25	2.2	<0.5	<1	<0.5	<0.5
10-Sep-25	2.2	<0.5	<1	<0.5	<0.5
15-Oct-25	1.0	<0.5	<1	<0.5	<0.5
4-Nov-25	0.6	<0.5	<1	<0.5	<0.5
1-Dec-25	0.9	<0.5	<1	<0.5	<0.5

Leachate - BTEX compounds

Parameters	Benzene	Ethyl benzene	m/p-Xylene	o-Xylene	Toluene
Units	µg/L	µg/L	µg/L	µg/L	µg/L
Leachate Pumping Chamber New Cell (LPC2)					
24-May-06	<40		<40	<40	<40
26-Oct-06	0.6		2.4	1.3	39.8
29-Jan-07	0.6		< 0.4	< 0.2	12.5
10-Apr-07	0.4		< 0.4	0.2	11.1
27-Apr-07	0.3		< 0.4	< 0.2	10.7
30-May-07	< 0.2		< 0.4	< 0.2	19.5
22-Oct-07	< 0.2		1.2	< 0.2	23.9
26-Feb-08	< 0.2		< 0.4	< 0.2	4.2
18-Mar-08	< 0.2		< 0.4	< 0.2	1.9
23-Apr-08	0.1		0.4	< 0.1	3.1
18-Jun-08	0.4		0.9	0.3	2.5
22-Oct-08	0.3		0.8	0.3	4.3
4-May-09	0.5	1.4	< 0.1	1.8	14.0
7-Jul-09	0.5	1.1	3.7	1.7	1.3
27-Oct-09	0.7	2.0	5.9	2.7	41.1
16-Nov-09	0.9	1.8	4.7	2.2	44.8
5-May-10	0.4	1.8	3.2	1.4	35.0
12-Jul-10	1.5	4.2	11.5	4.6	110.0
24-Aug-10	1.3	4.2	10.9	4.1	120.0
28-Oct-10	0.6	1.5	3.4	1.4	60.0
5-May-11	0.3	0.7	1.4	0.6	7.9
27-Oct-11	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0
17-May-12	< 0.5	< 0.5	0.6	< 0.5	< 1.0
25-Oct-12	< 2.5	< 2.5	< 2.5	< 2.5	< 5.0
26-Feb-14	0.7	< 0.5	< 1.0	< 0.5	3.4
27-May-14	< 0.5	< 0.5	1.4	< 0.5	7.8
21-Jul-14	0.5	< 0.5	< 1.0	< 0.5	5.8
29-Oct-14	< 0.5	< 0.5	< 1.0	< 0.5	1.2
13-Jul-15	0.9	1.7	4.2	1.3	5.9
14-Jul-16	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
24-Apr-16	< 0.5	< 0.5	< 0.4	< 0.1	< 0.5
25-Apr-18	1.4	1.4	1.7	1.0	1.8
31-Jul-18	1.9	0.8	1.4	< 0.5	< 0.5
10-May-19	0.7	0.6	1.2	0.6	12.6
30-Apr-20	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
4-May-21	< 10	< 10	< 20	< 10	< 10
4-May-22	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
24-Aug-22	2.5	< 0.5	2.4	< 0.5	< 0.5
26-Oct-22	1.7	< 0.5	< 1.0	< 0.5	< 0.5
24-Apr-23	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5
25-Apr-24	0.8	<0.5	<1	<0.5	<0.5
28-Apr-25	0.7	3.0	2.0	0.8	5.6

Leachate - Pesticides

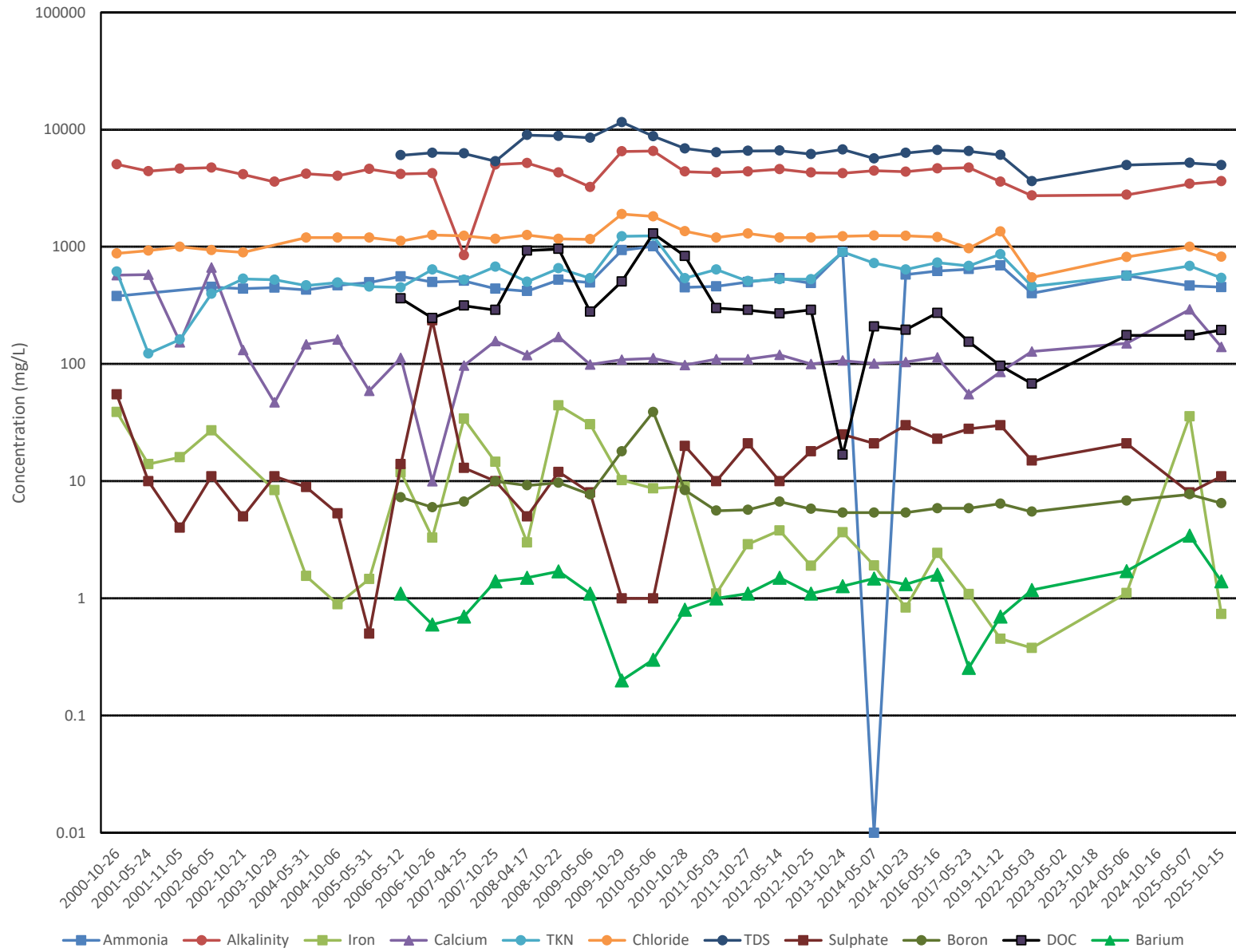
Parameters	Units	ppDDD	ppDDE	ppDDT	Aldrin	BHC Alpha	Chordane Alpha-	Endosulphan I	BHC Beta	Endosulphan II	Dieldrin	Endosulphan Sulphate	Endrin	Heptachlor	Heptachlor Epoxide	Methoxychlor	Mirex	opDDT	Chlordane Gamma-	Chlordane oxy	DDT + Metabolics	Lindane (Hexachlorocyclohexane) Gamma	Gross Alpha	Gross Beta	Nitritriacetic acid (NTA)	
		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	Bq/L	Bq/L	mg/L	
LPC-1																										
12-May-06			<0.2	<0.2	<0.2	<0.2		<0.8	<0.2	<0.8	<0.2	<0.8	<0.2	<0.2	<0.2	<0.4	<0.4							<0.1	1.00	
29-Jun-06			<0.2	<0.2	<0.2	<0.2		<0.8	<0.2	<0.8	<0.2	<0.8	<0.2	<0.2	<0.2	<0.4	<0.4							<0.1	1.70	
26-Oct-06			<0.2	<0.2	<0.2	<0.2		<0.8	<0.2	<0.8	<0.2	<0.8	<0.2	<0.2	<0.2	<0.4	<0.4							<0.1	1.00	
21-Dec-06			<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							0.40	1.50	
27-Apr-07			<0.2	<0.2	<0.2	<0.2		<0.8	<0.2	<0.8	<0.2	<0.8	<0.2	<0.2	<0.2	<0.4	<0.4							<0.1	<0.1	
30-May-07			<0.003	<0.003	<0.001	<0.004		<0.003	<0.002	<0.003	<0.001	<0.013	<0.002	<0.001	<0.001	<0.008	<0.001							<0.1	1.40	
18-Mar-08			<0.003	<0.003	<0.001	<0.004		<0.003	<0.002	<0.003	<0.001	<0.013	<0.002	<0.001	<0.001	<0.008	<0.001							<0.1	0.90	
17-Apr-08			<0.003	<0.003	<0.001	<0.004		<0.003	<0.002	<0.003	<0.001	<0.013	<0.002	<0.001	<0.001	<0.008	<0.001							0.20	1.20	
22-Oct-08			<0.003	<0.003	<0.001	<0.004		<0.003	<0.002	<0.003	<0.001	<0.013	<0.002	<0.001	<0.001	<0.008	<0.001							0.20	1.70	
4-May-09			<0.003	<0.003	<0.005	<0.004		<0.003	<0.002	<0.003	<0.001	<0.013	<0.002	<0.001	<0.001	<0.008	<0.001									
27-Oct-09			<0.003	<0.003	<0.005	<0.004		<0.003	<0.002	<0.003	<0.001	<0.013	<0.002	<0.001	<0.001	<0.008	<0.001									
16-Nov-09			<0.003	<0.003	<0.005	<0.004		<0.003	<0.002	<0.003	<0.001	<0.013	<0.002	<0.001	<0.001	<0.008	<0.001									
5-May-10	< 0.003	<0.003	<0.003	<0.005	<0.004	< 0.003	< 0.003	<0.002	<0.003	<0.001	< 0.013	<0.002	<0.001	<0.001	<0.001	<0.008	<0.001	< 0.003	< 0.003	< 0.003				< 0.1	0.30	
28-Oct-10	< 0.003	<0.003	<0.003	<0.005	<0.004	< 0.003	< 0.003	<0.002	<0.003	<0.001	< 0.013	<0.002	<0.001	<0.001	<0.001	<0.008	<0.001	< 0.003	< 0.003					< 0.1	0.40	
5-May-11	< 0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005								
27-Oct-11	< 0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005								
17-May-12	< 0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005					< 0.005	< 0.005		
25-Oct-12	< 0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005					< 0.005	< 0.005		
27-May-14	< 0.1	< 0.1	<0.1	<0.1	< 0.4	< 0.4	< 0.5	< 0.4	< 0.5	< 0.4	< 0.5	< 0.2	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.4				0.50	0.65	
29-Oct-14	< 0.1	< 0.1	<0.1	<0.1	< 0.4	< 0.4	< 0.5	< 0.4	< 0.5	< 0.4	< 0.5	< 0.2	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.4				< 0.2	0.44	
27-May-15			<0.1	<0.1	< 0.4	< 0.4		< 0.4		< 0.2	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1							< 0.1	0.53	
20-Oct-15			<0.1	<0.1	< 0.4	< 0.4		< 0.4		< 0.2	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1							< 0.1	0.65	
24-May-16	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05					< 0.1	0.45	
17-Oct-16	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05					< 0.1	0.89	
25-May-17	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05					< 0.11	0.52	
17-Oct-17	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05					0.30	0.69	
8-May-18	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4		< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05					< 0.1	0.45	
9-Oct-18	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4		< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05							
10-Oct-18	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4		< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05					0.60	0.62	
15-May-19	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	0.33	0.87	< 0.03	
9-Oct-19	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	0.23	0.97		
11-May-20	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	0.19	0.13	< 0.03	
13-Oct-20	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	< 0.31	0.60		
31-May-21	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	< 0.10	< 0.21	< 0.03	
13-Oct-21	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1			< 0.03	
19-May-22	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	0.2	0.62	< 0.3	
17-Nov-22	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	< 0.10	3.3	< 0.03	
25-May-23	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	< 0.10	0.46	< 0.03	
18-Oct-23	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	< 0.10	1.23	< 0.03	
08-May-24	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.02	< 0.05	< 1	< 0.05	< 0.05	< 0.04	< 0.01	< 0.1	< 0.01	0.13	0.55	< 0.03
10-Oct-24	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.01	< 0.01	< 0.05	< 1	< 0.05	< 0.05			< 0.01	0.5	1.7	< 0.1	
15-May-25	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.01	< 0.01	< 0.05	< 1	< 0.05	< 0.05			< 0.01	< 0.10	0.54	< 0.1	
15-Oct-25	< 0.05	< 0.01	< 0.05	< 0.01	< 0.4	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.01	< 0.01	< 0.05	< 1	< 0.05	< 0.05			< 0.01	< 0.10	0.8	< 0.1	



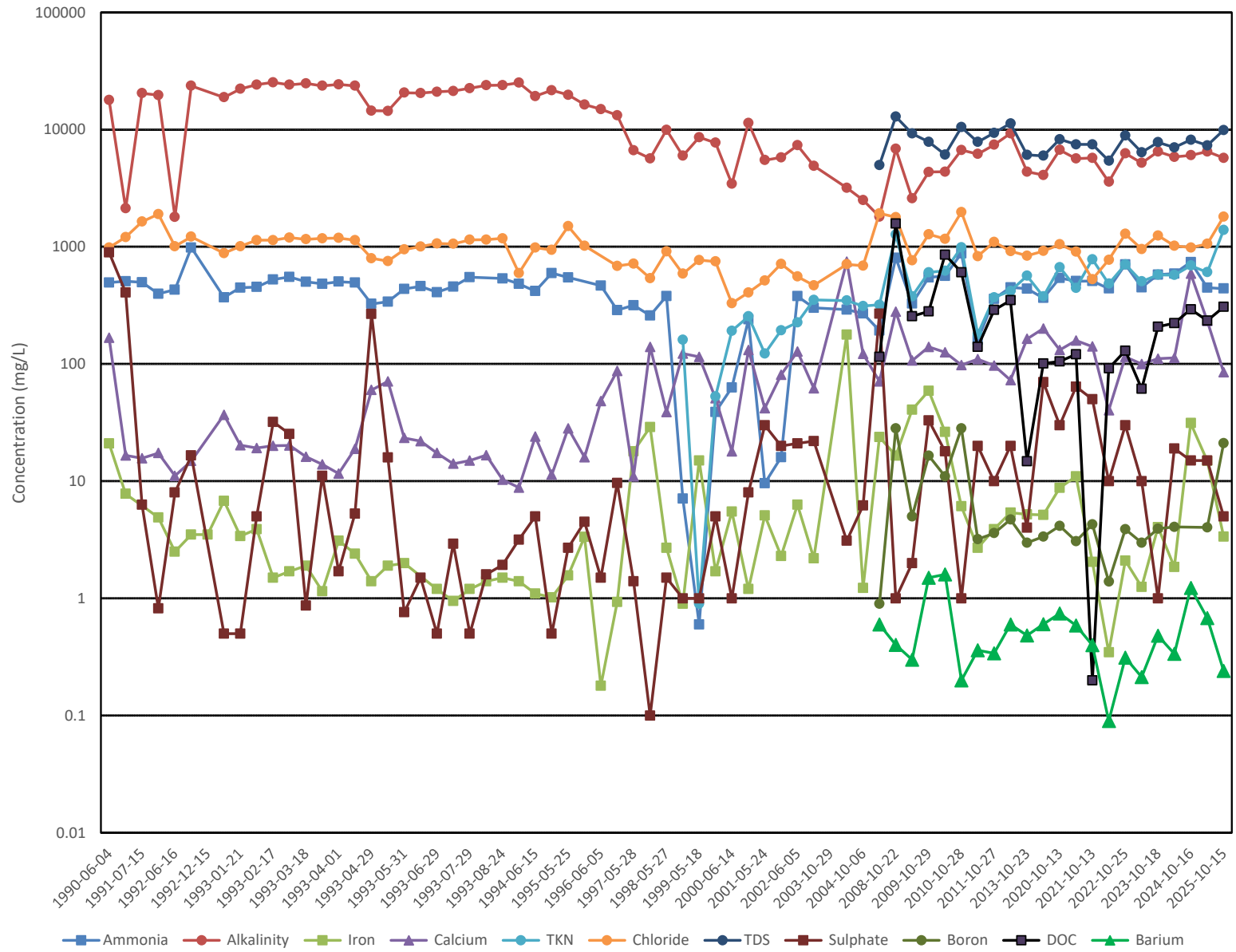
APPENDIX E

Time Trend Chemistry Graphs

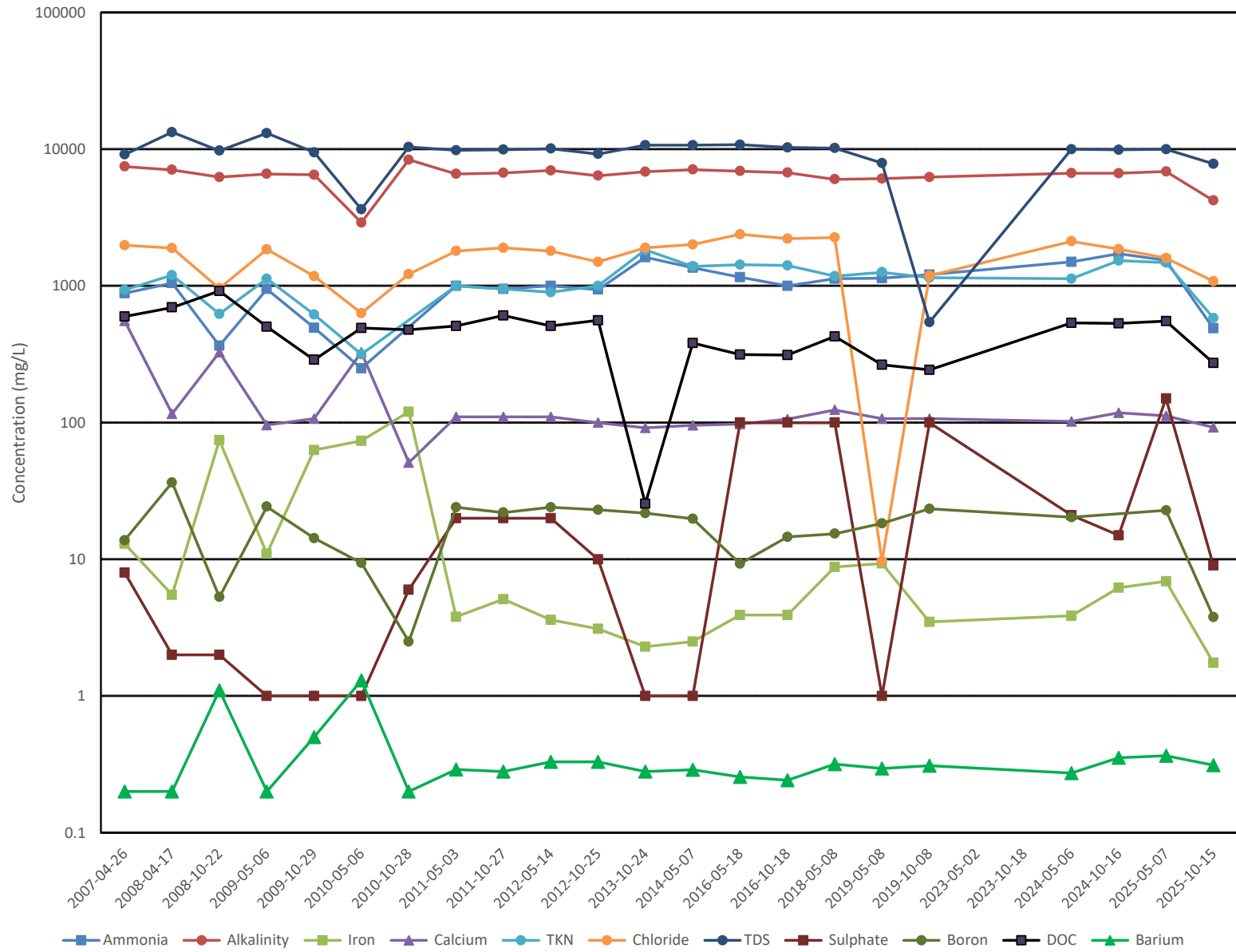
MW6-90-II



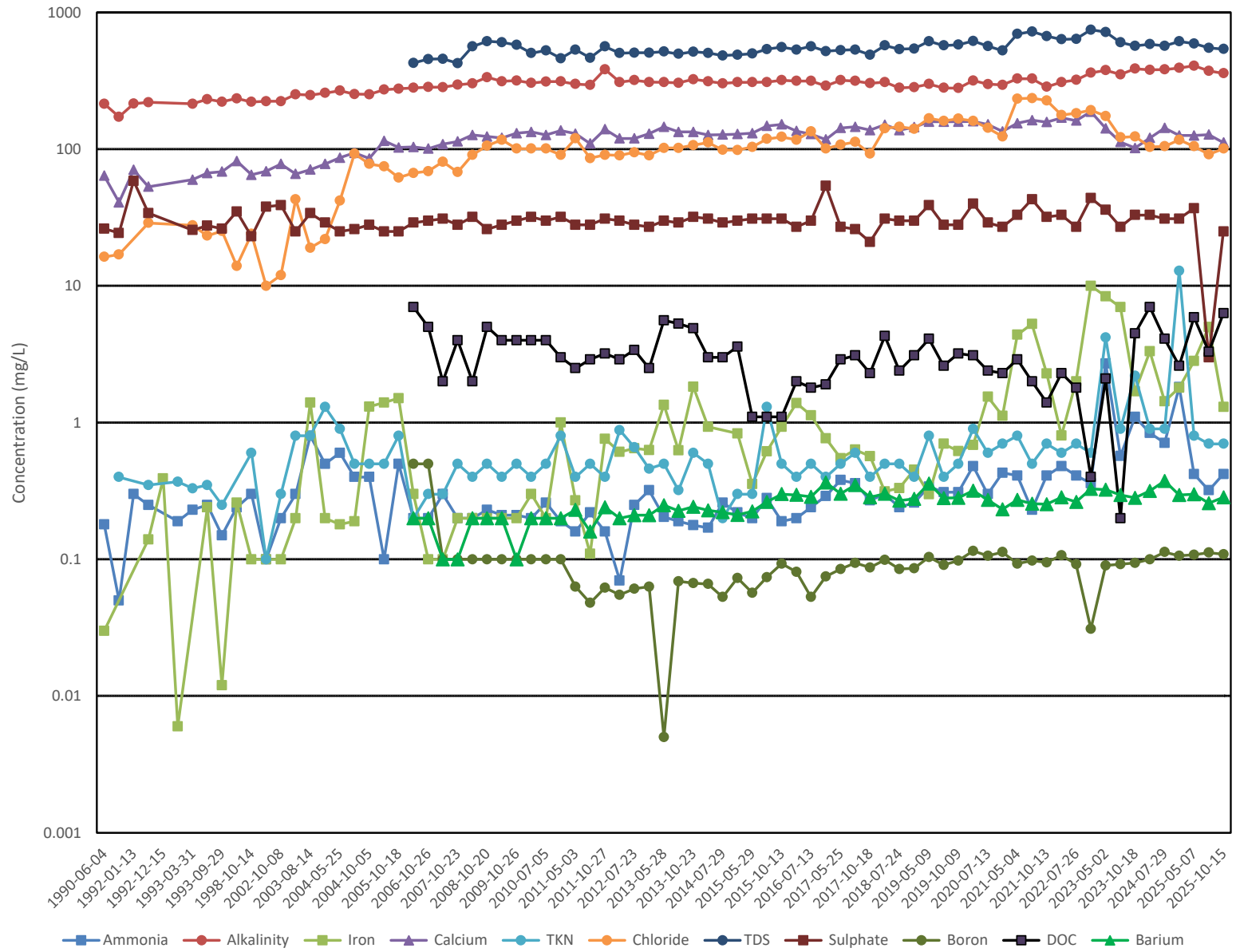
MW7-90



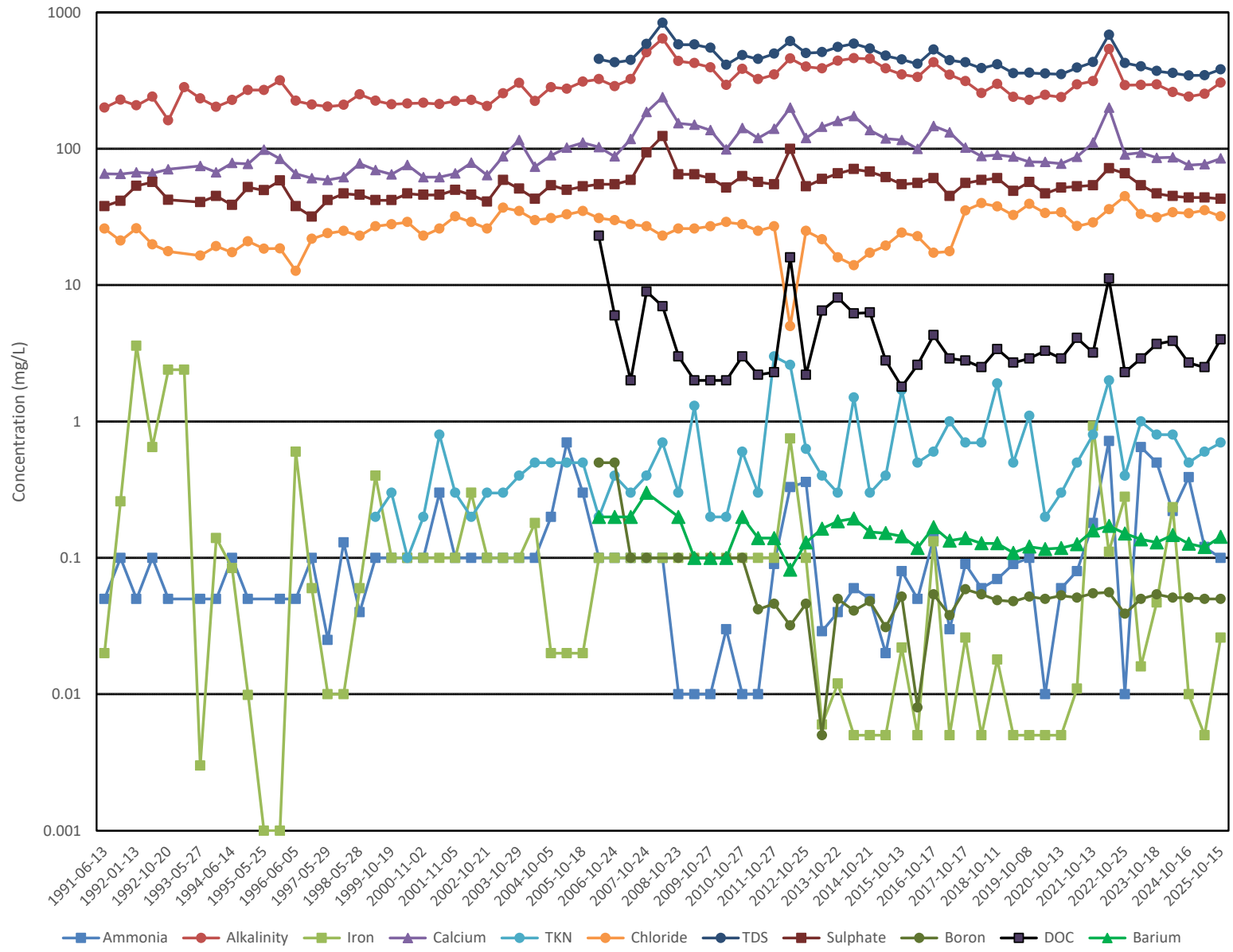
MW7-90-II



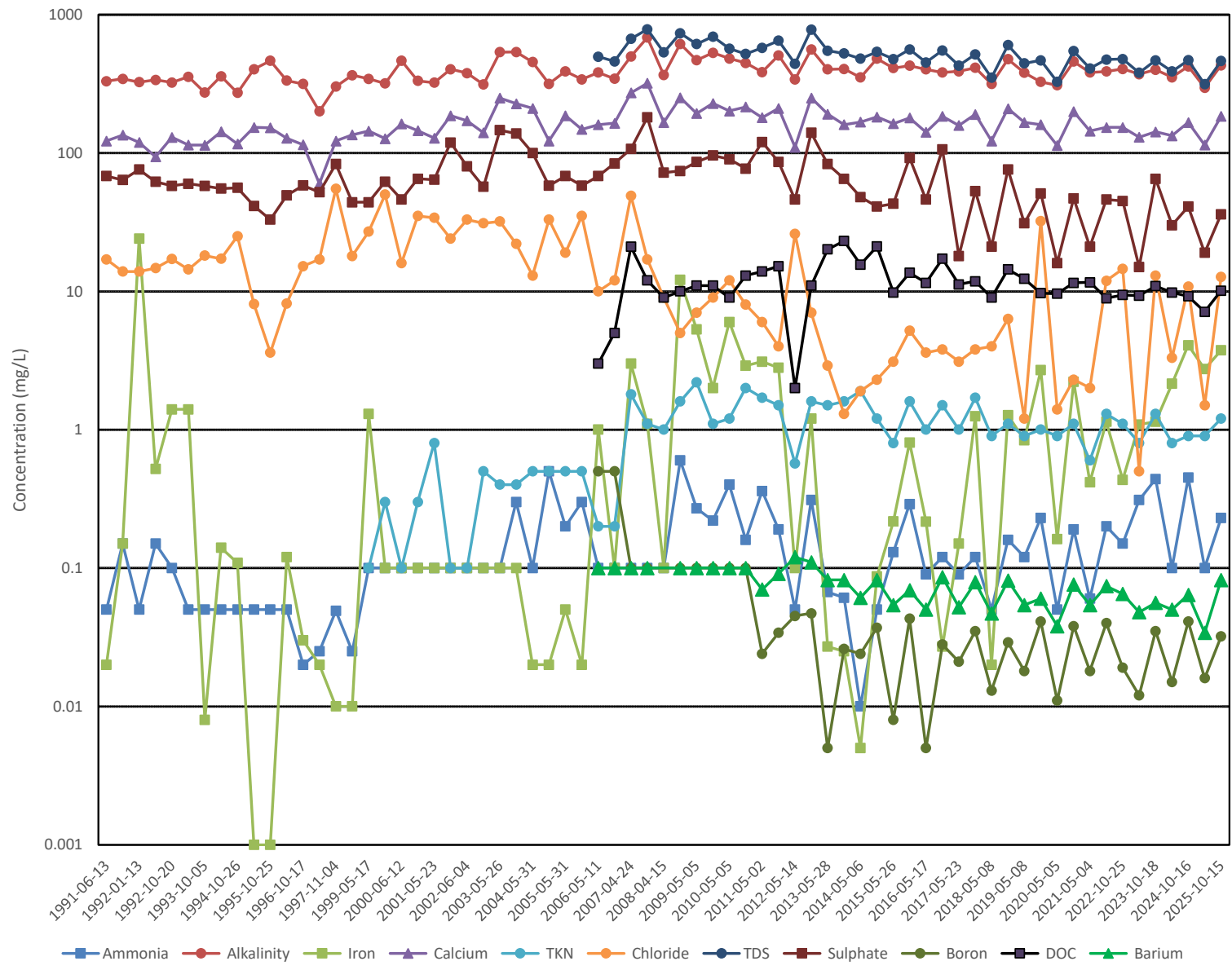
MW11-90



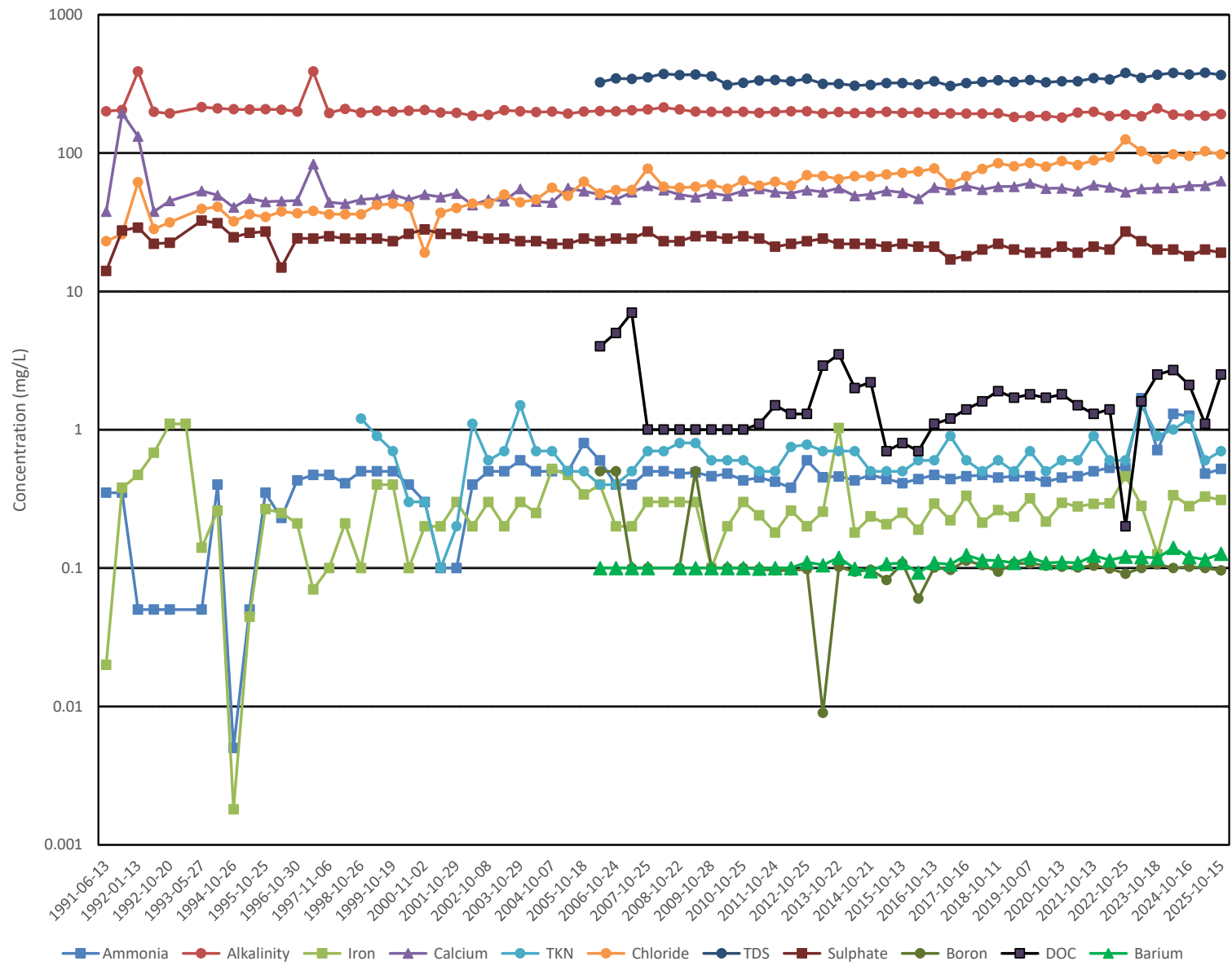
MW12-91-I



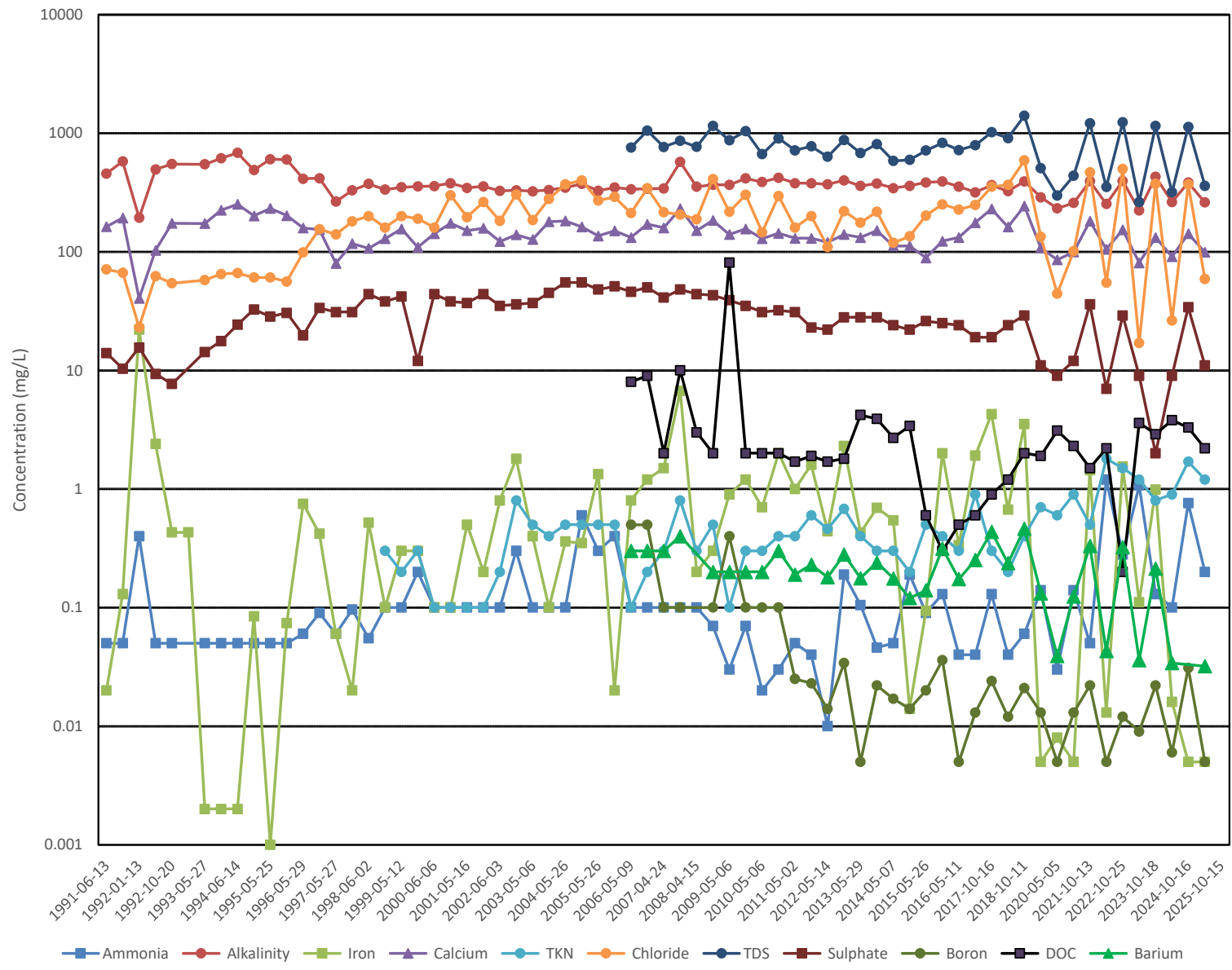
MW12-91-II



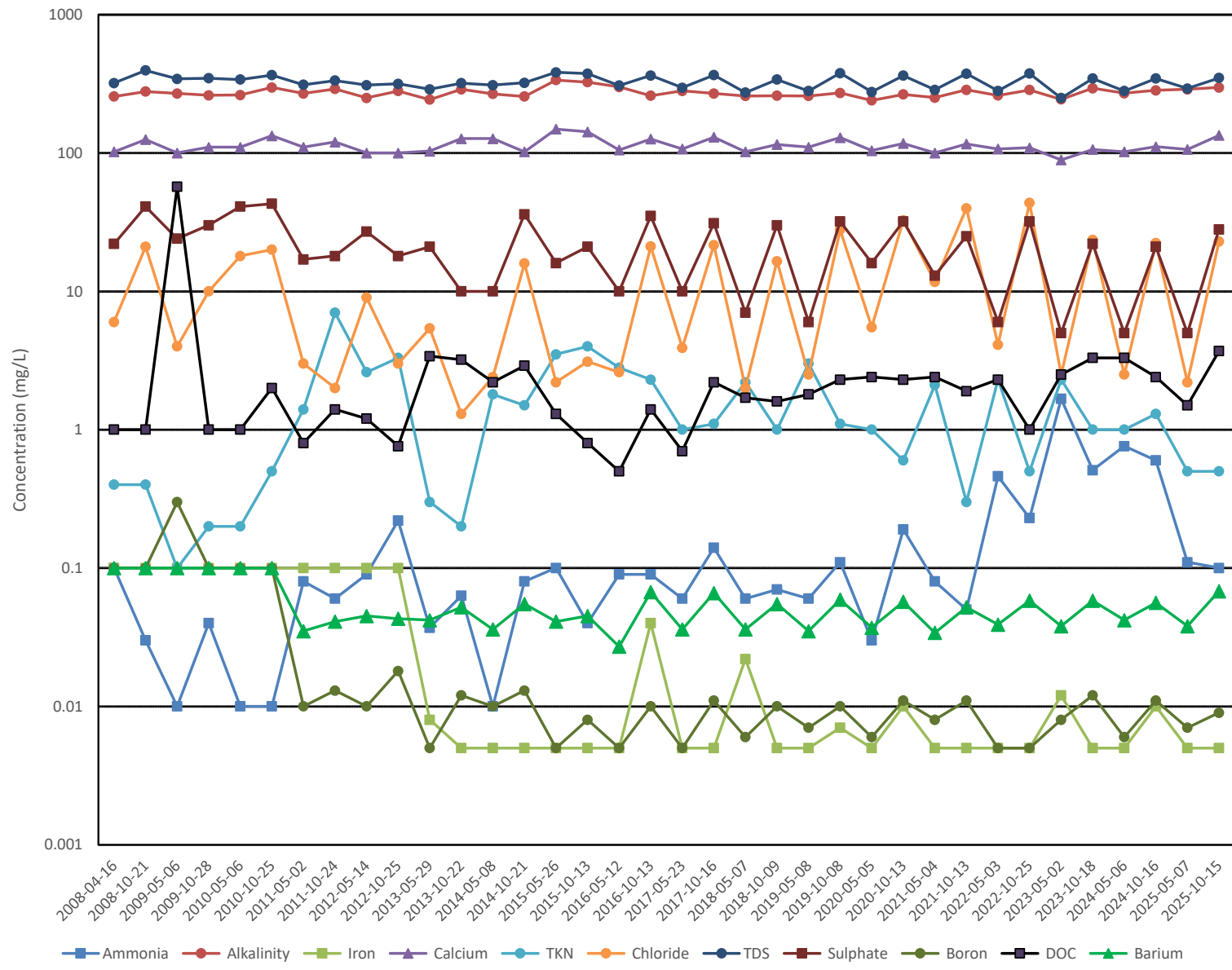
MW13-91-I



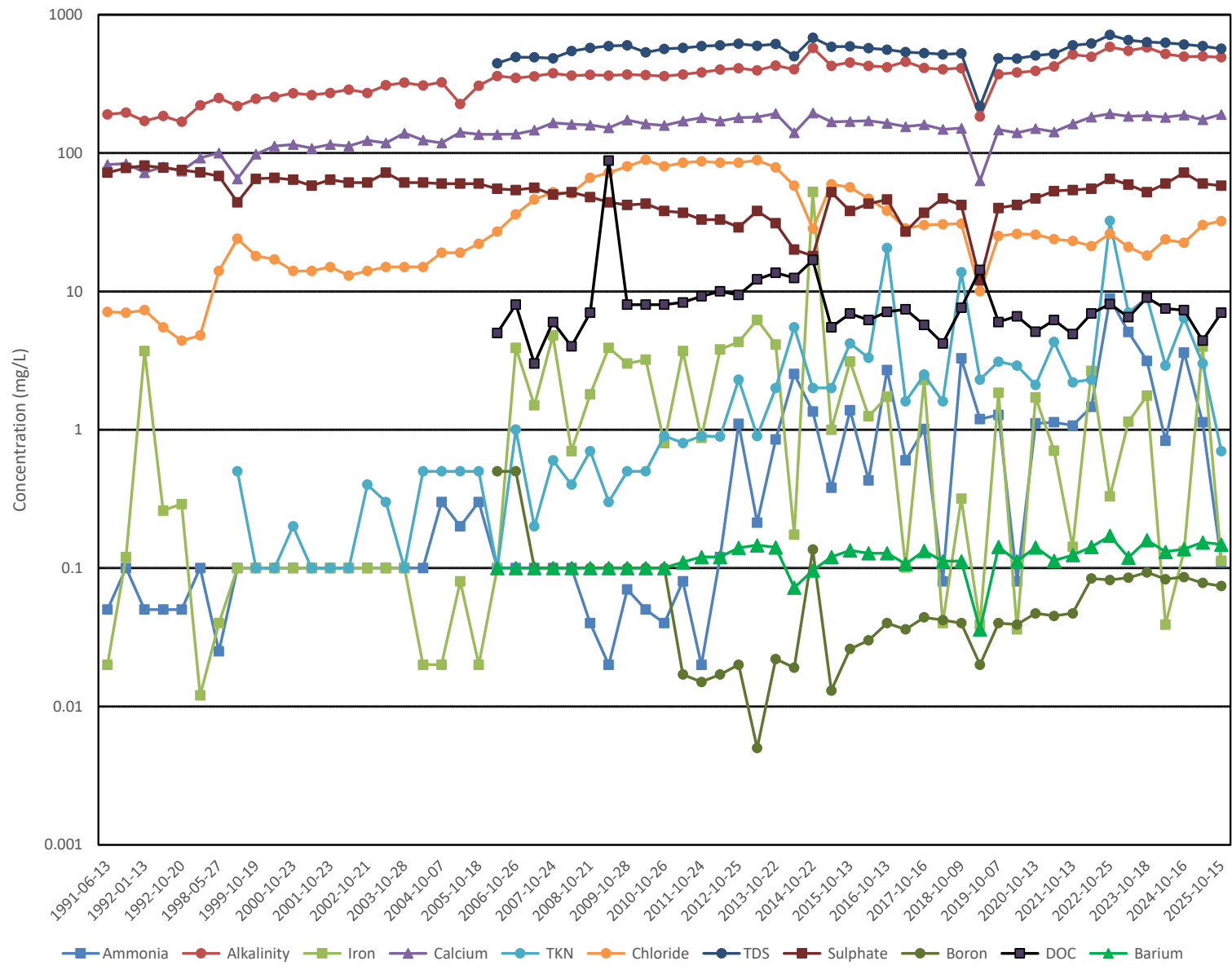
MW13-91-II



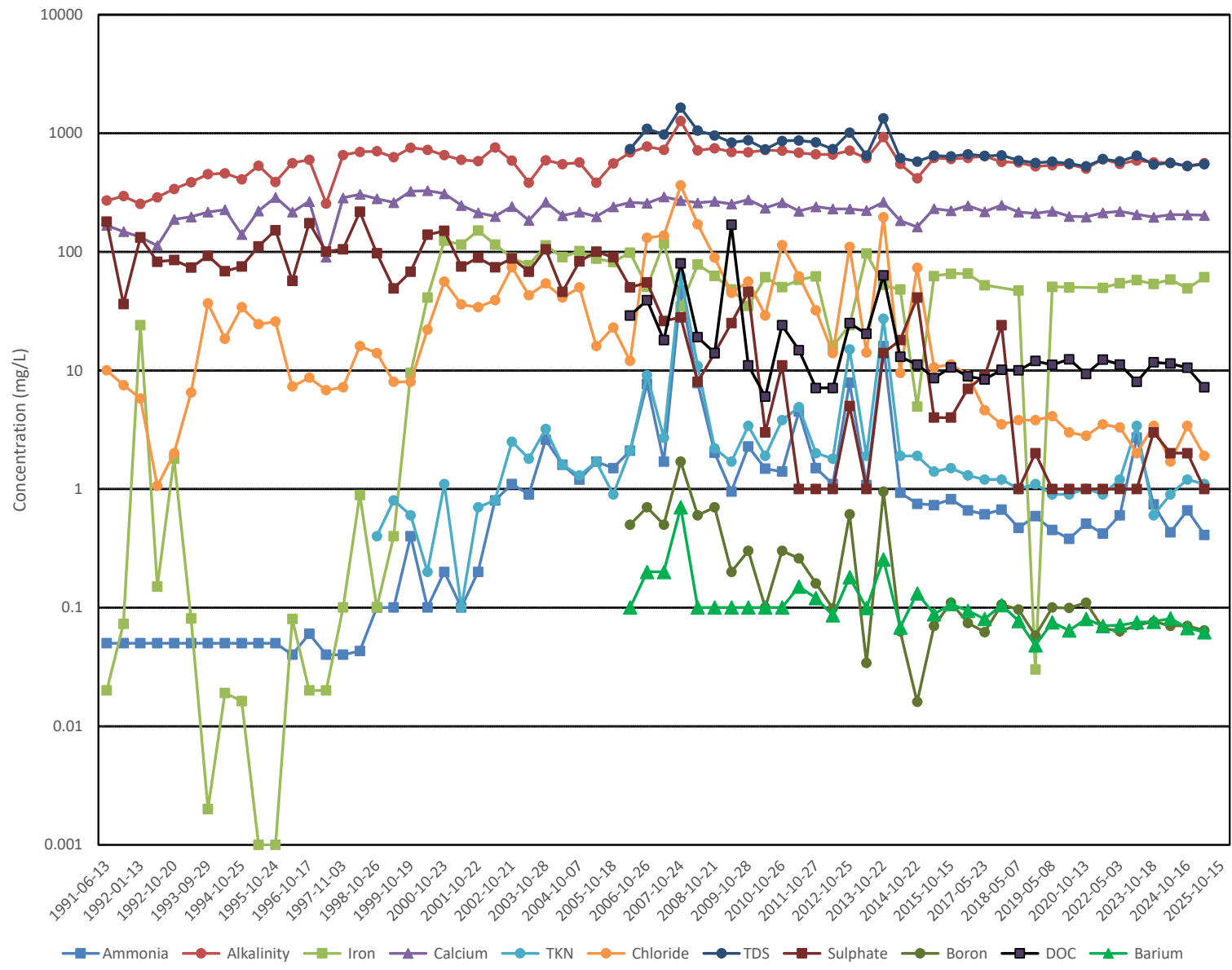
MW14-07



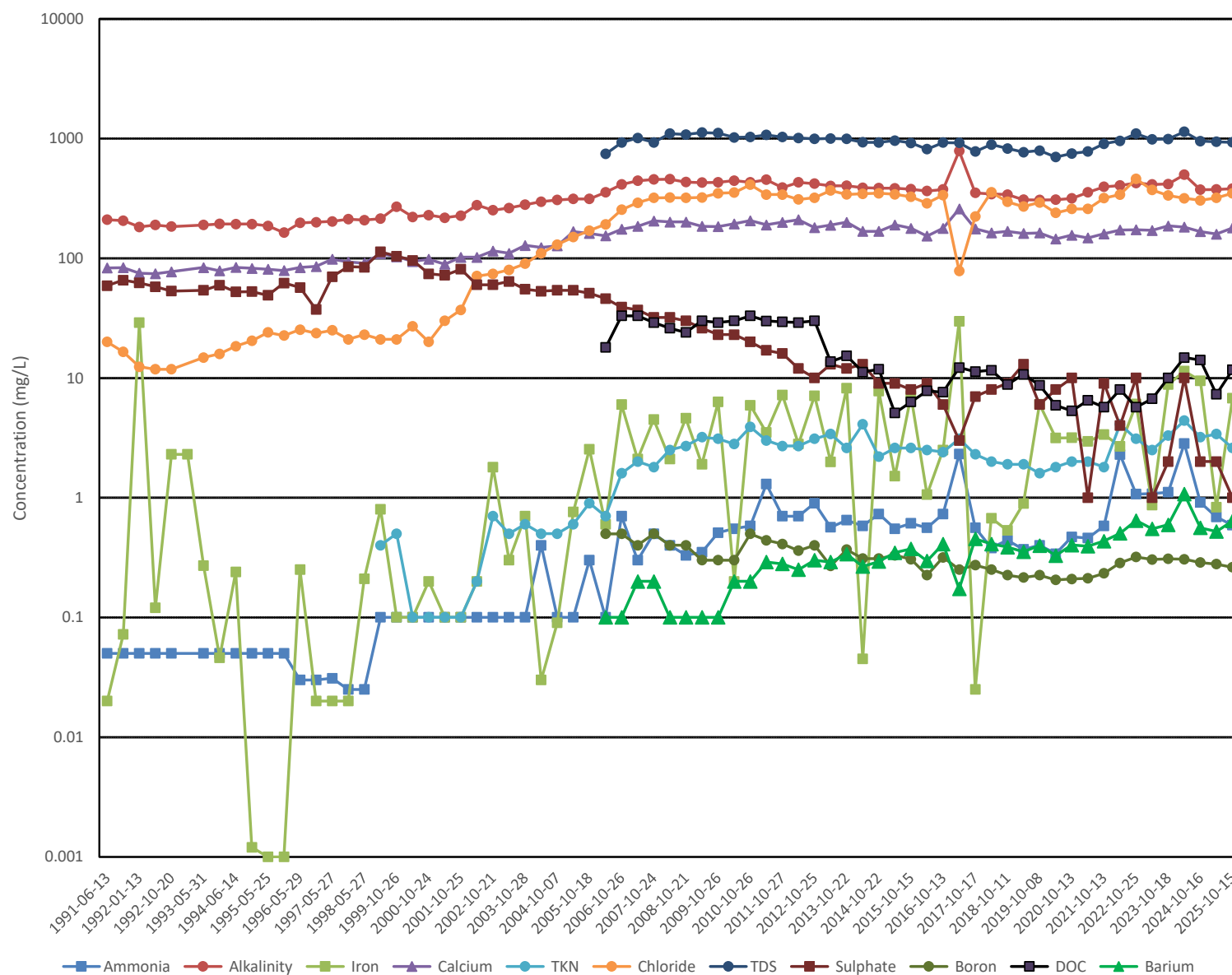
MW15-91-I



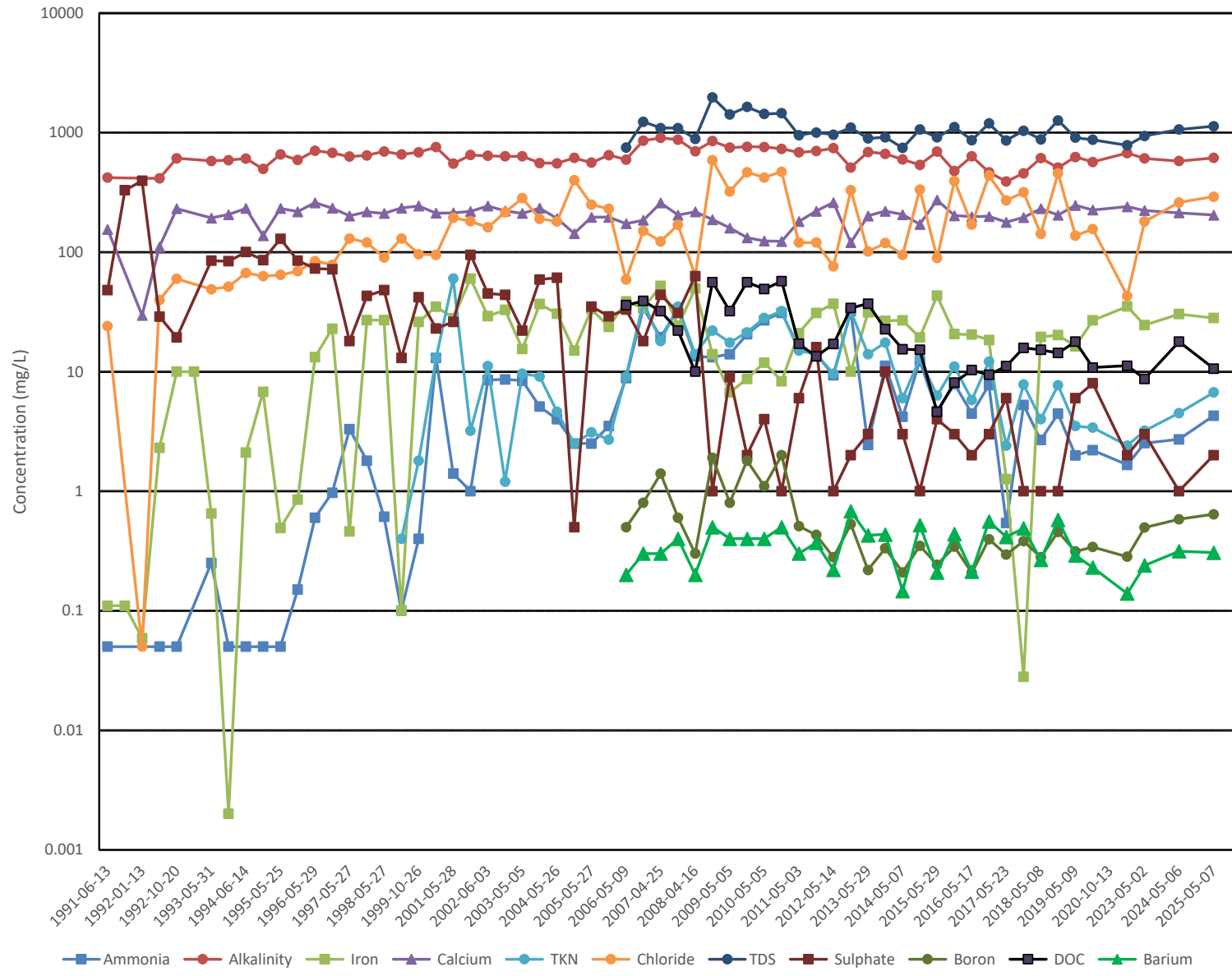
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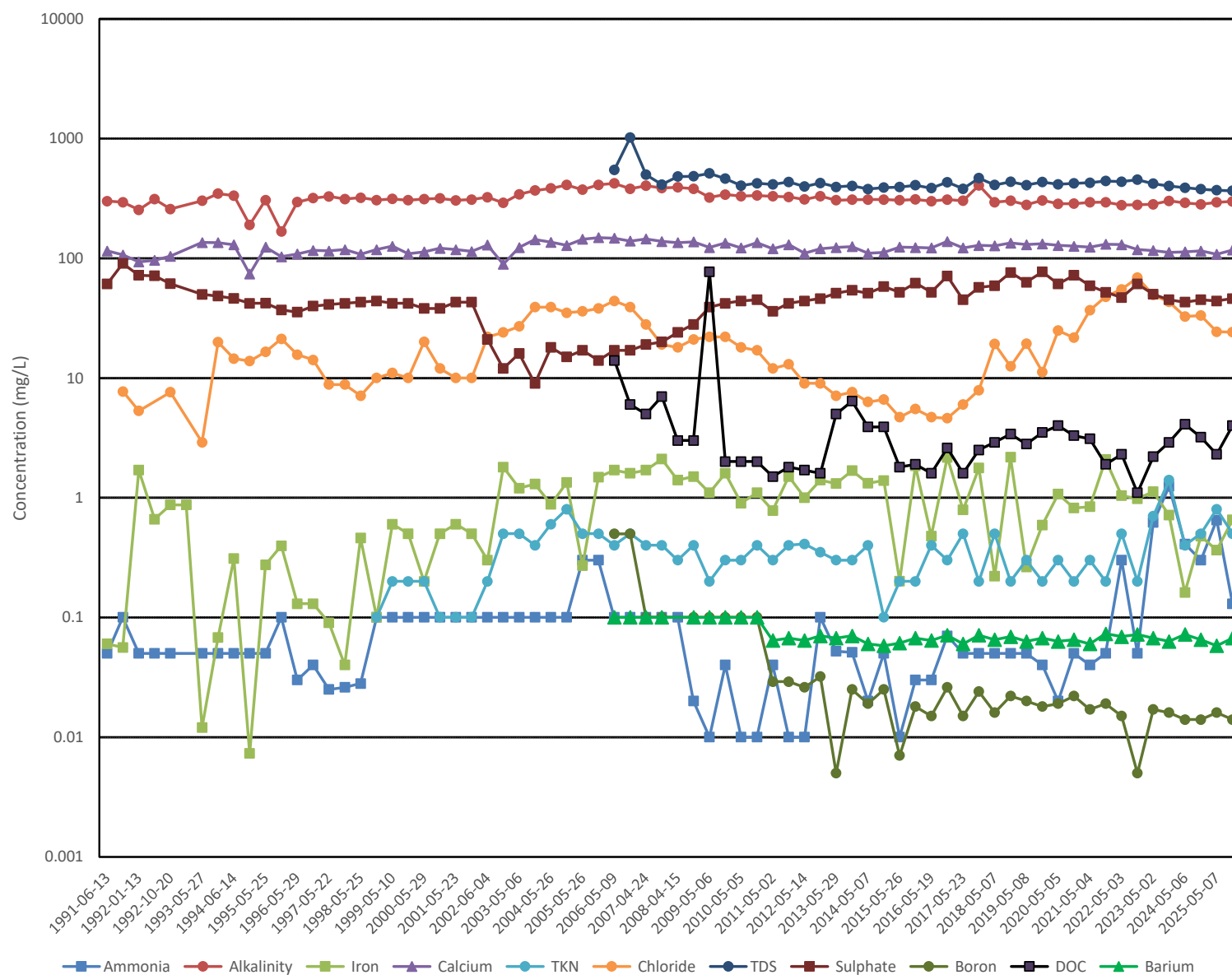
MW16-91-I



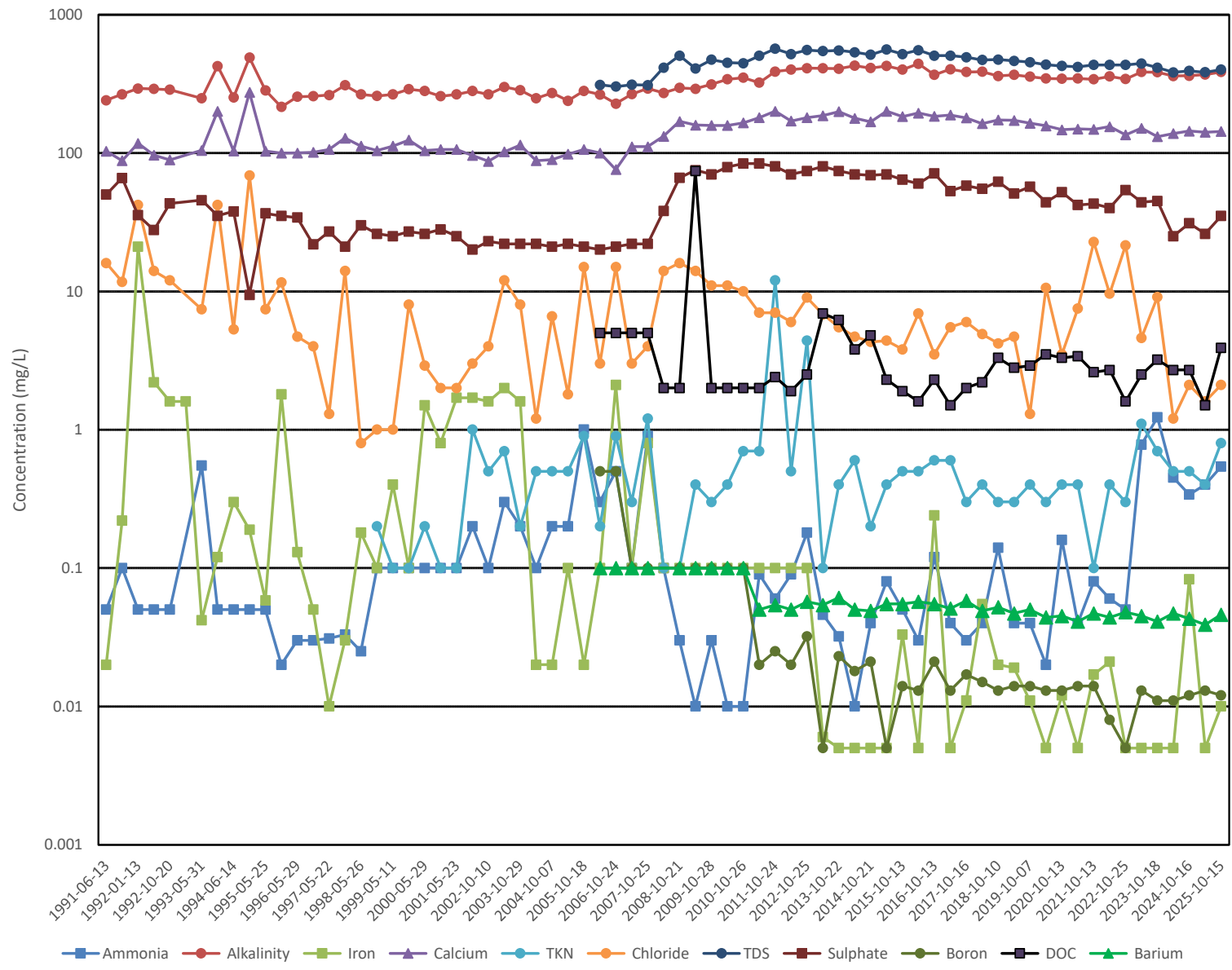
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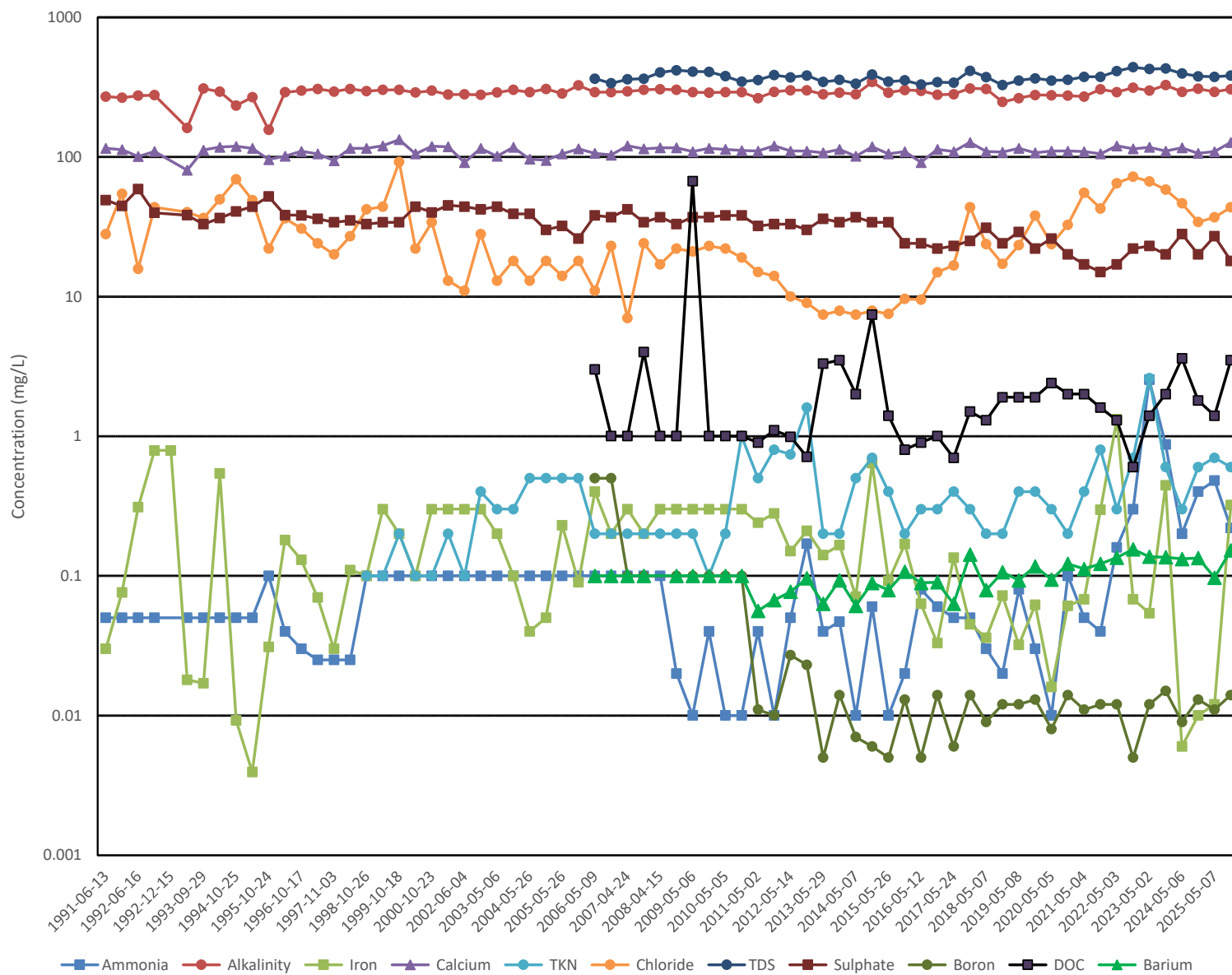
MW17-91-I



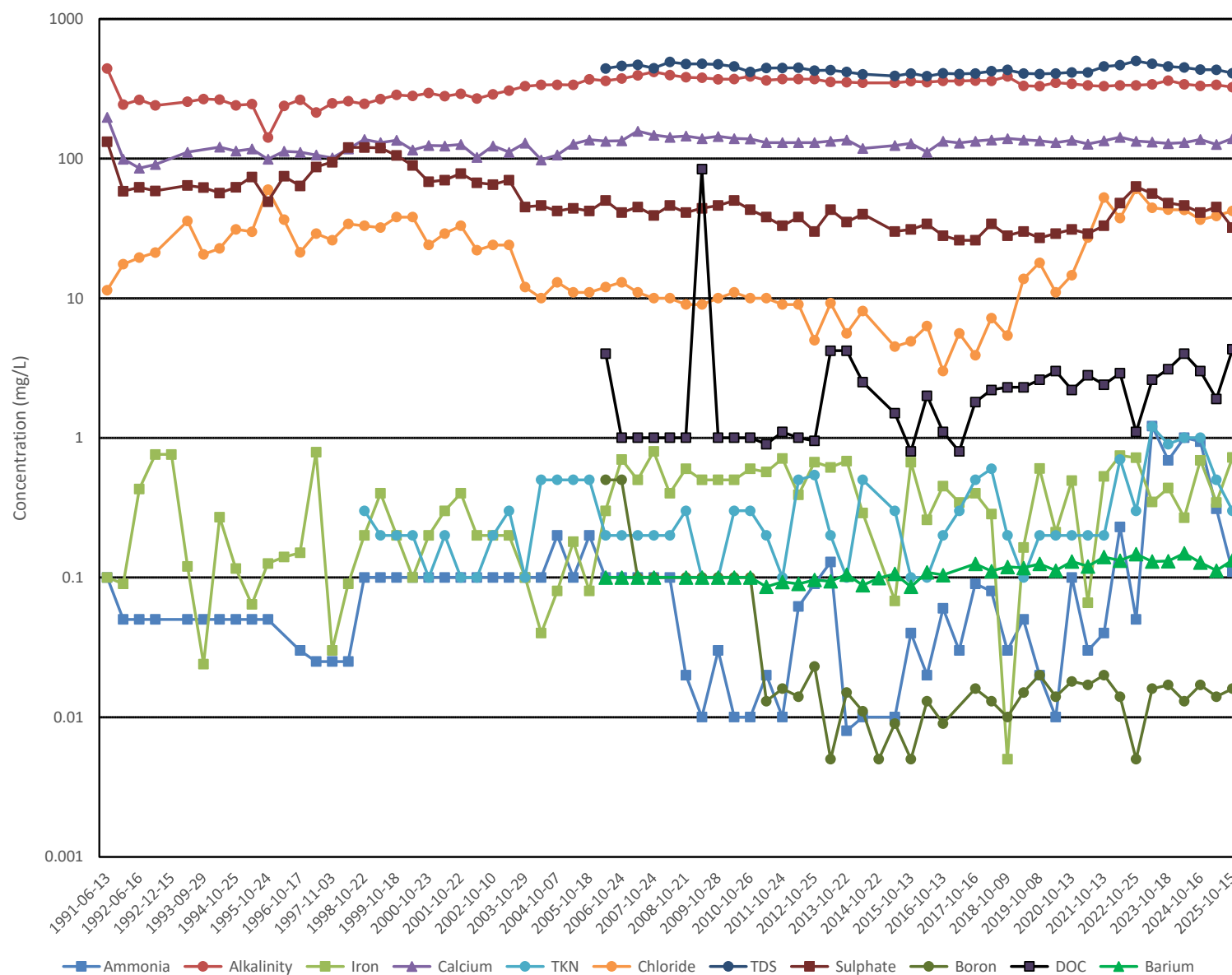
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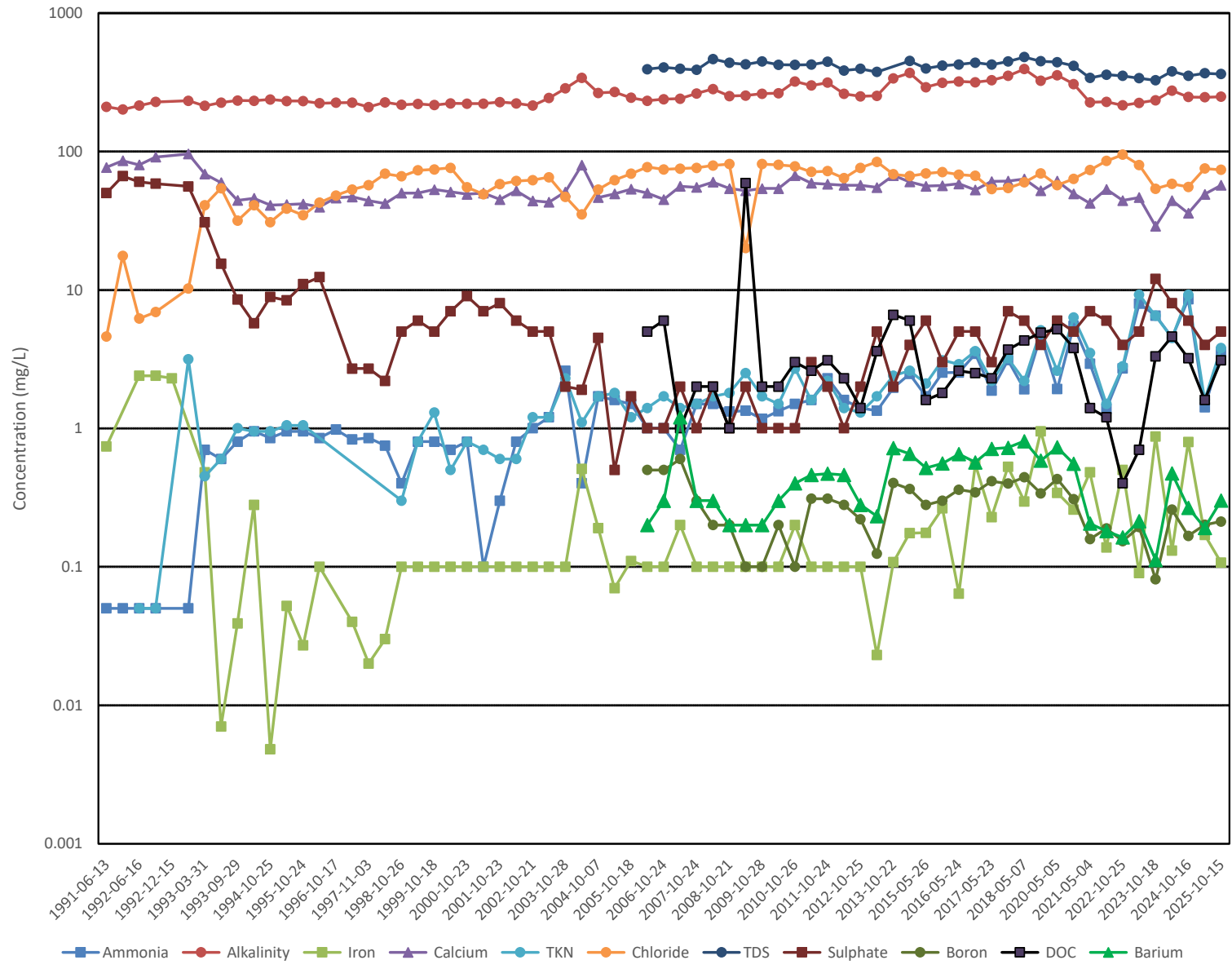
MW18-91



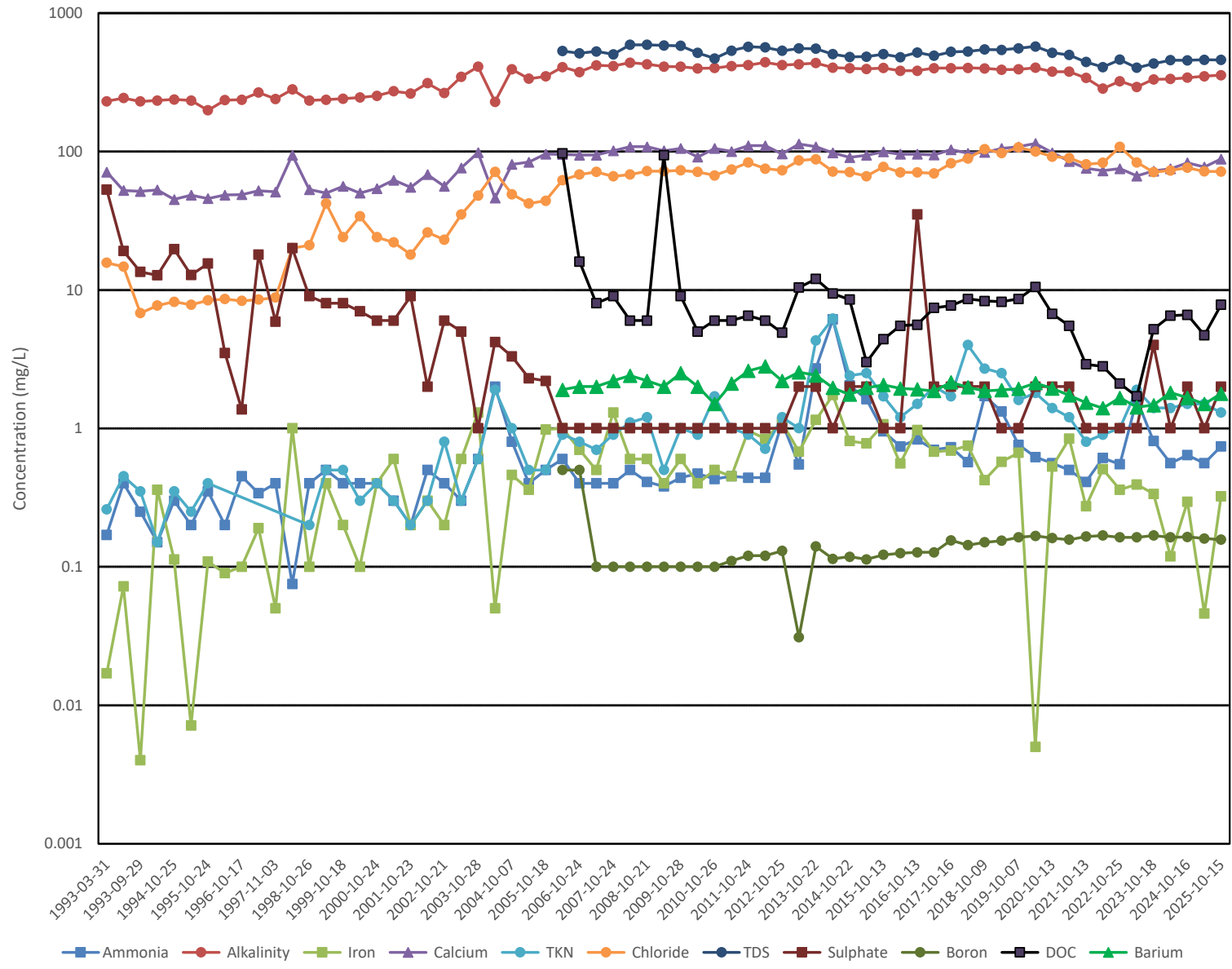
MW19-91



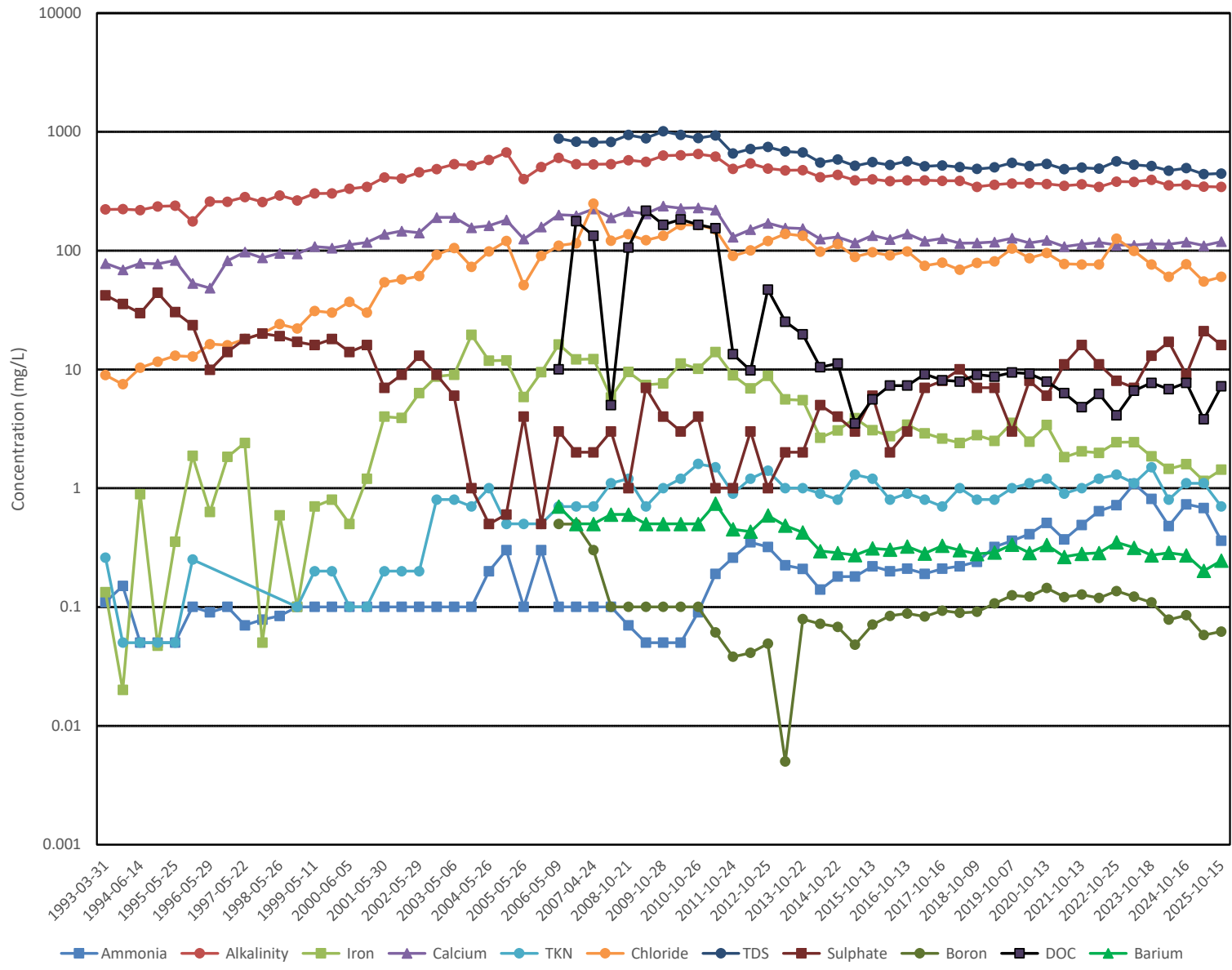
MW20-91-I



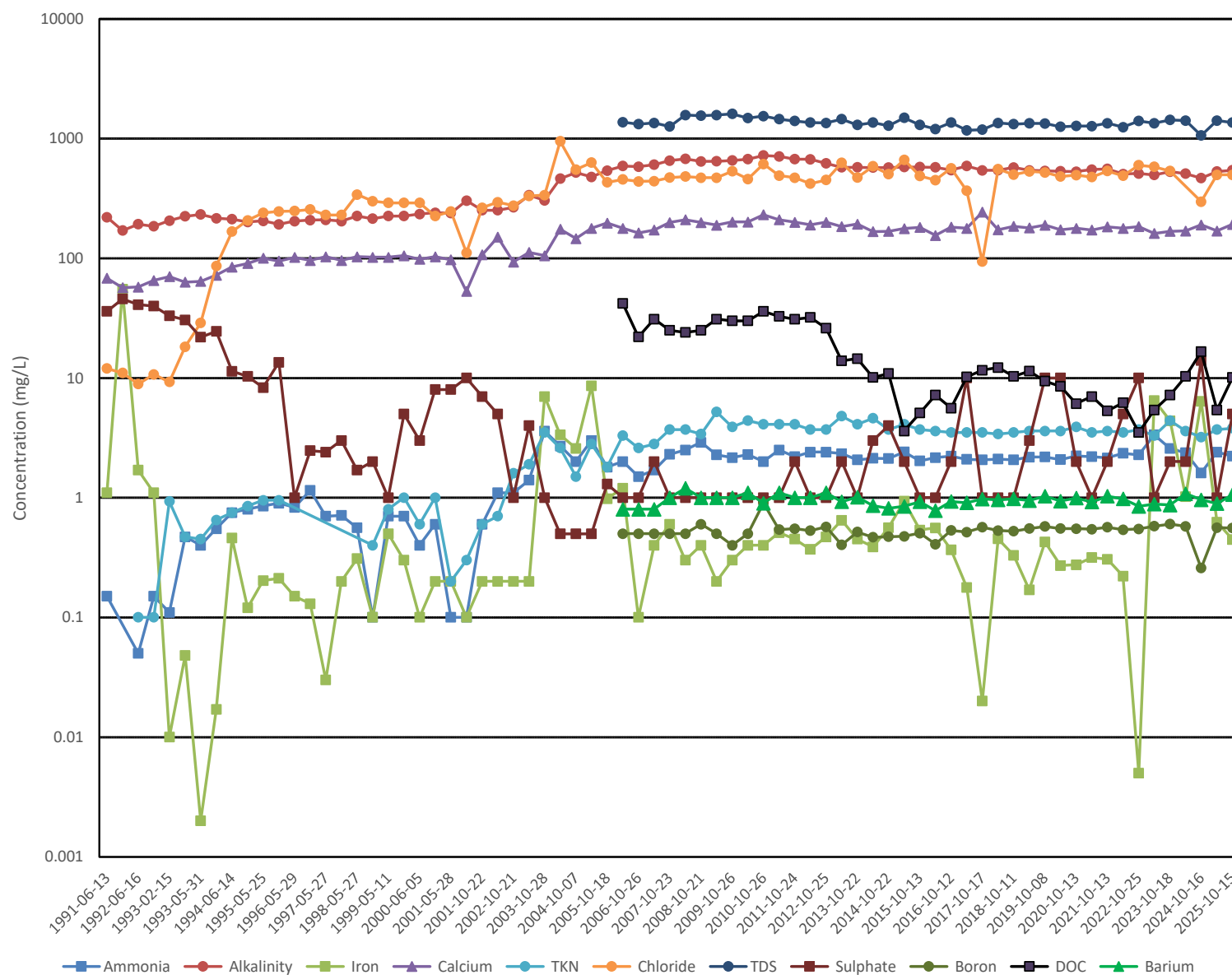
MW20-91-II



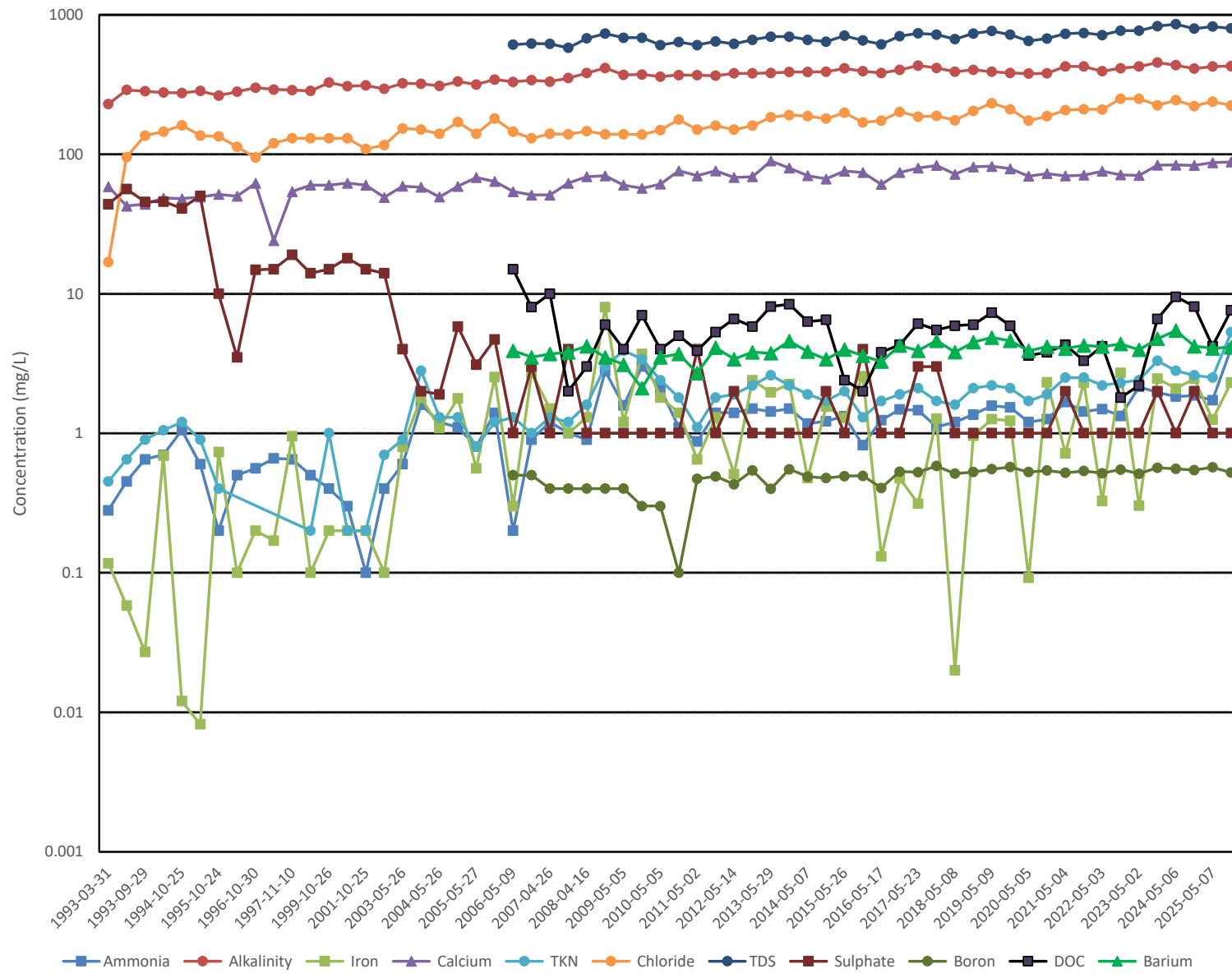
MW20-91-III



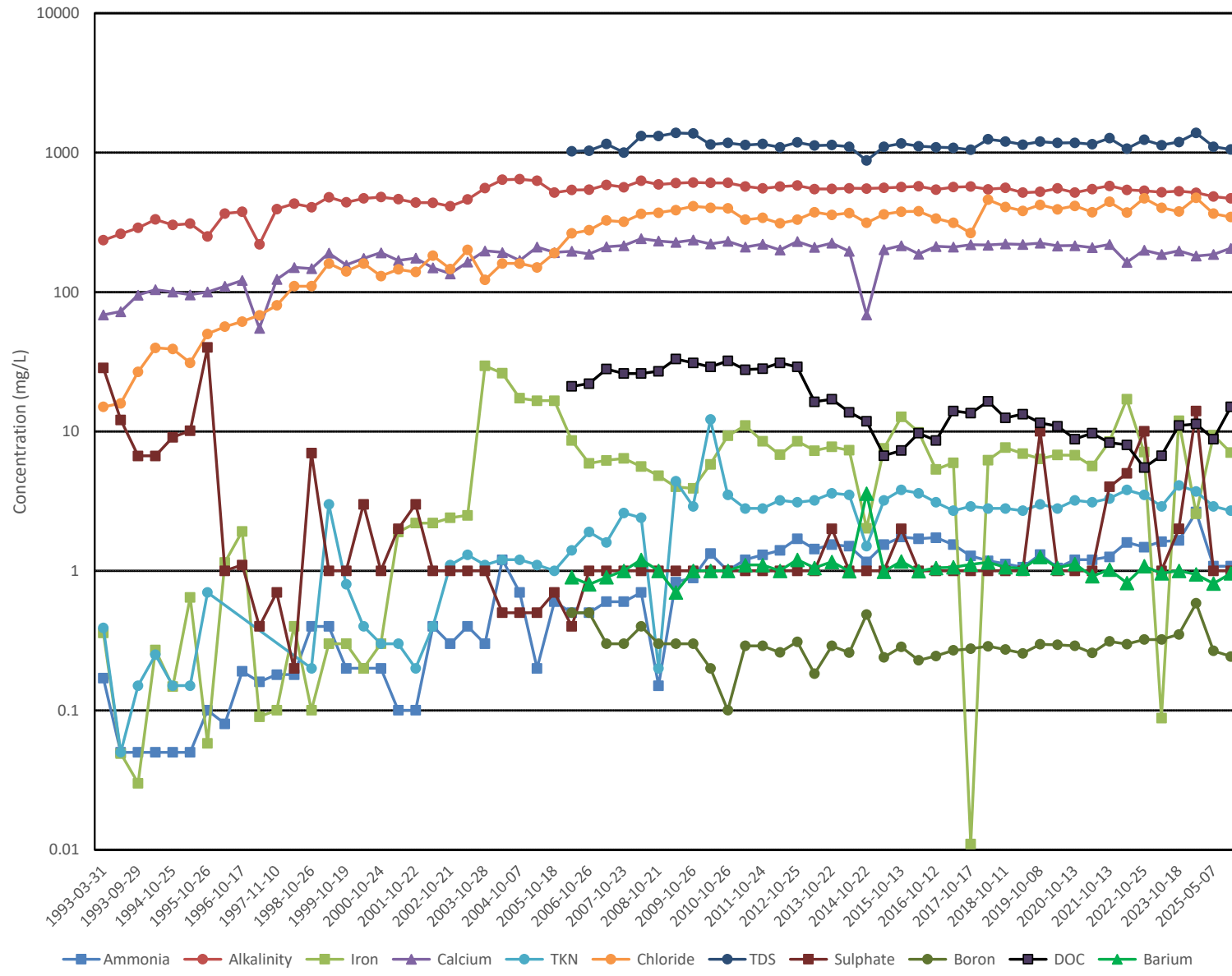
MW21-91-I



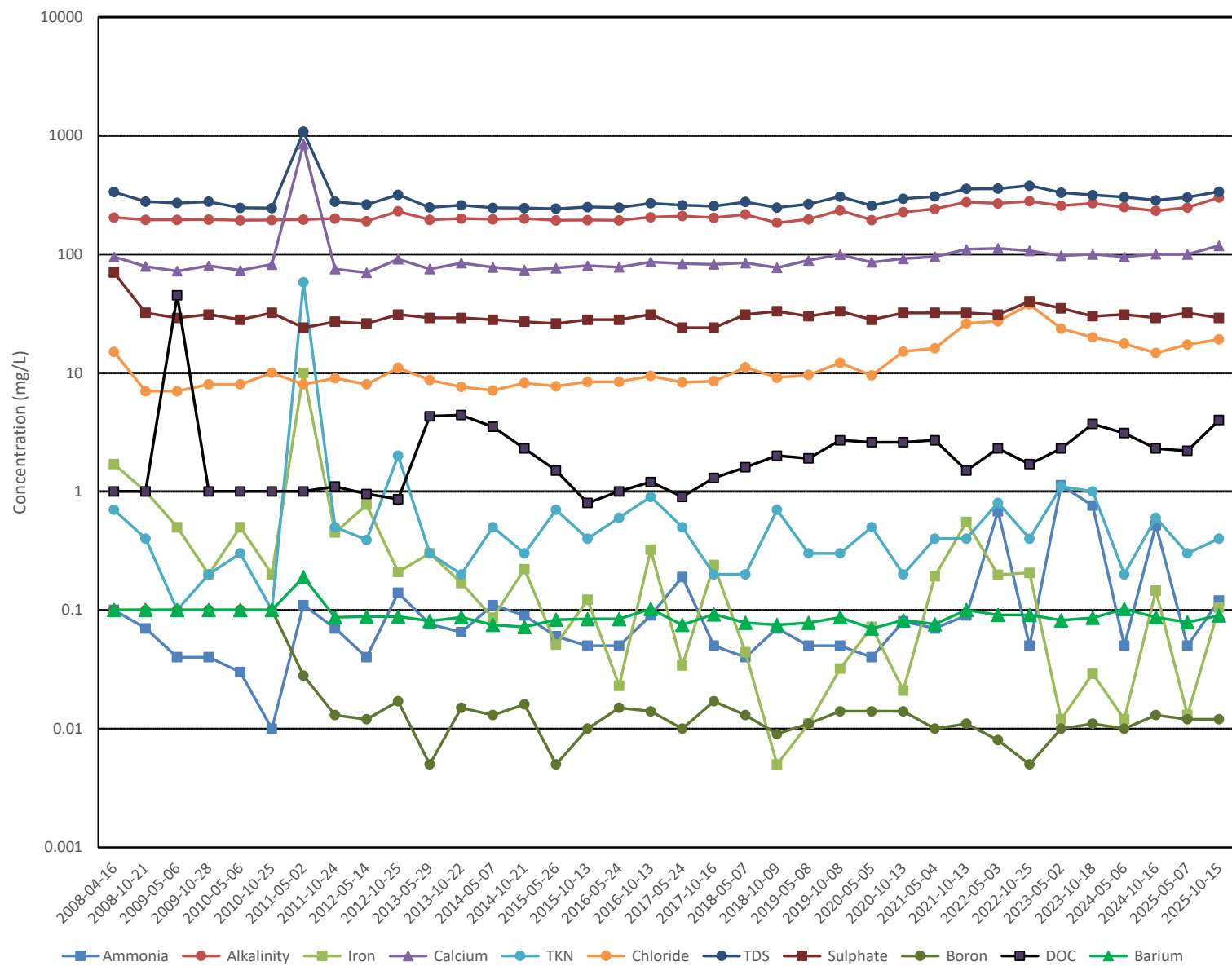
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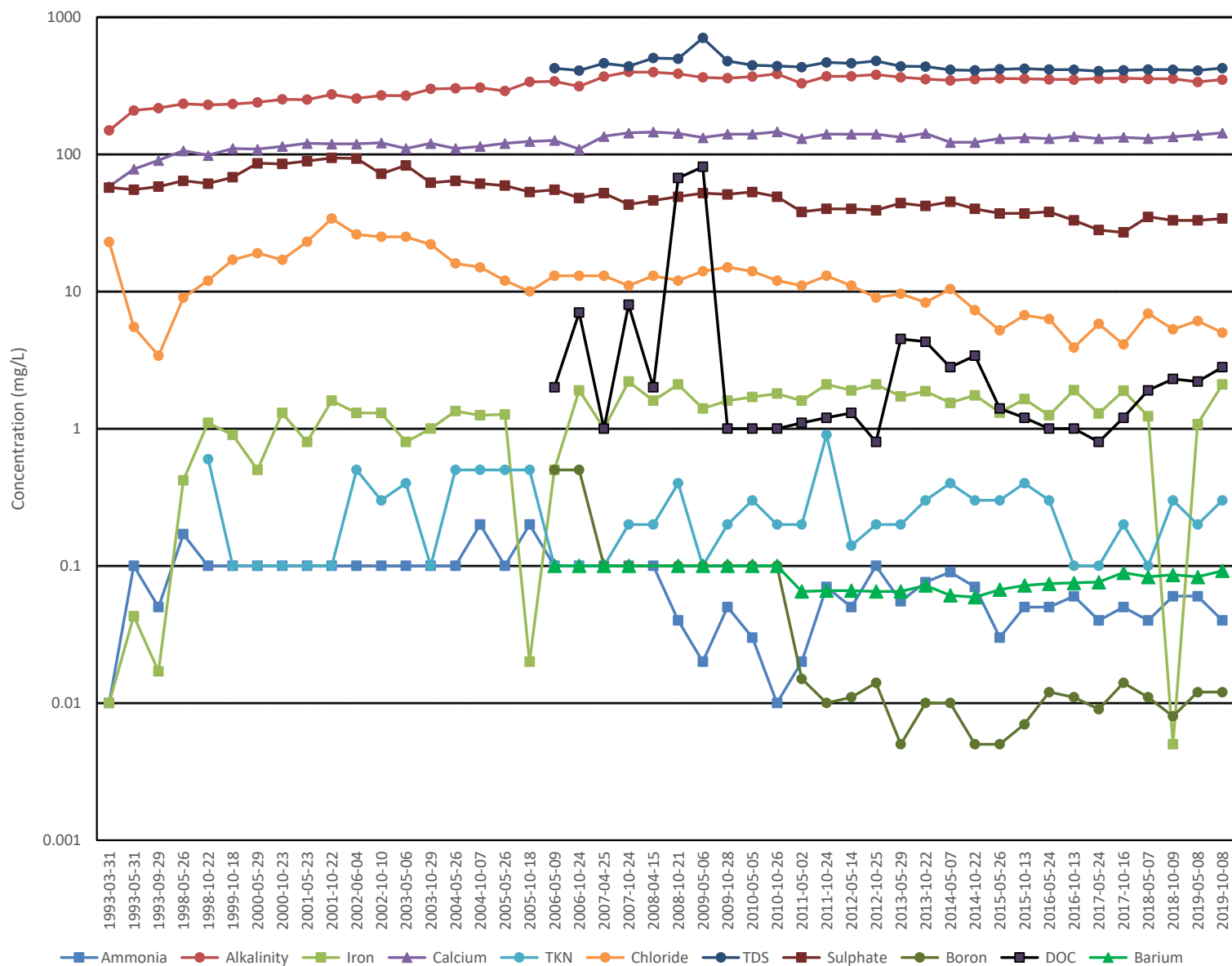
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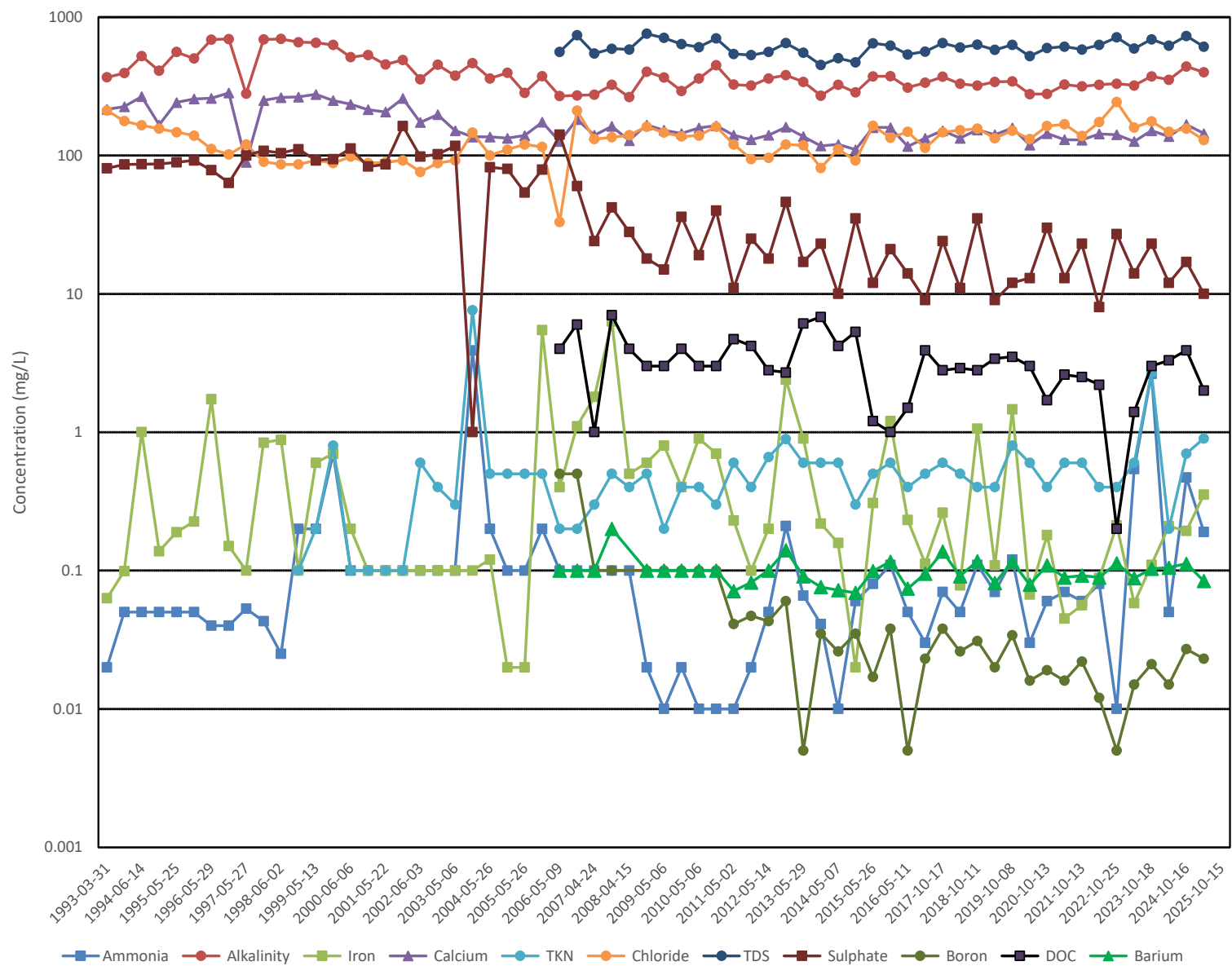
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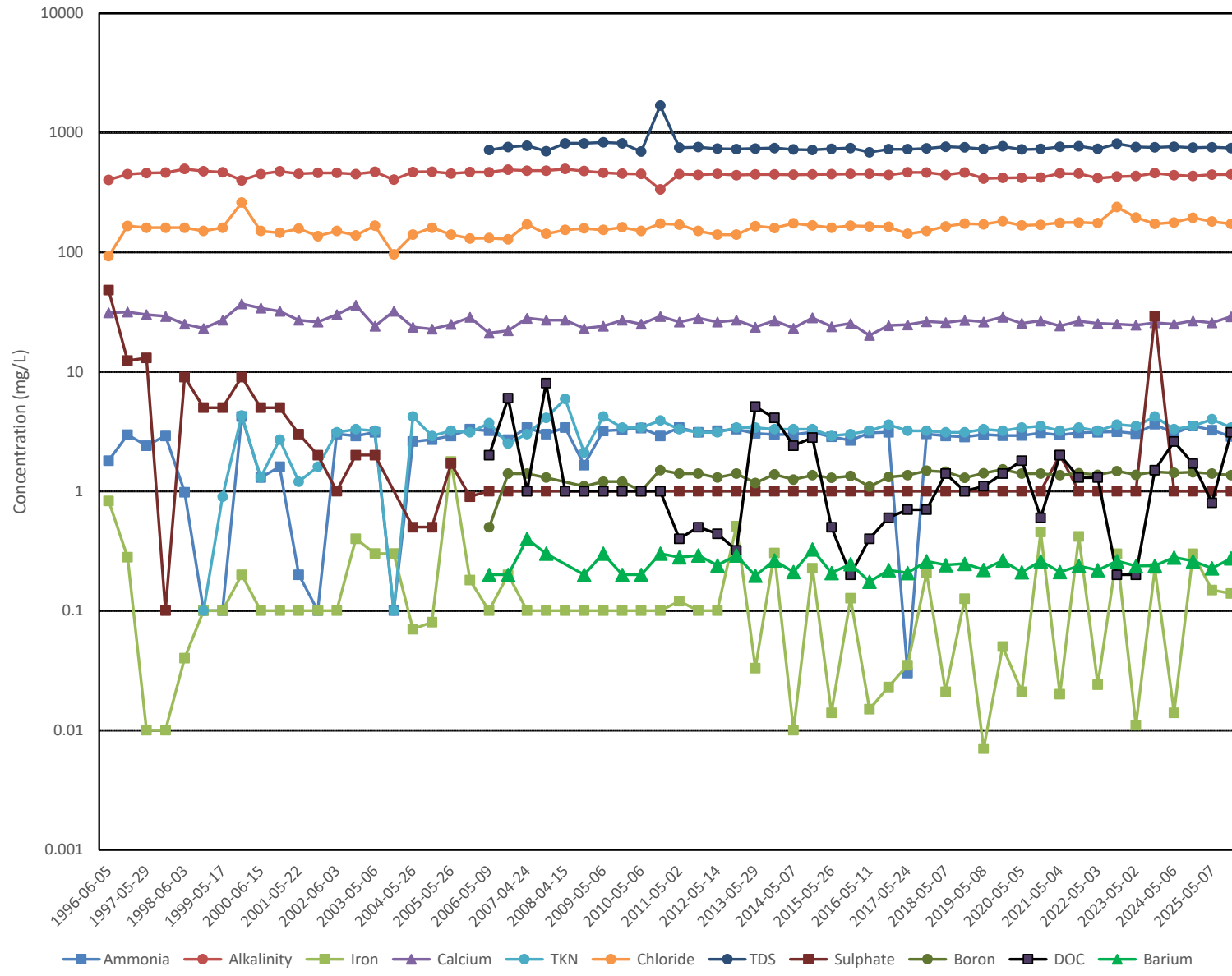
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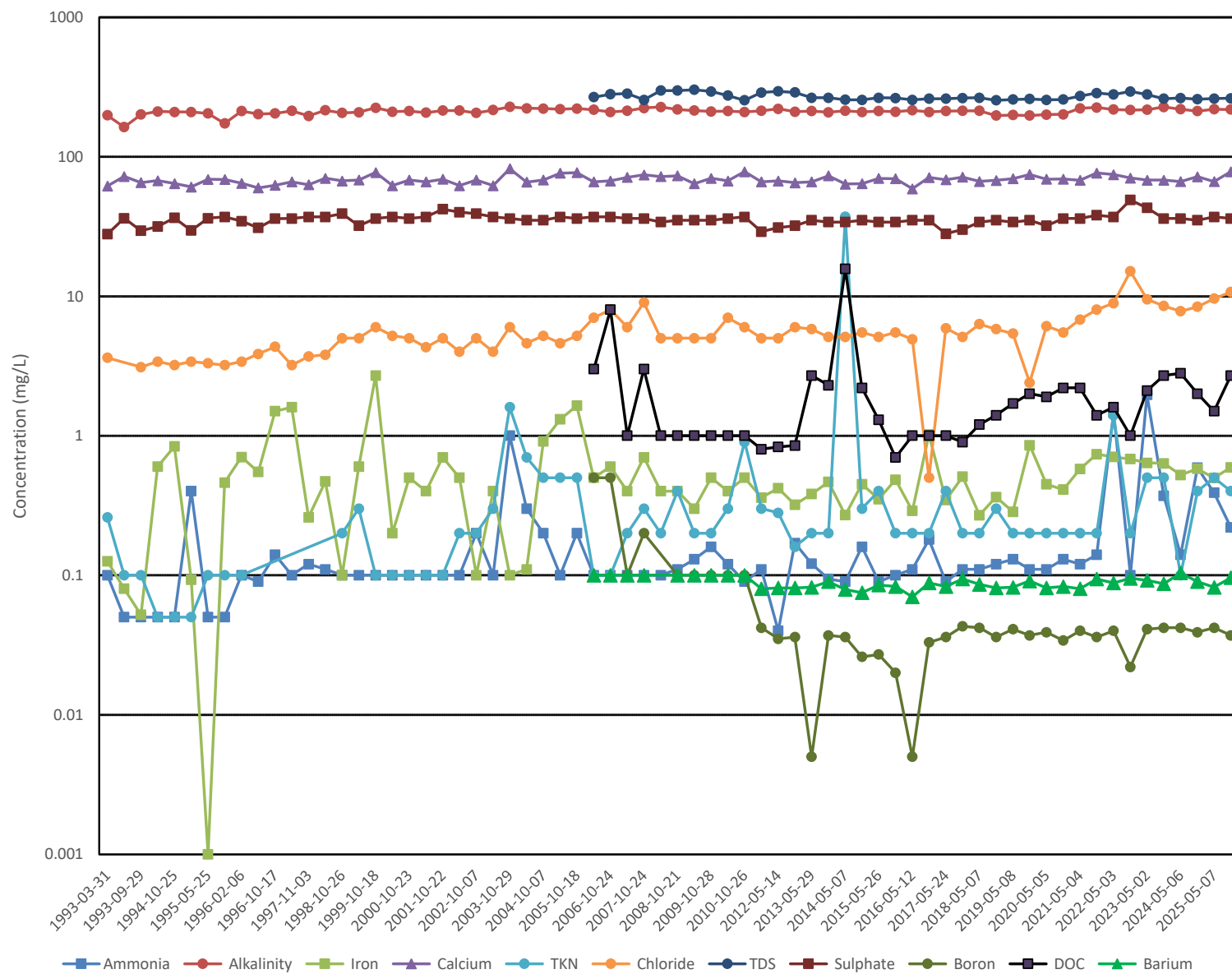
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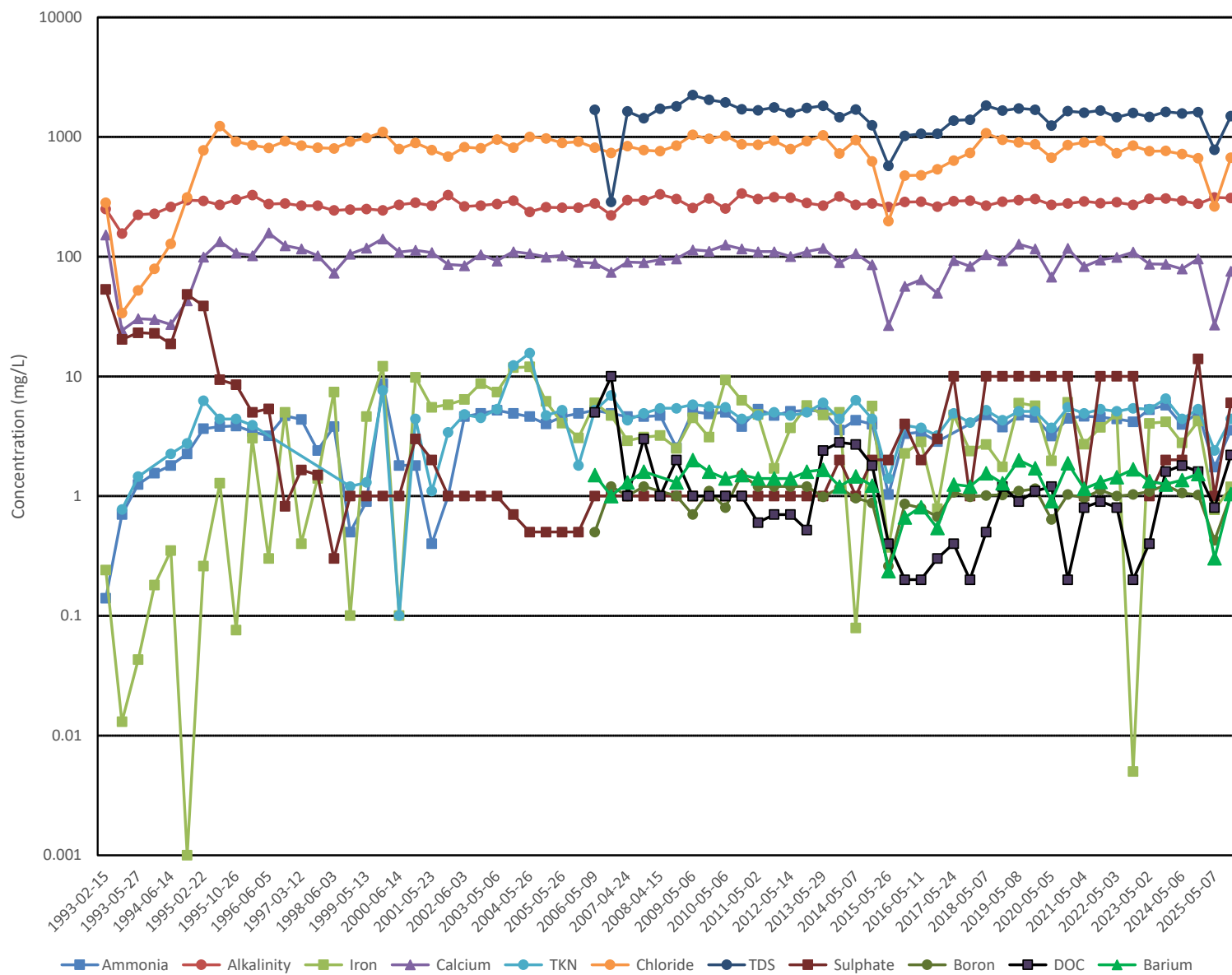
MW25-96



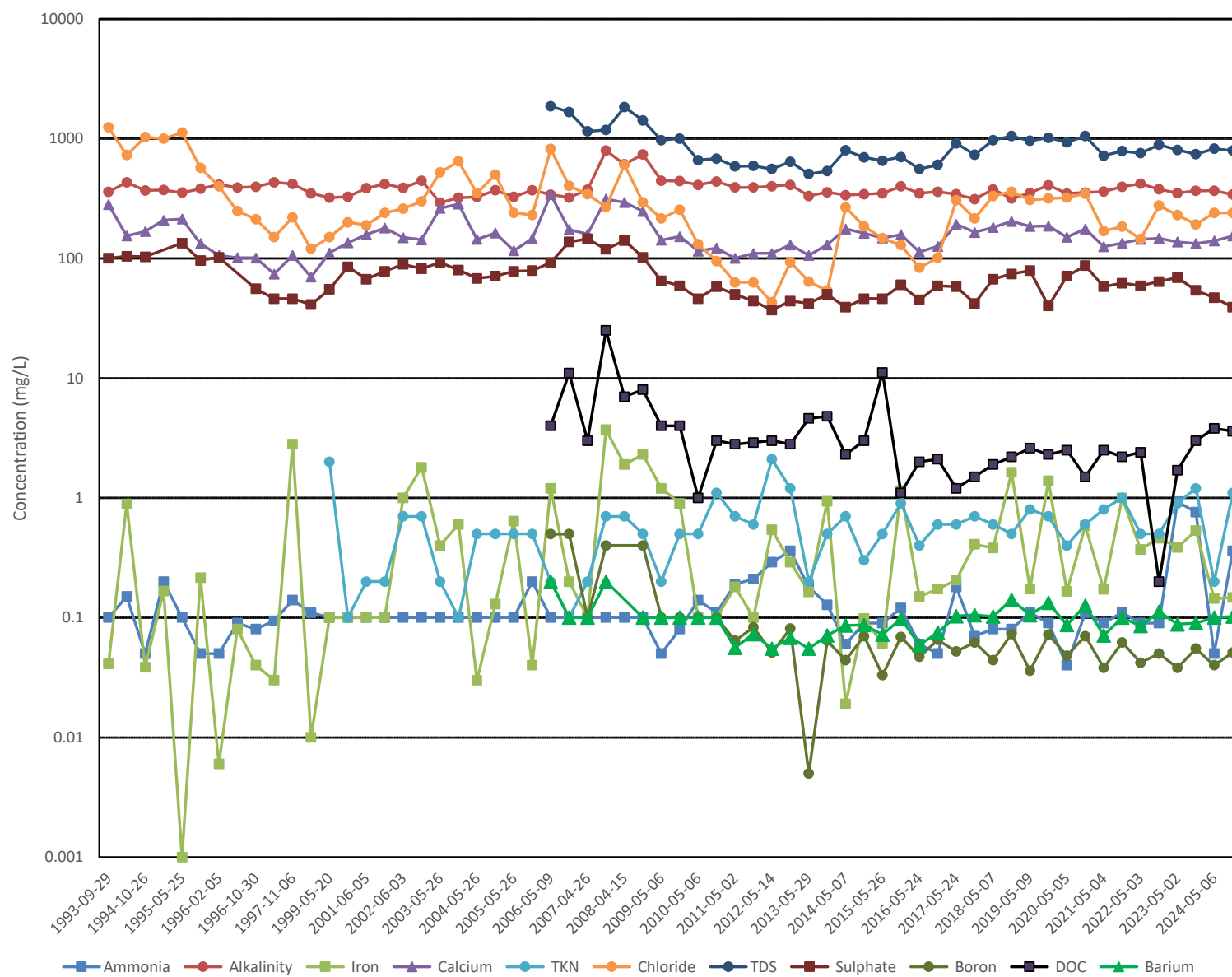
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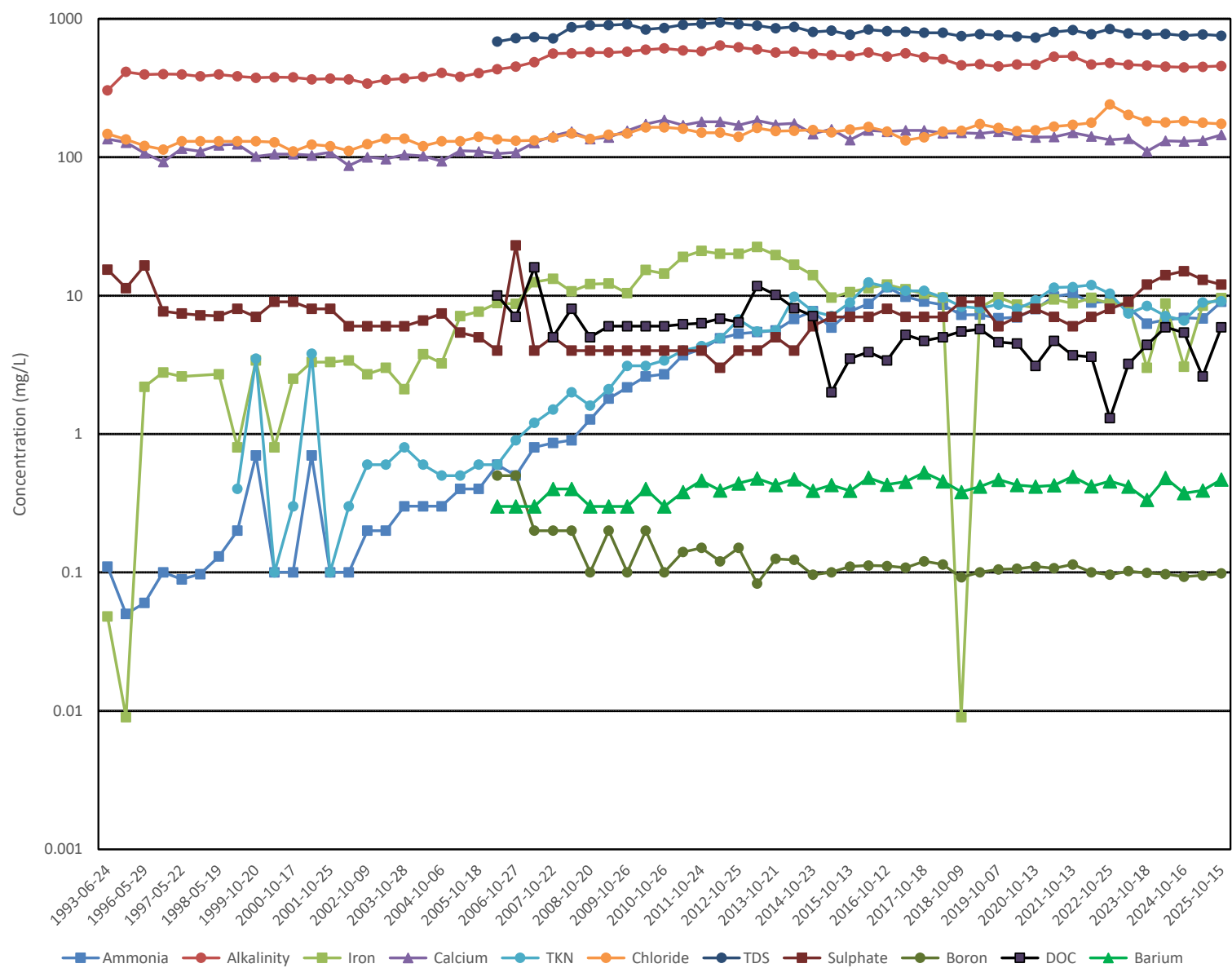
MW28-93



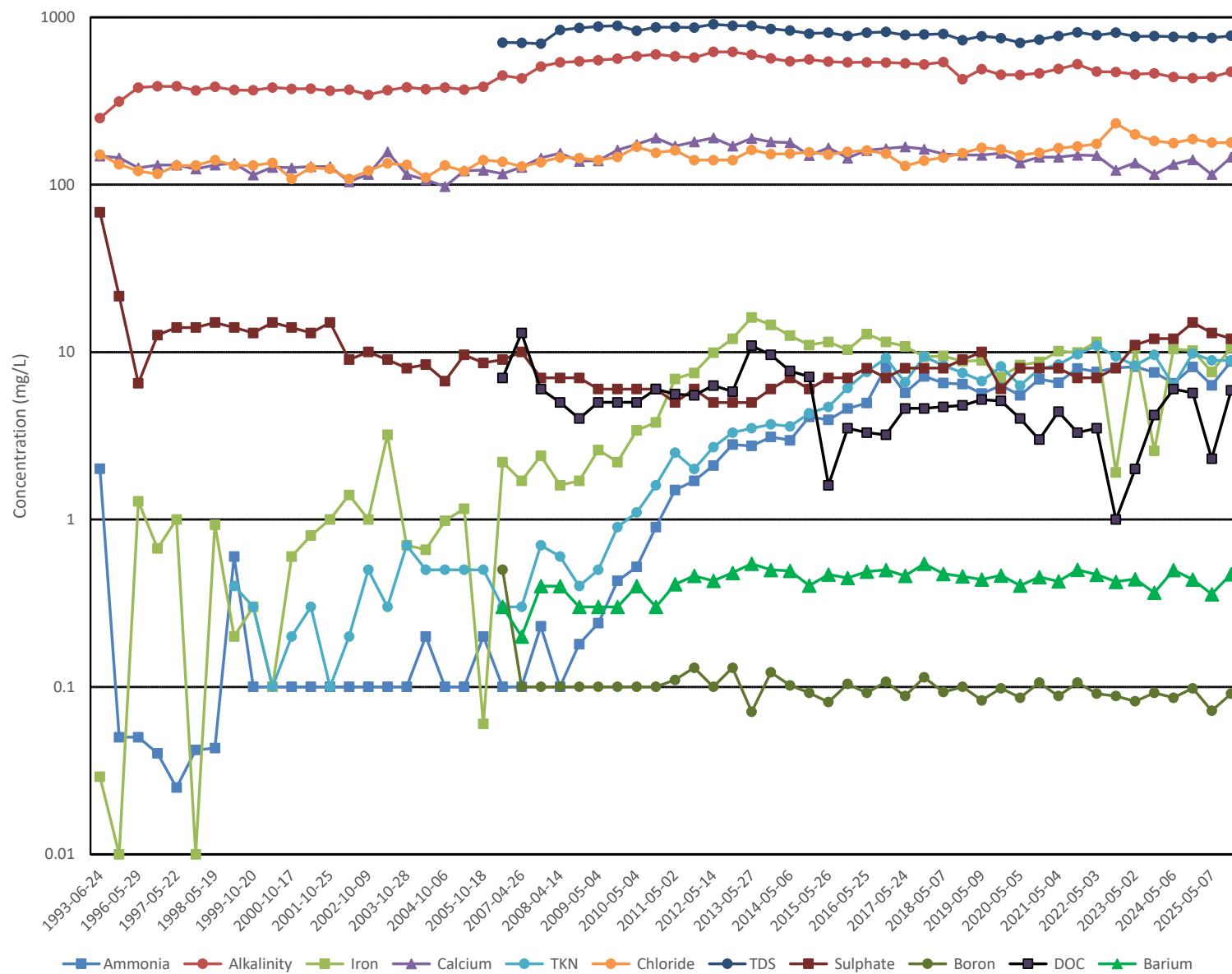
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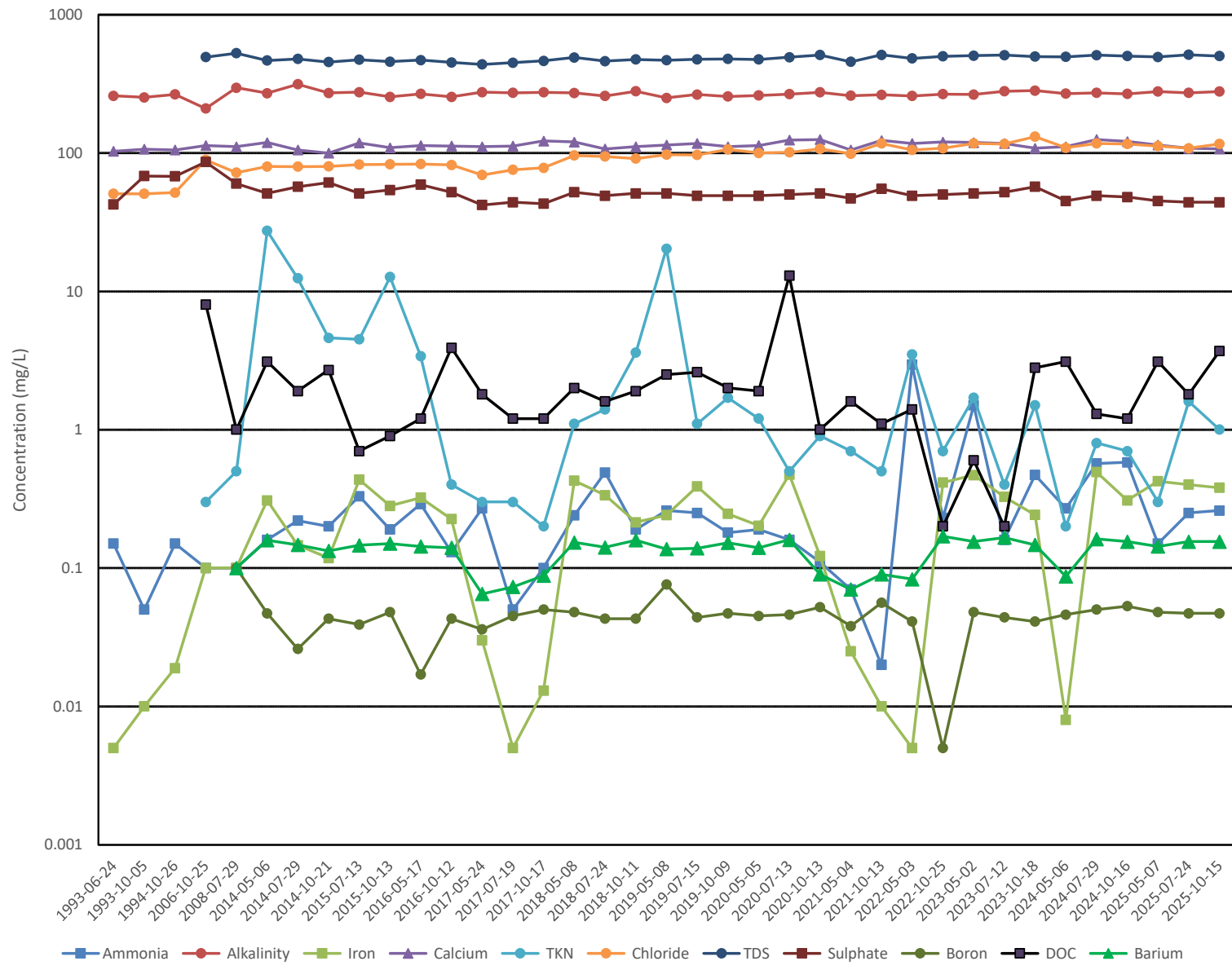
MW30-93



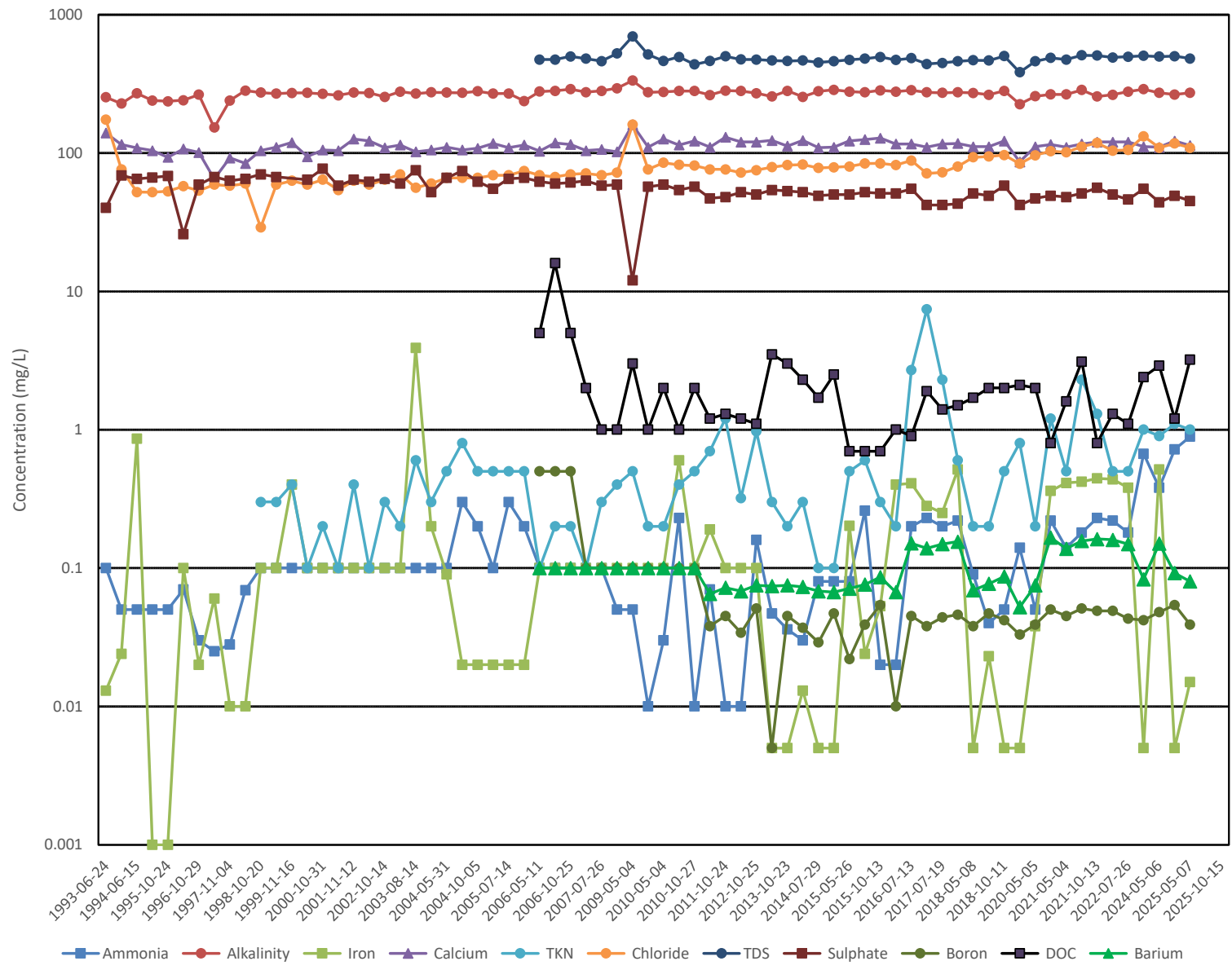
MW31-93



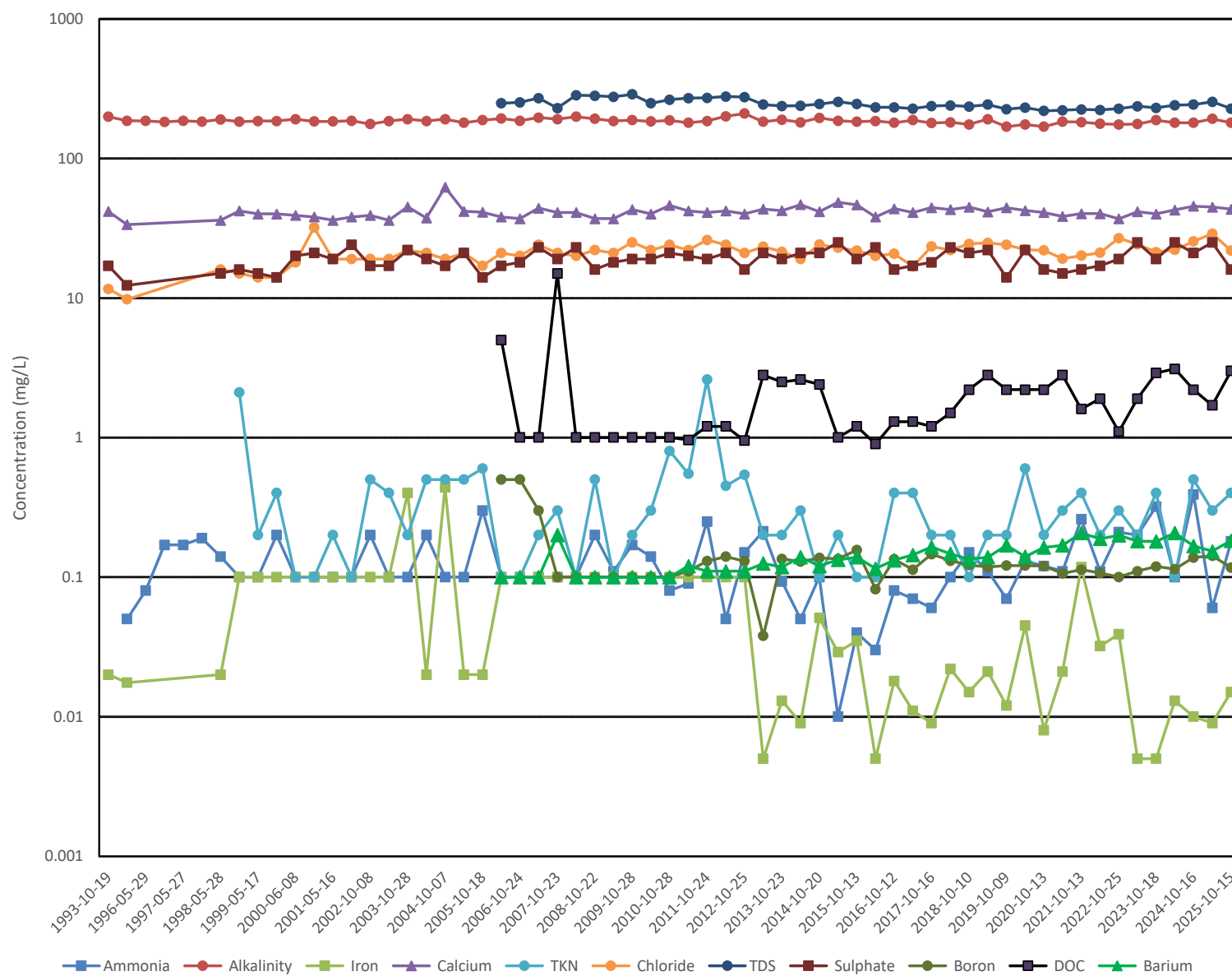
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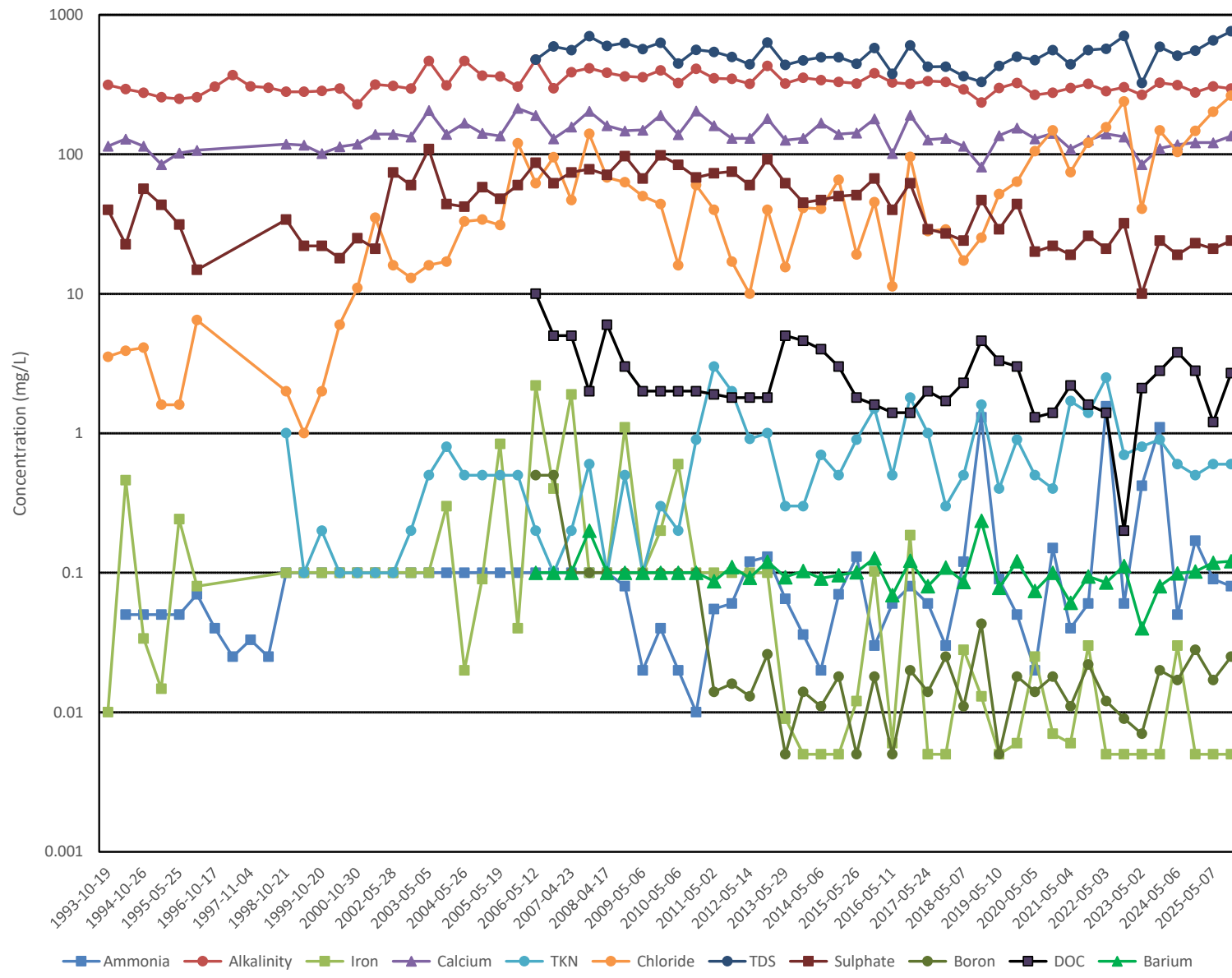
MW32-93-II



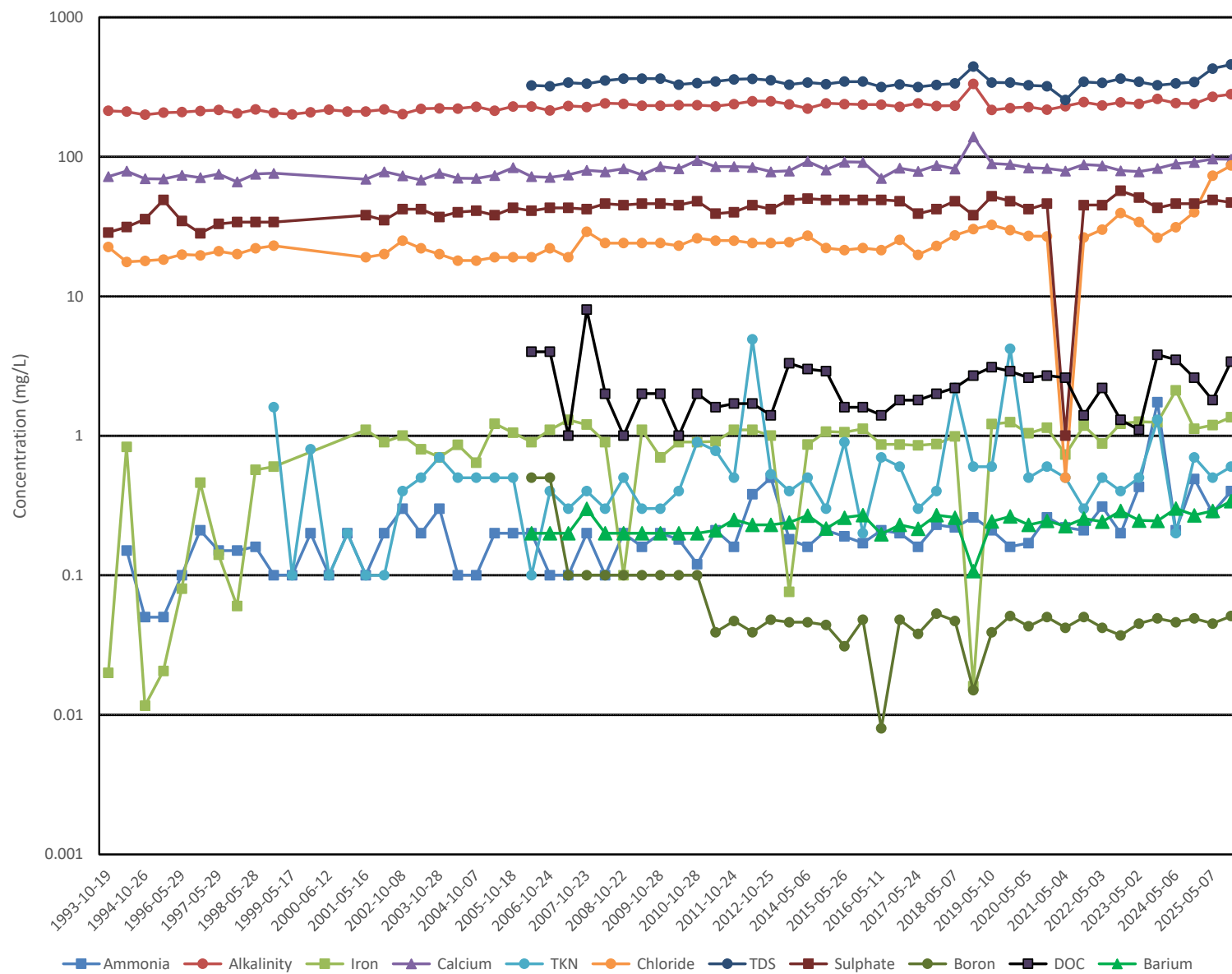
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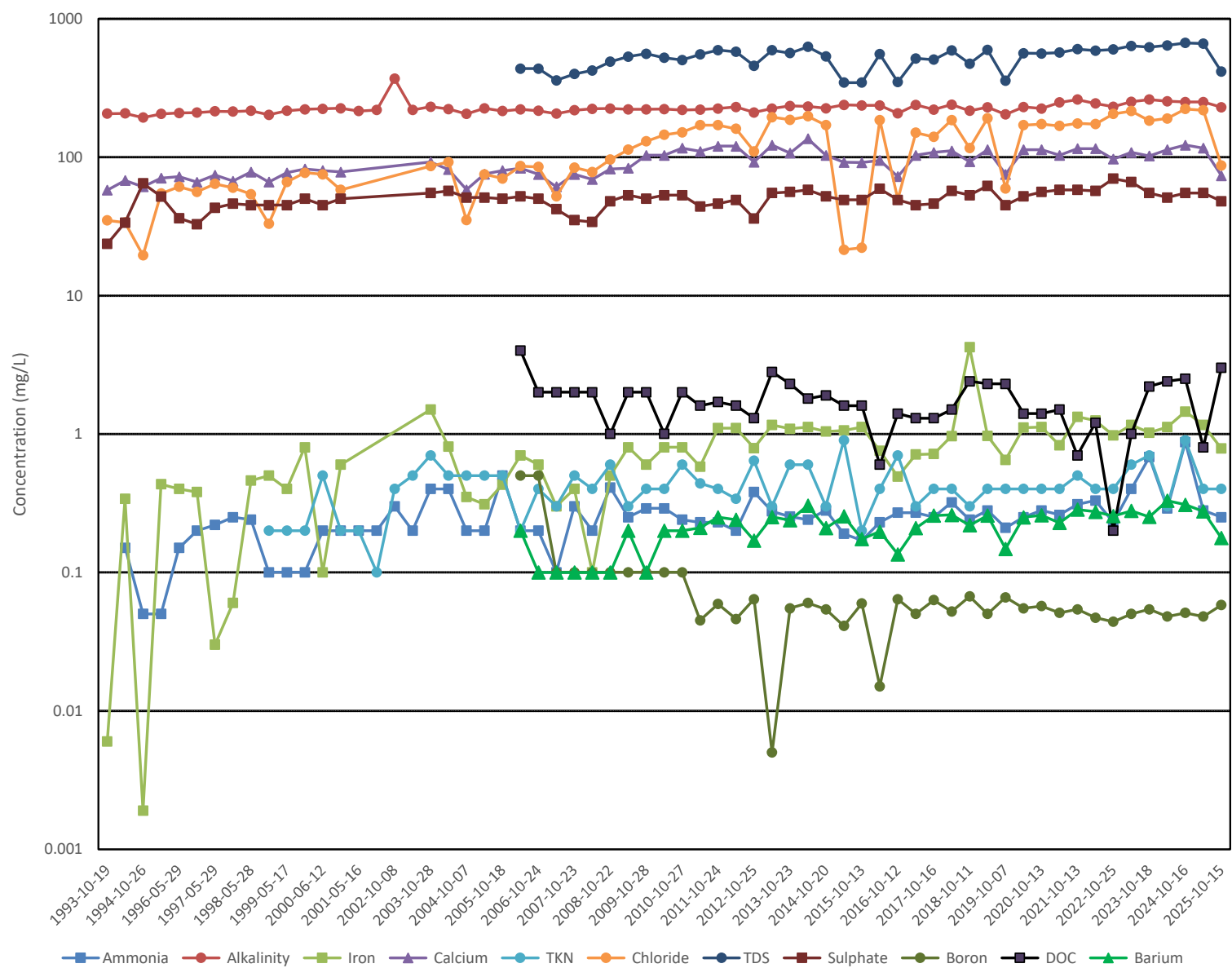
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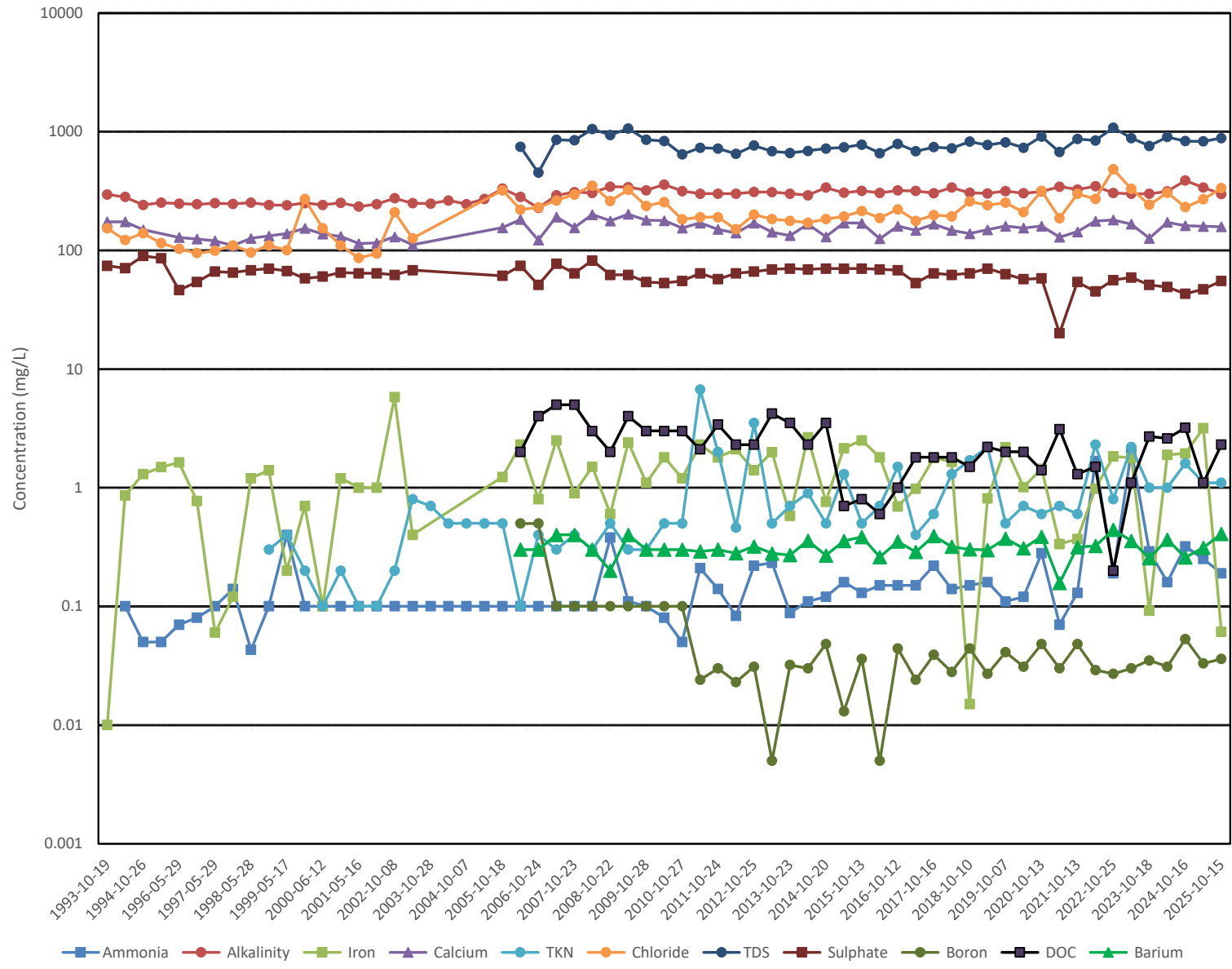
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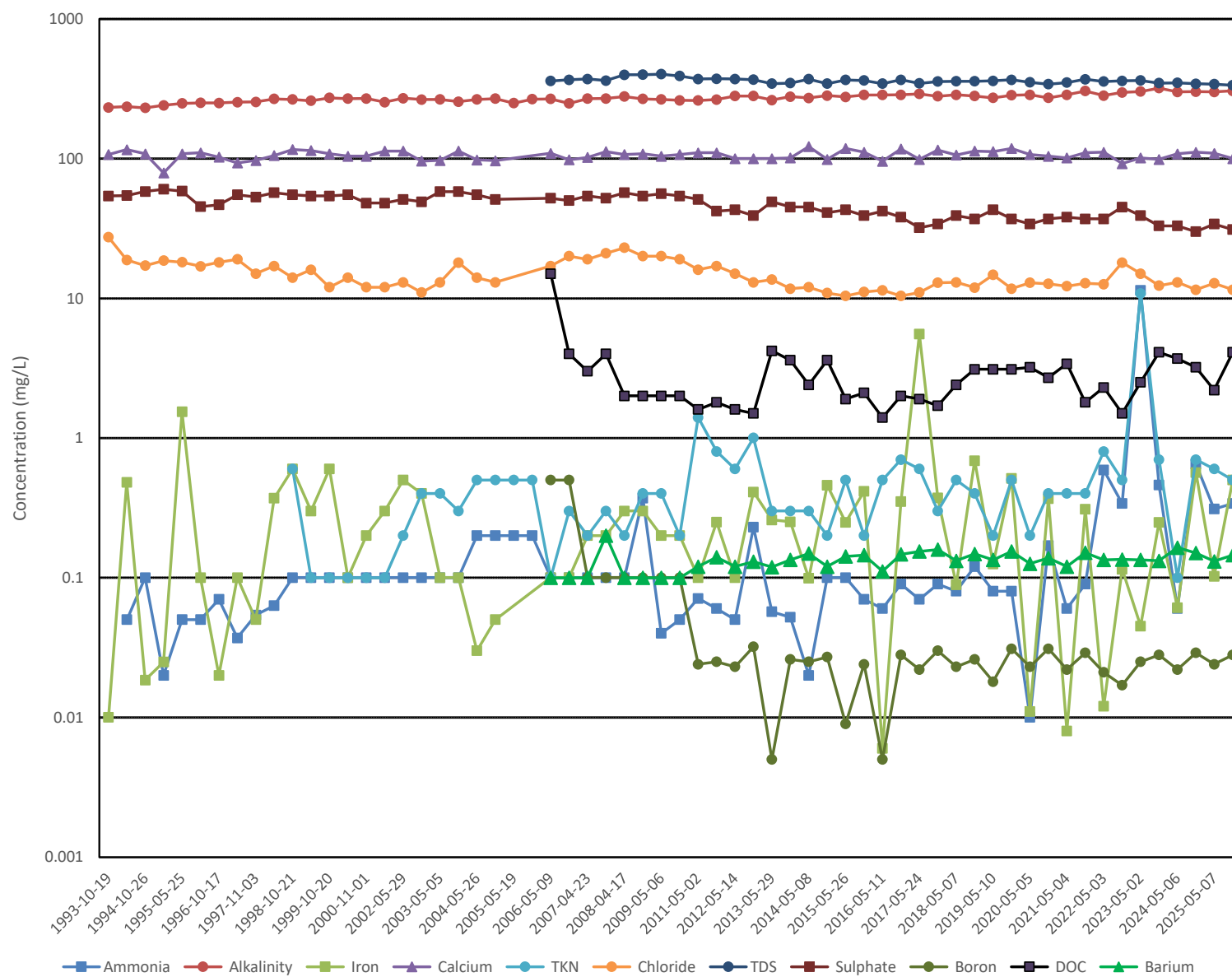
MW37-93-I



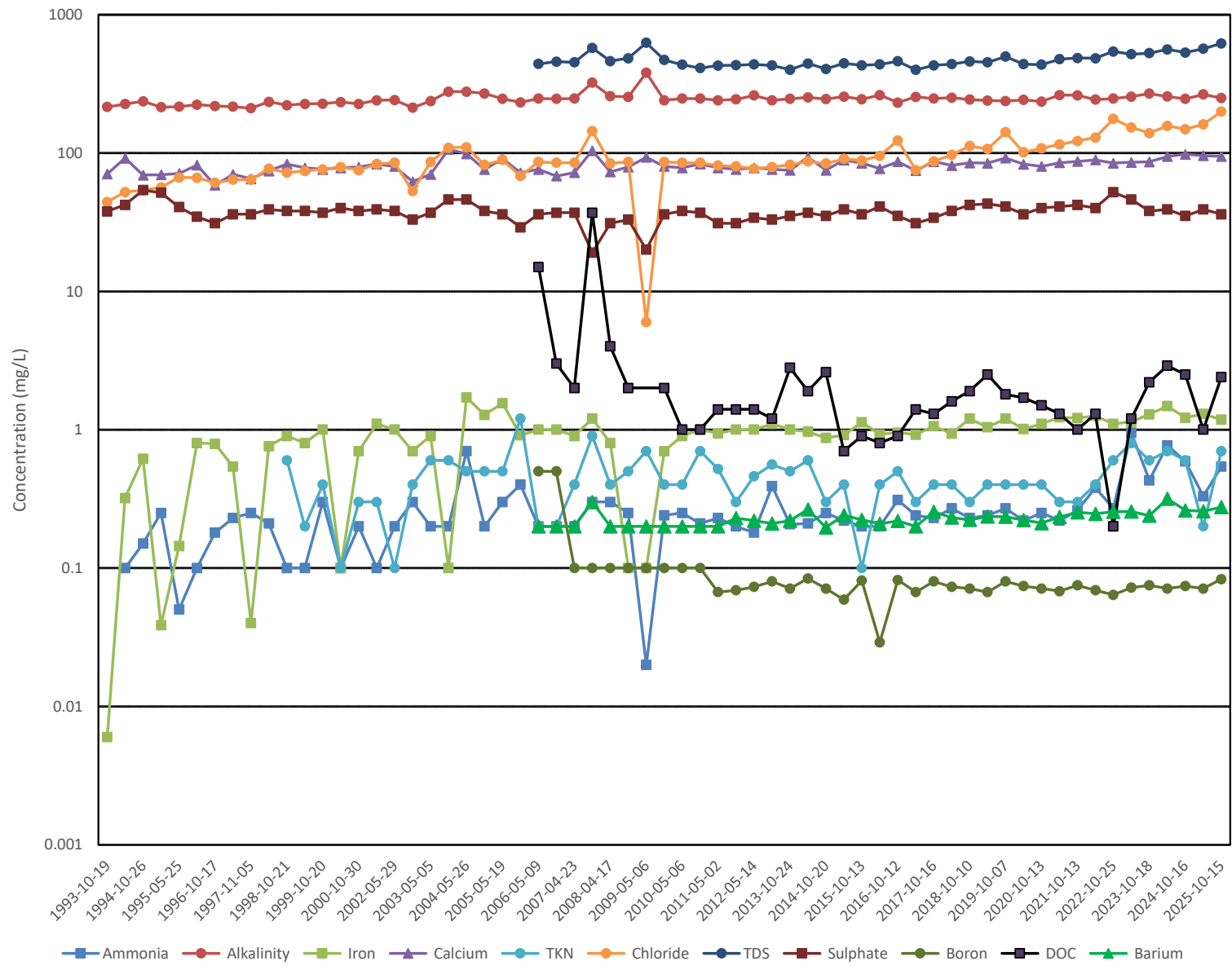
MW37-93-II



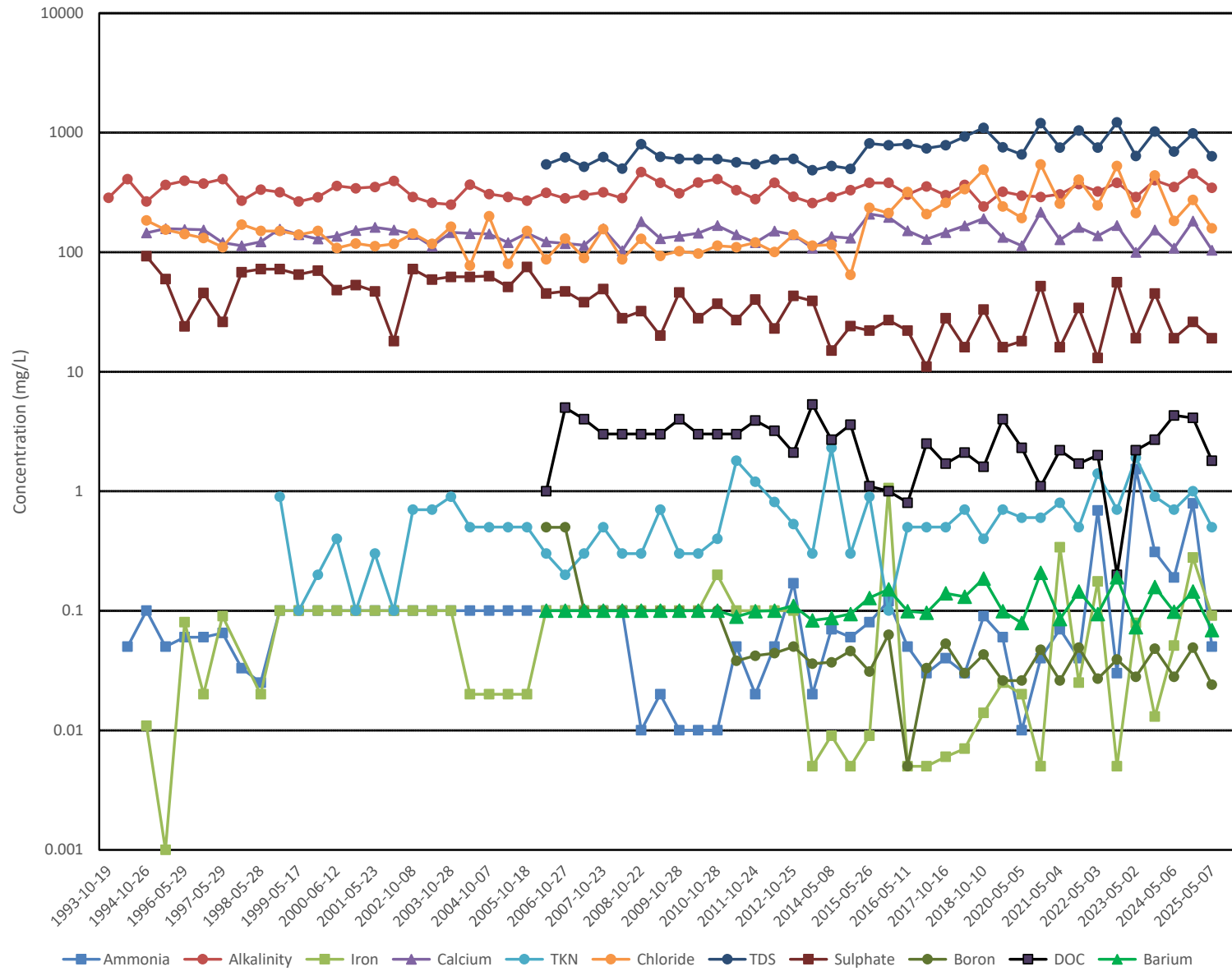
MW38-93



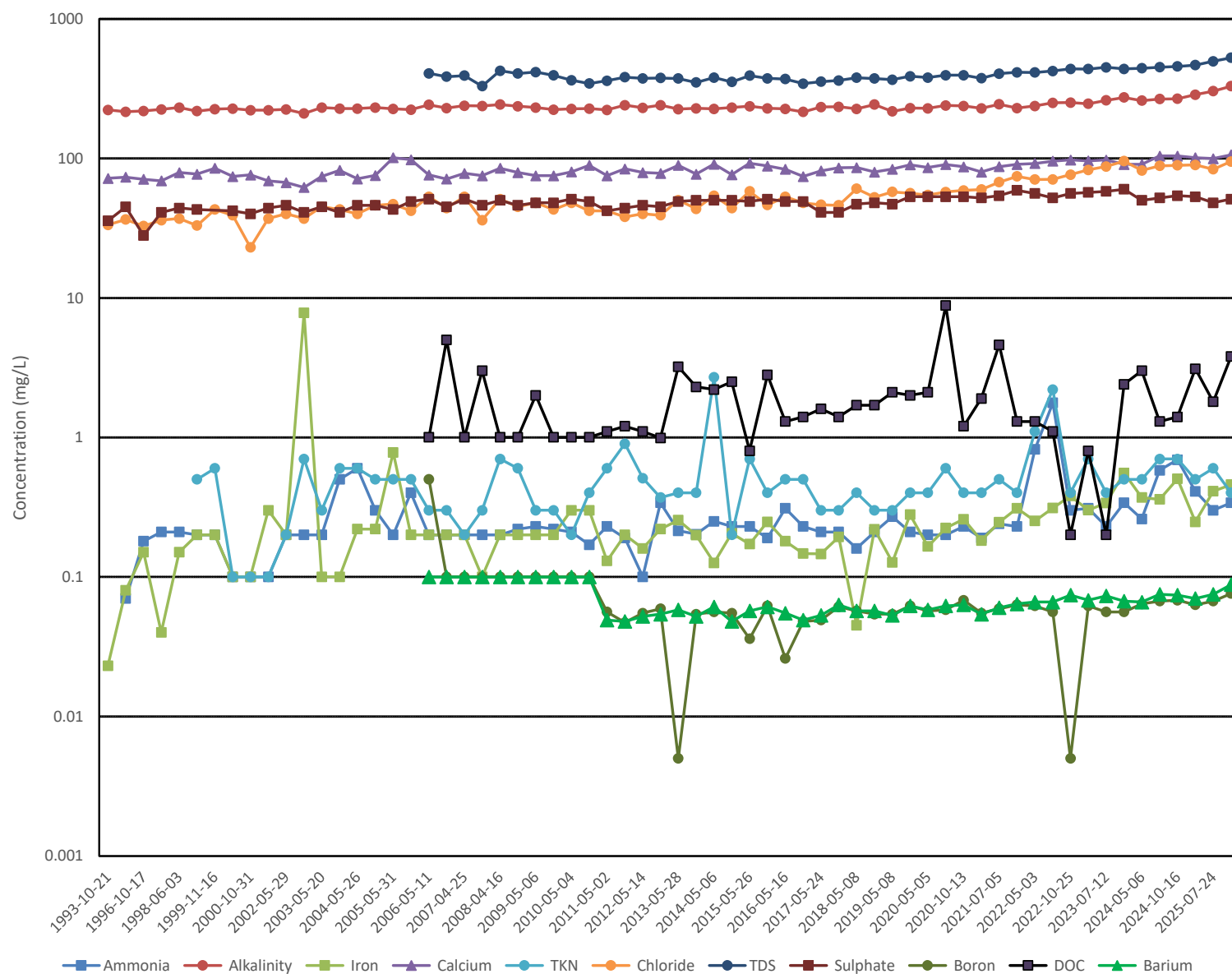
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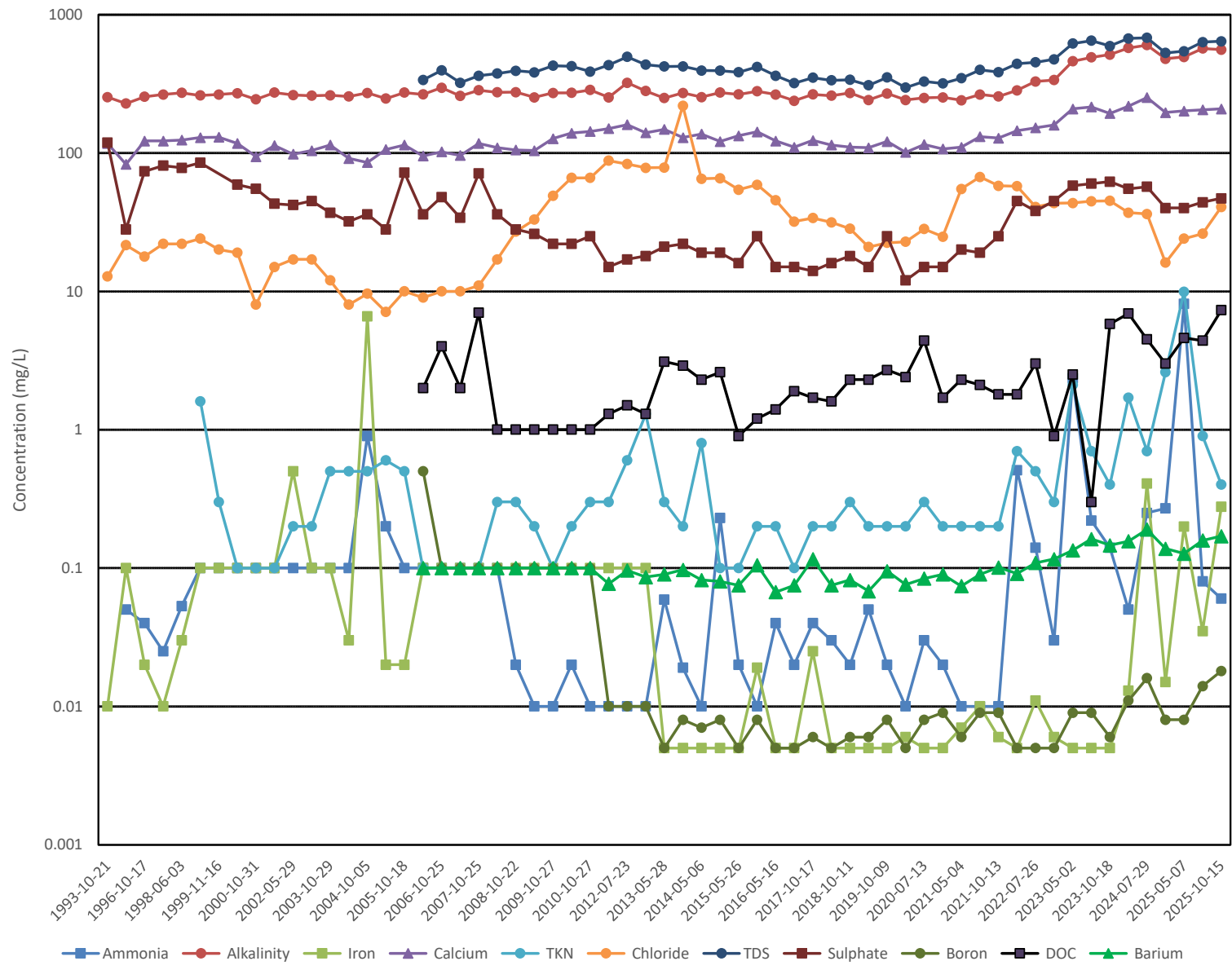
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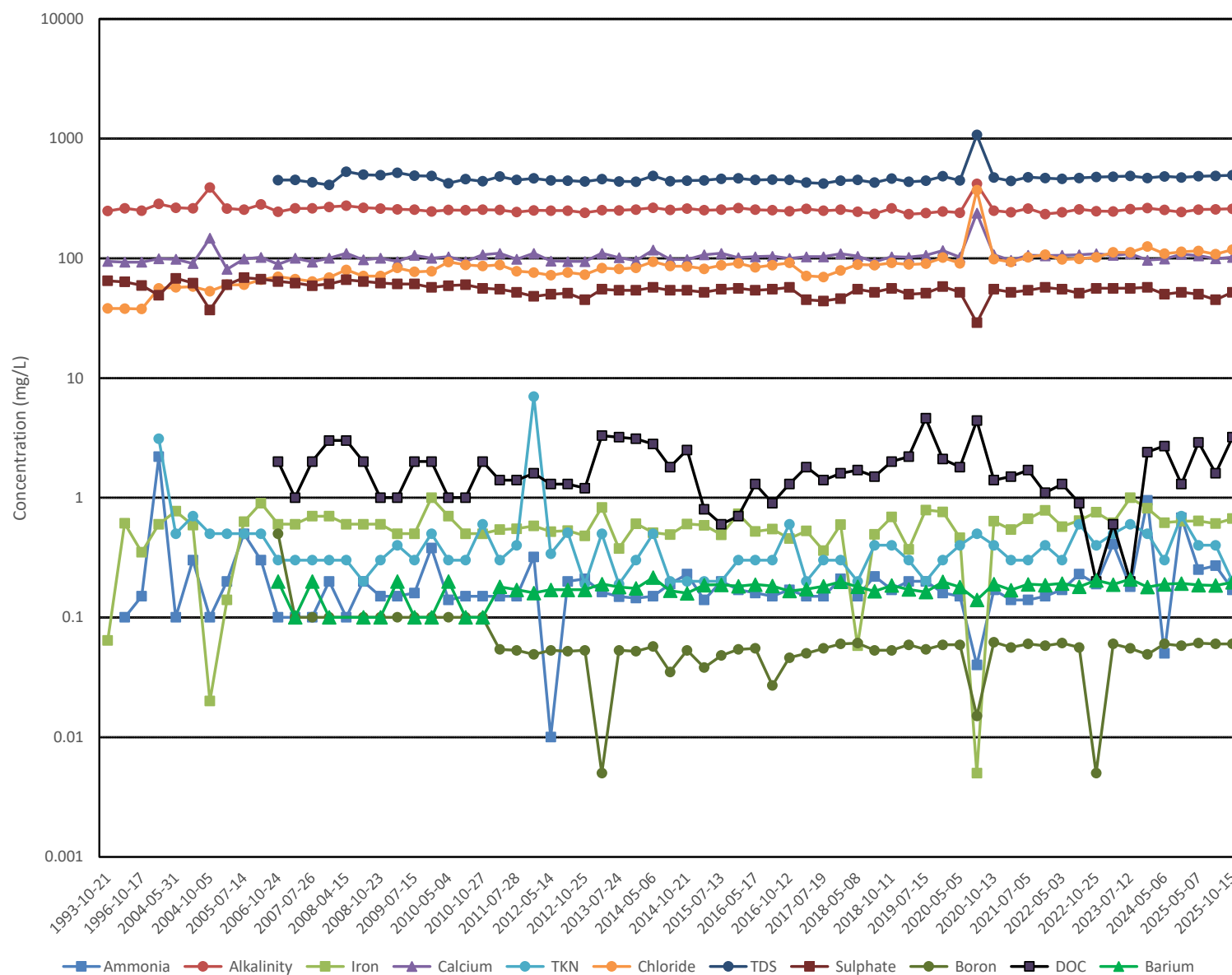
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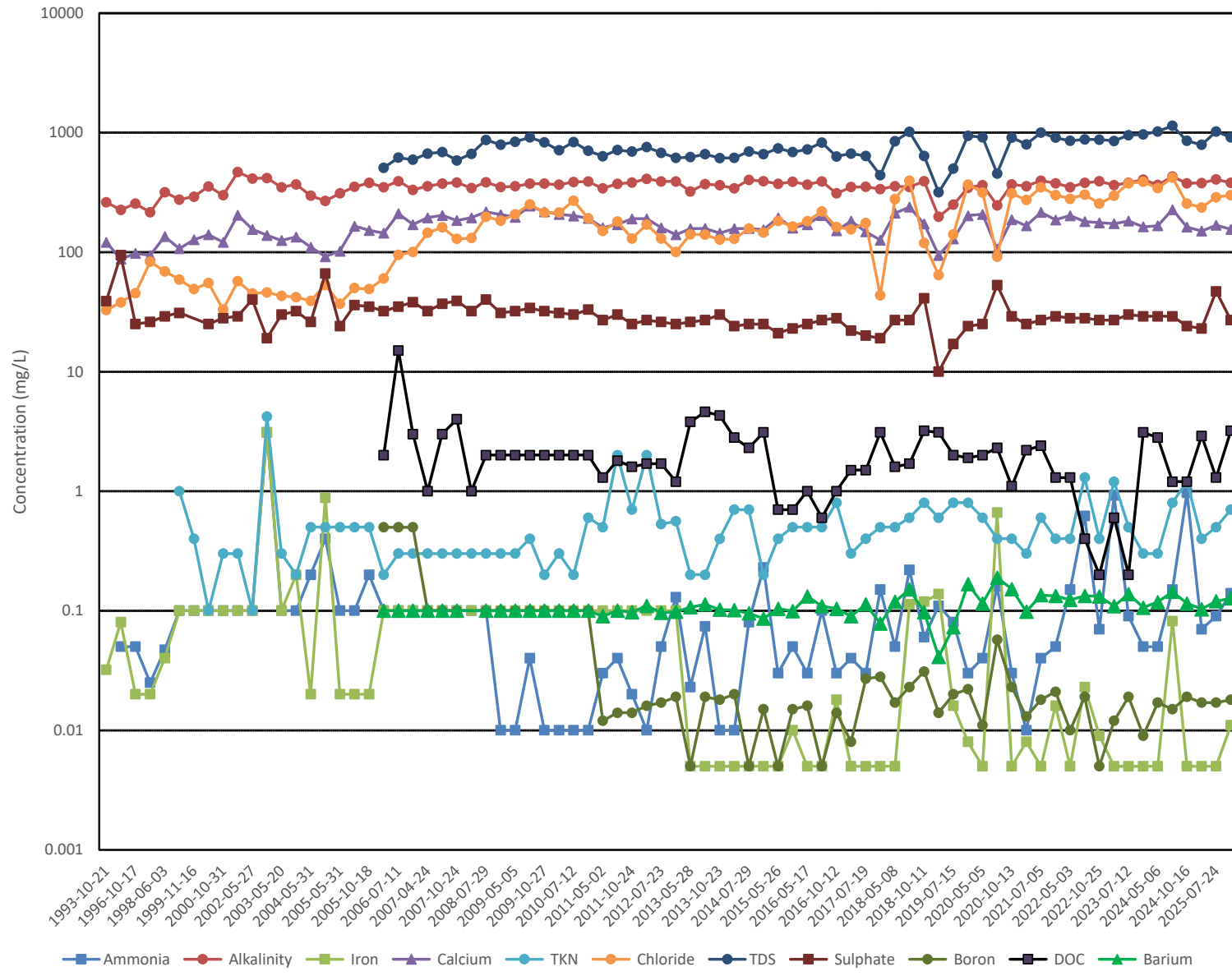
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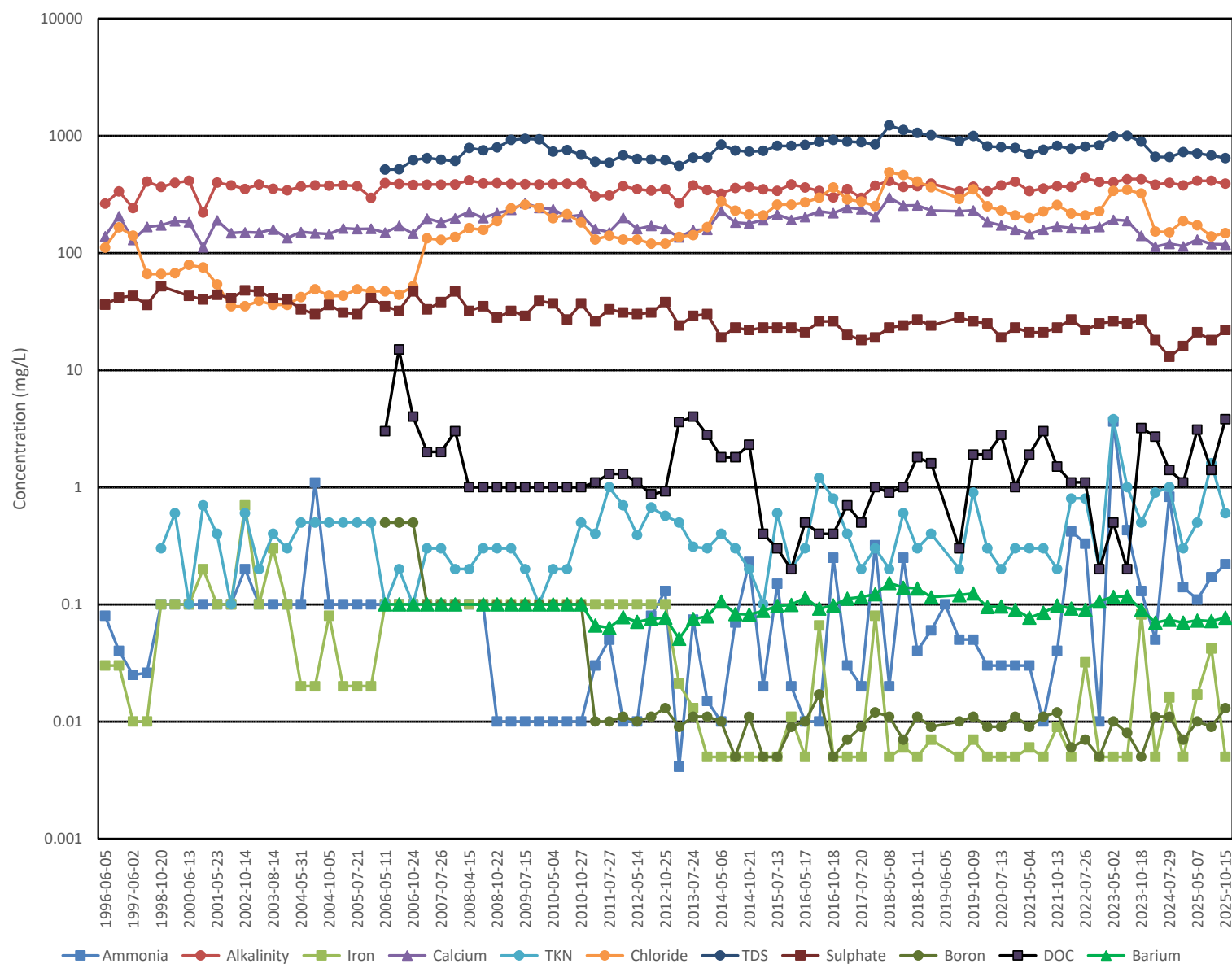
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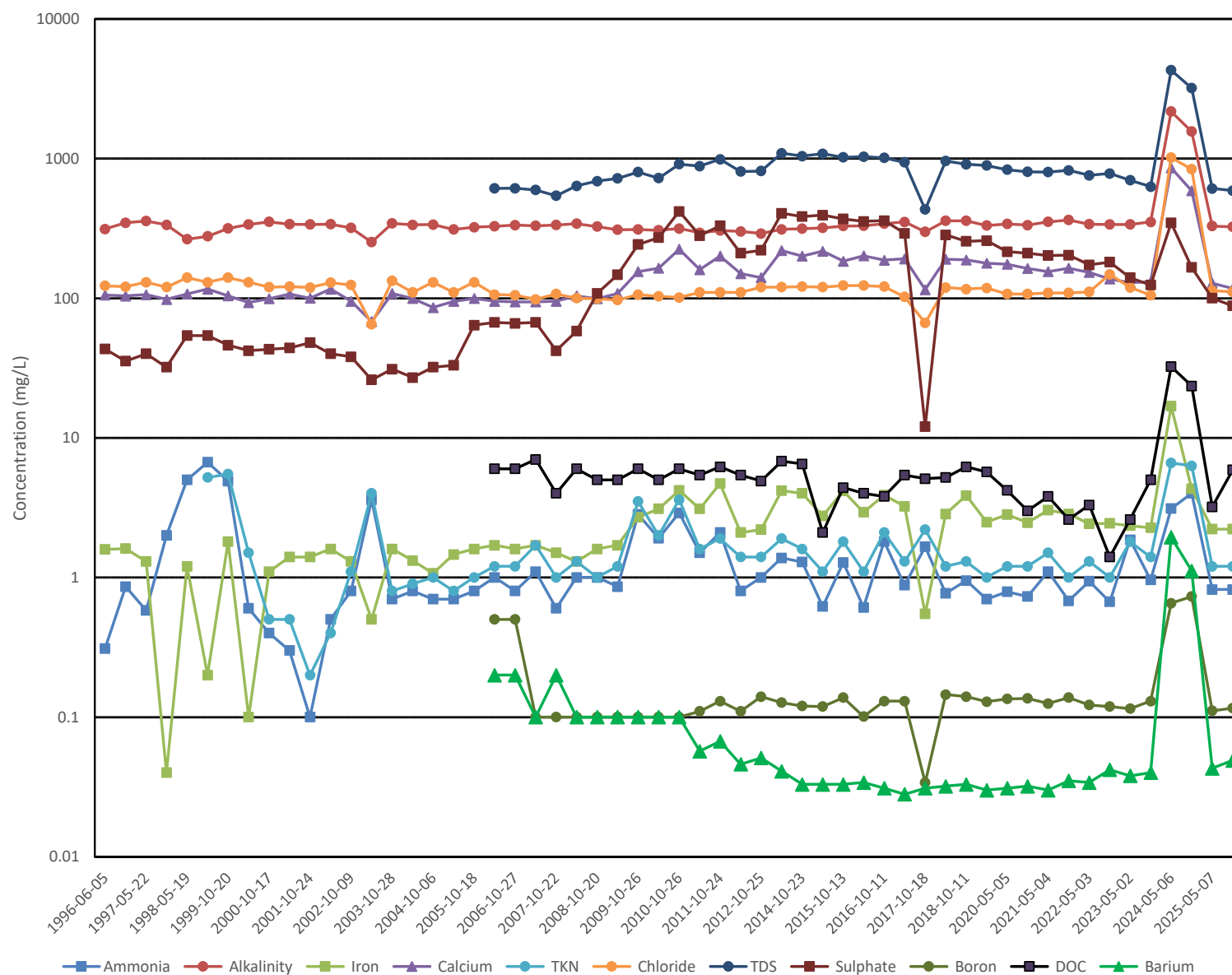
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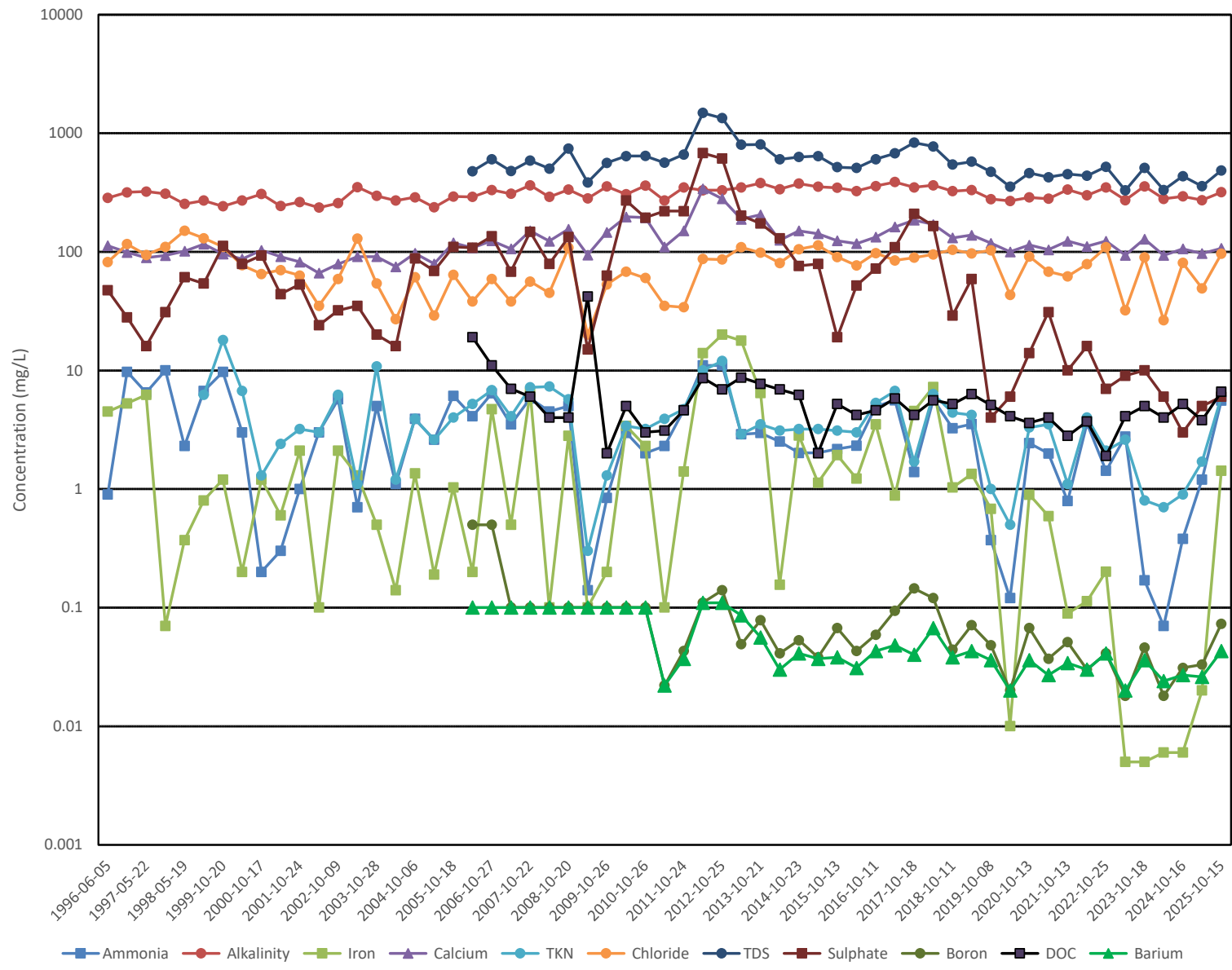
MW45-93



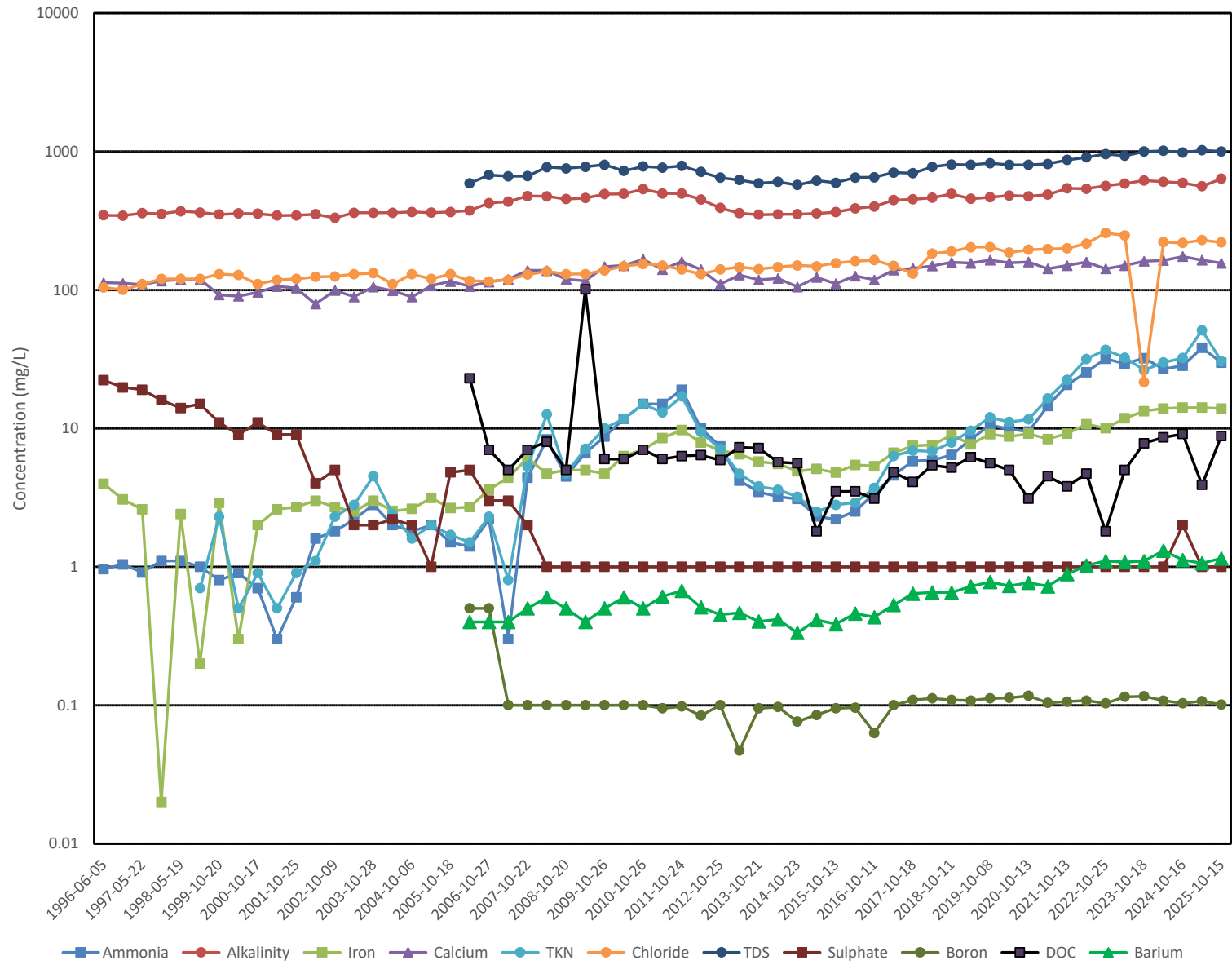
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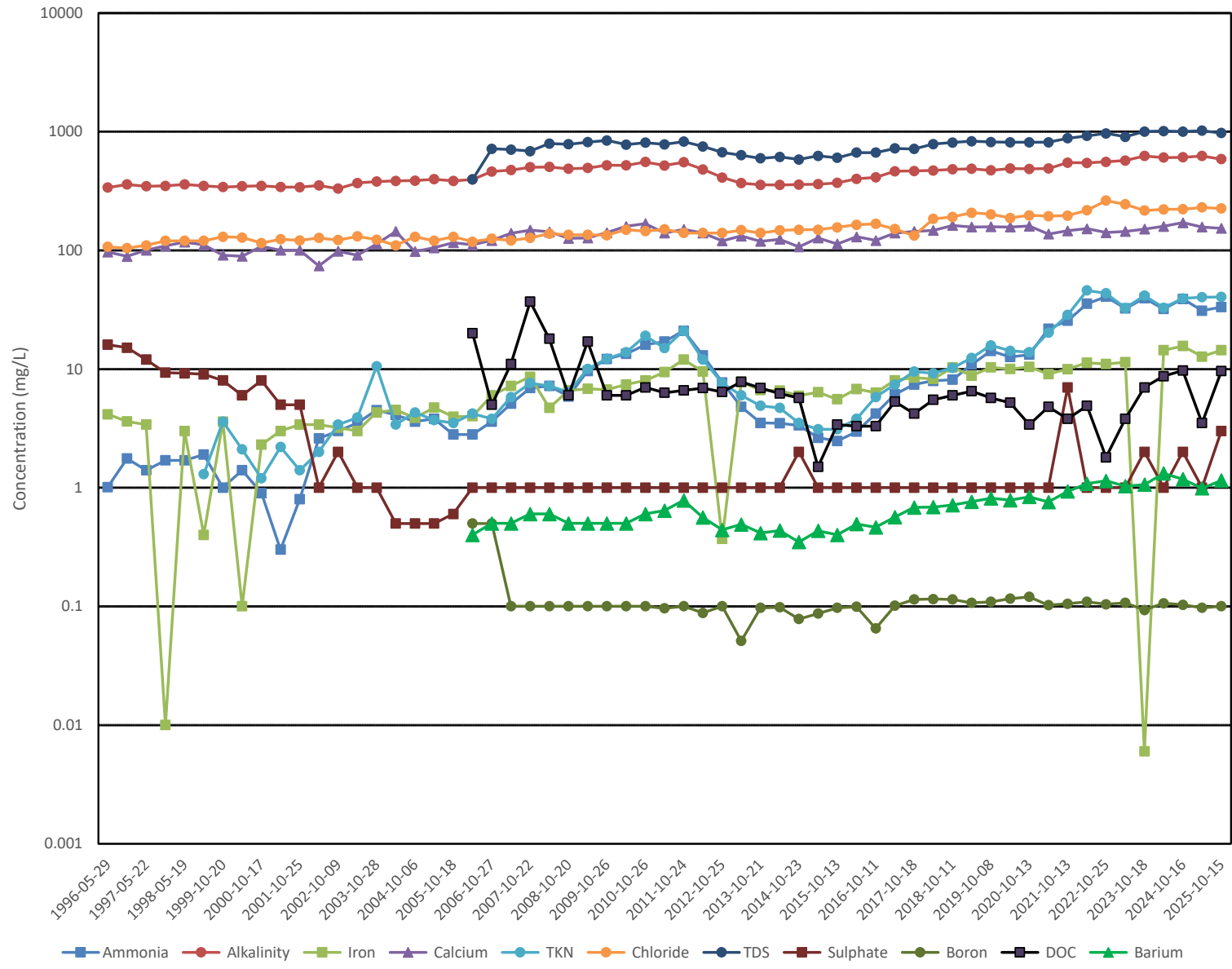
MW45-95-II



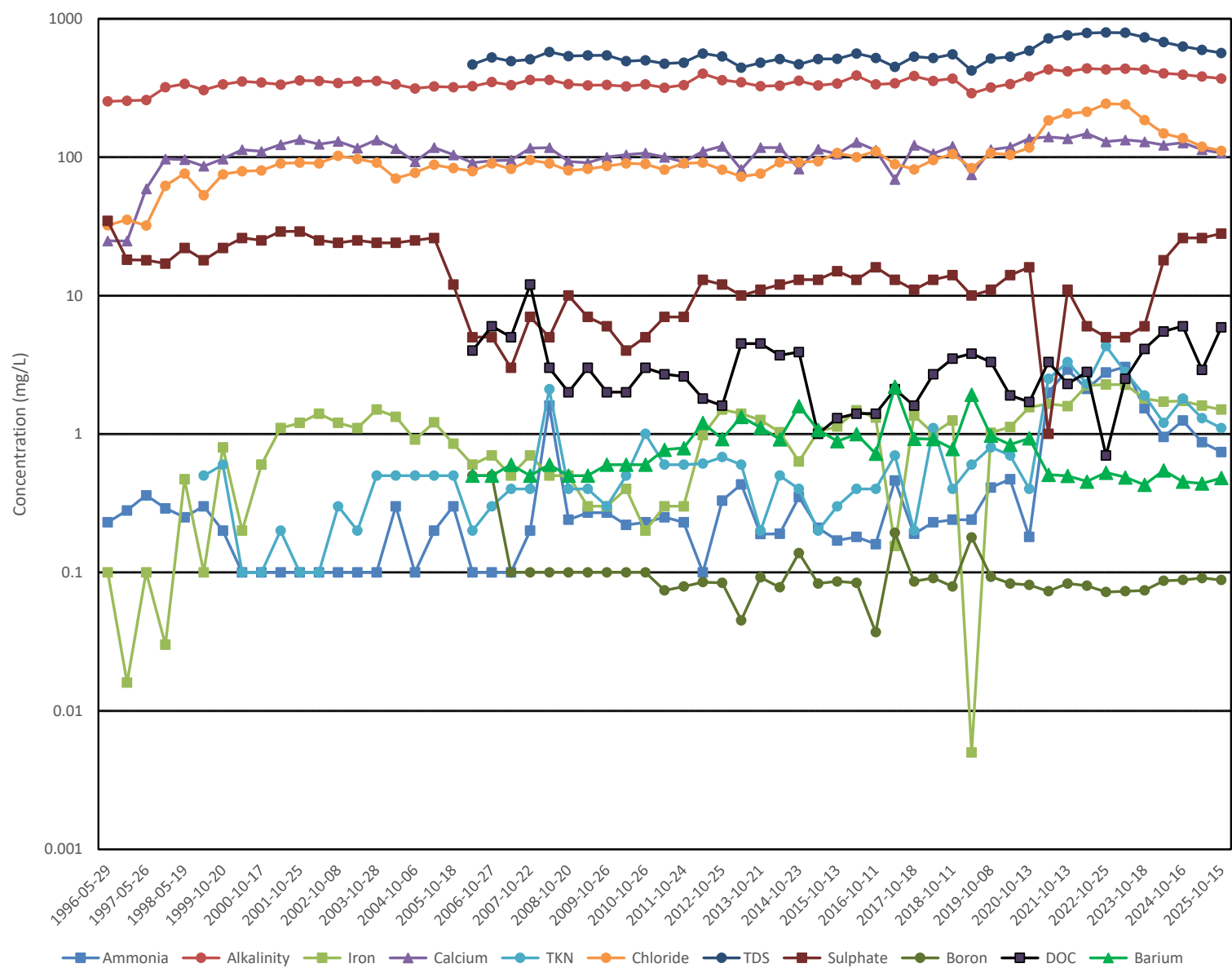
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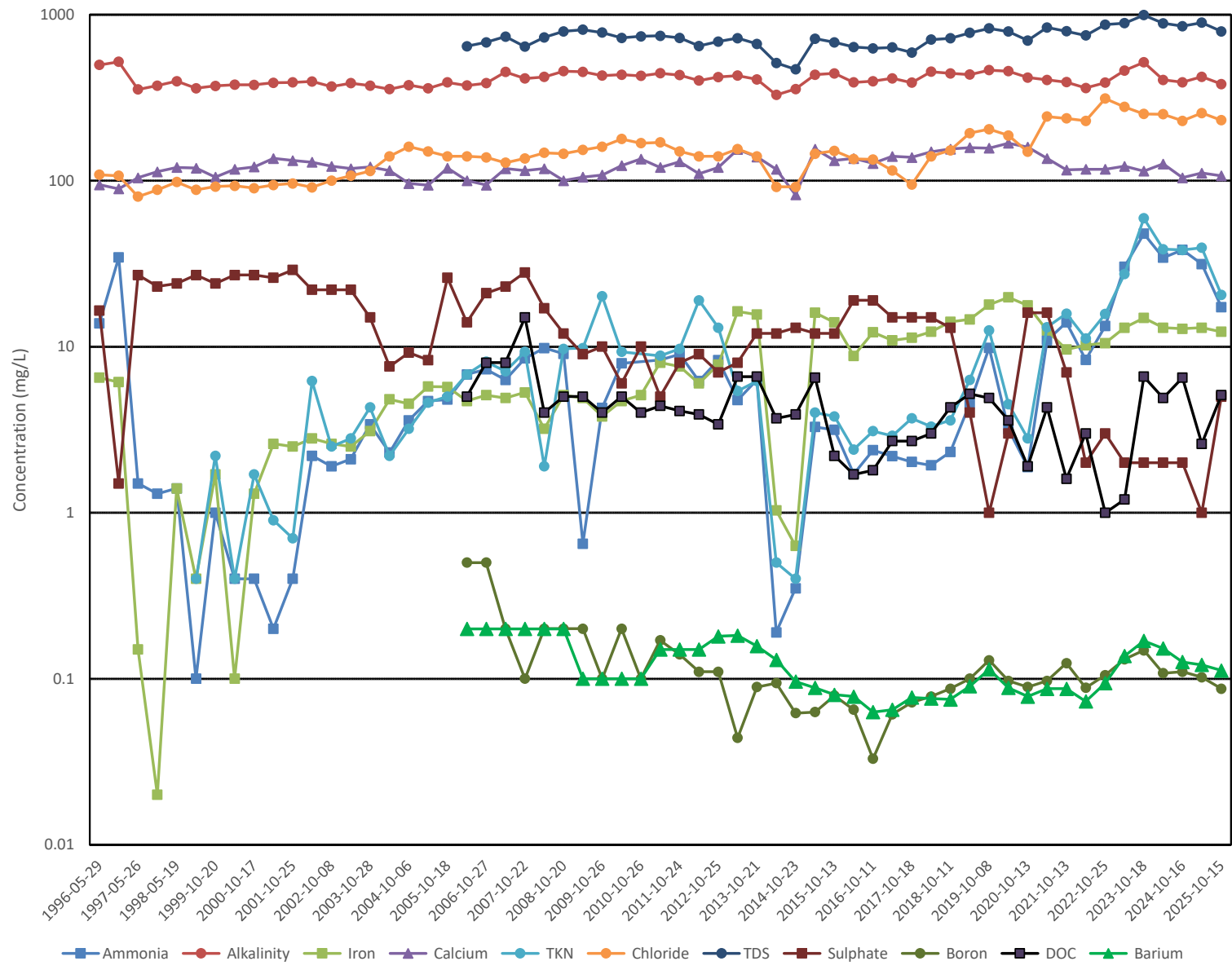
MW46-95-II



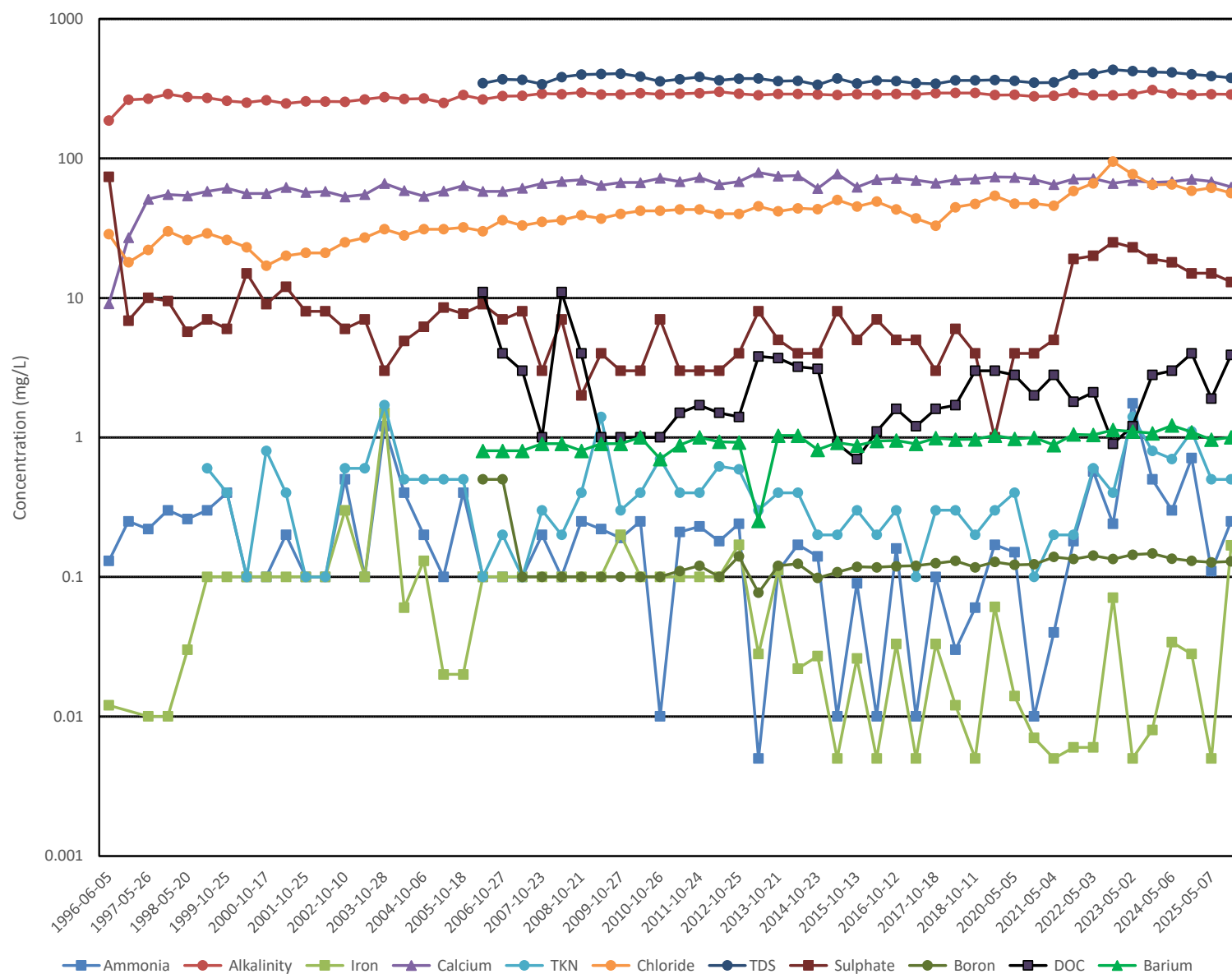
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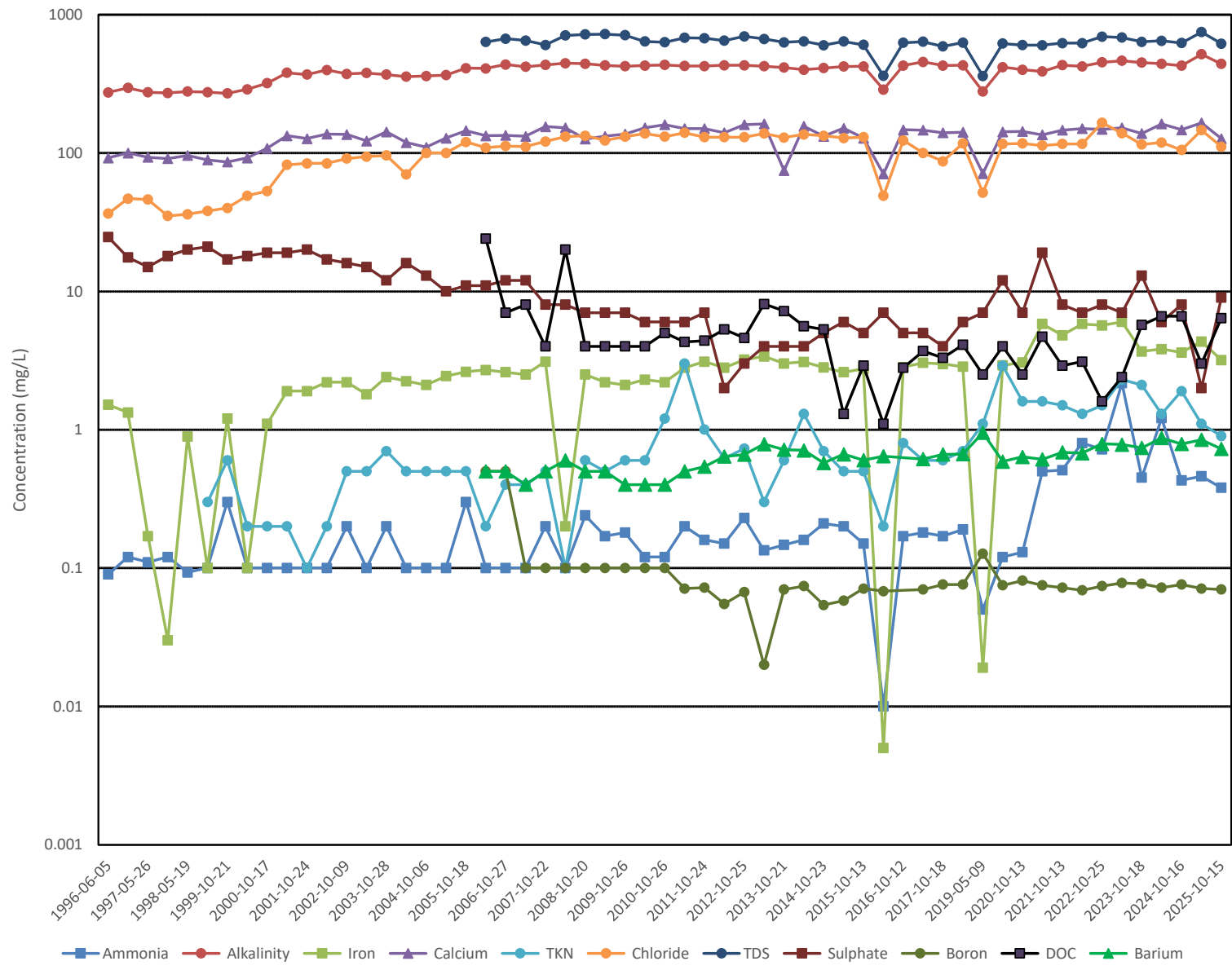
MW47-96-II



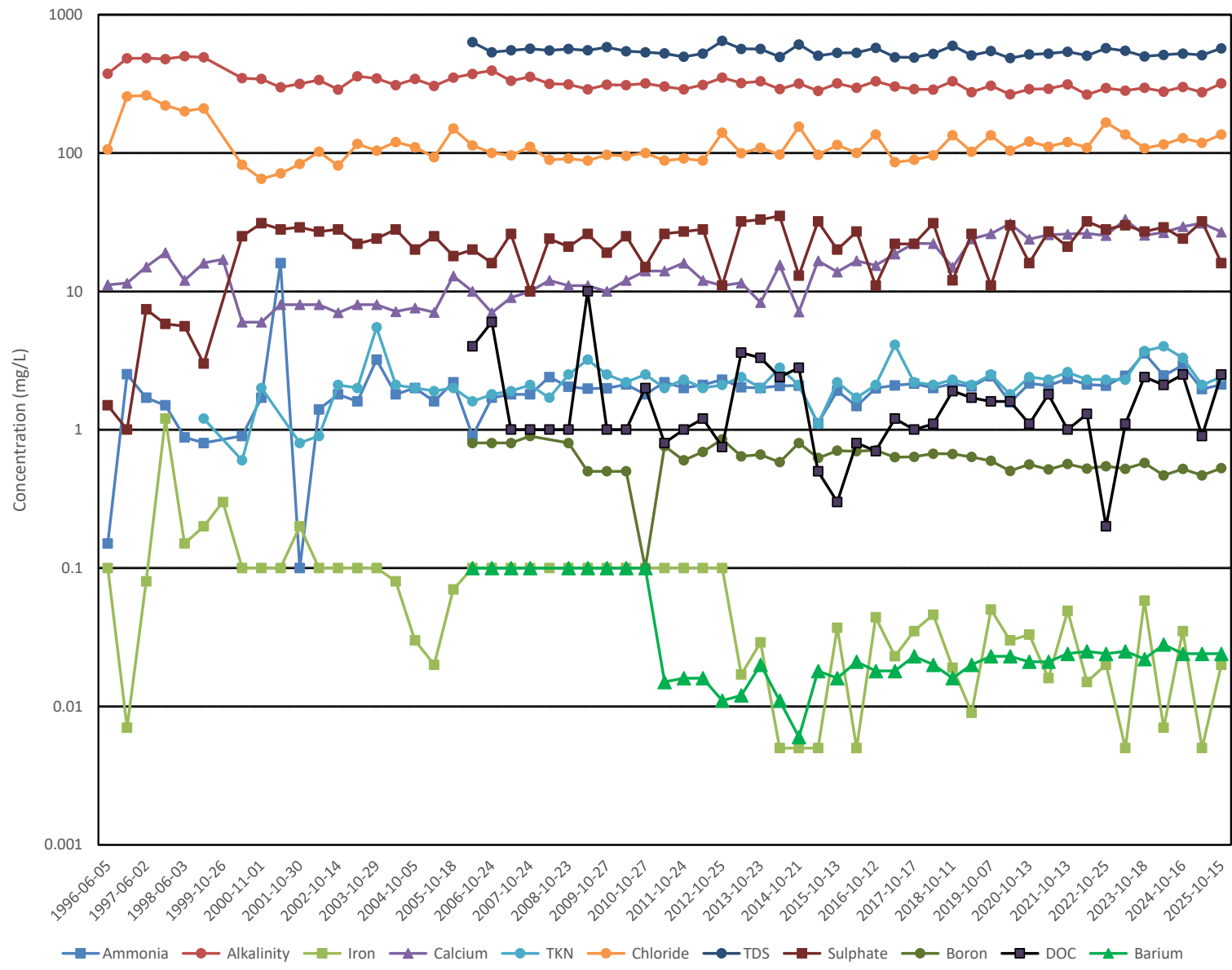
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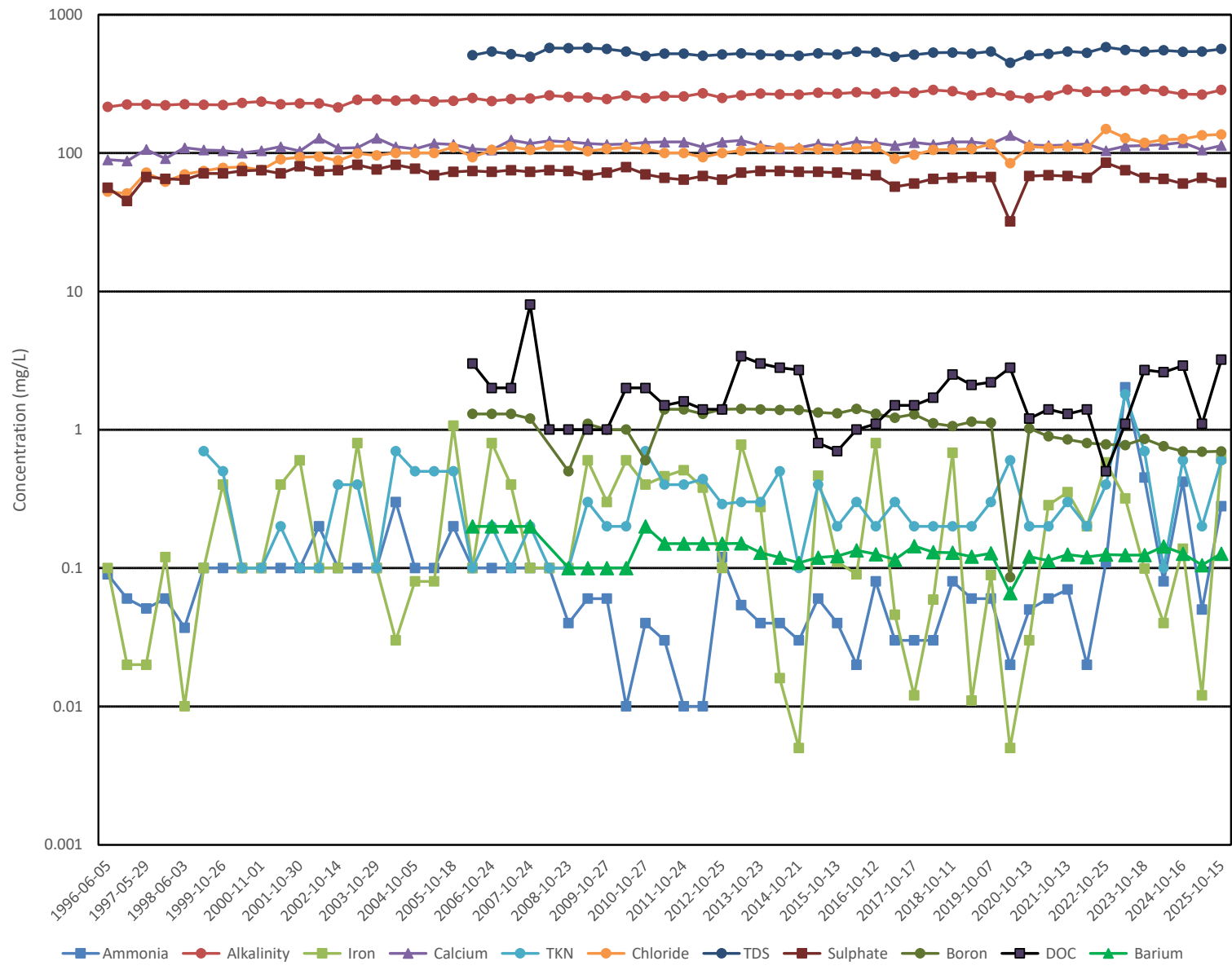
MW48-96-II



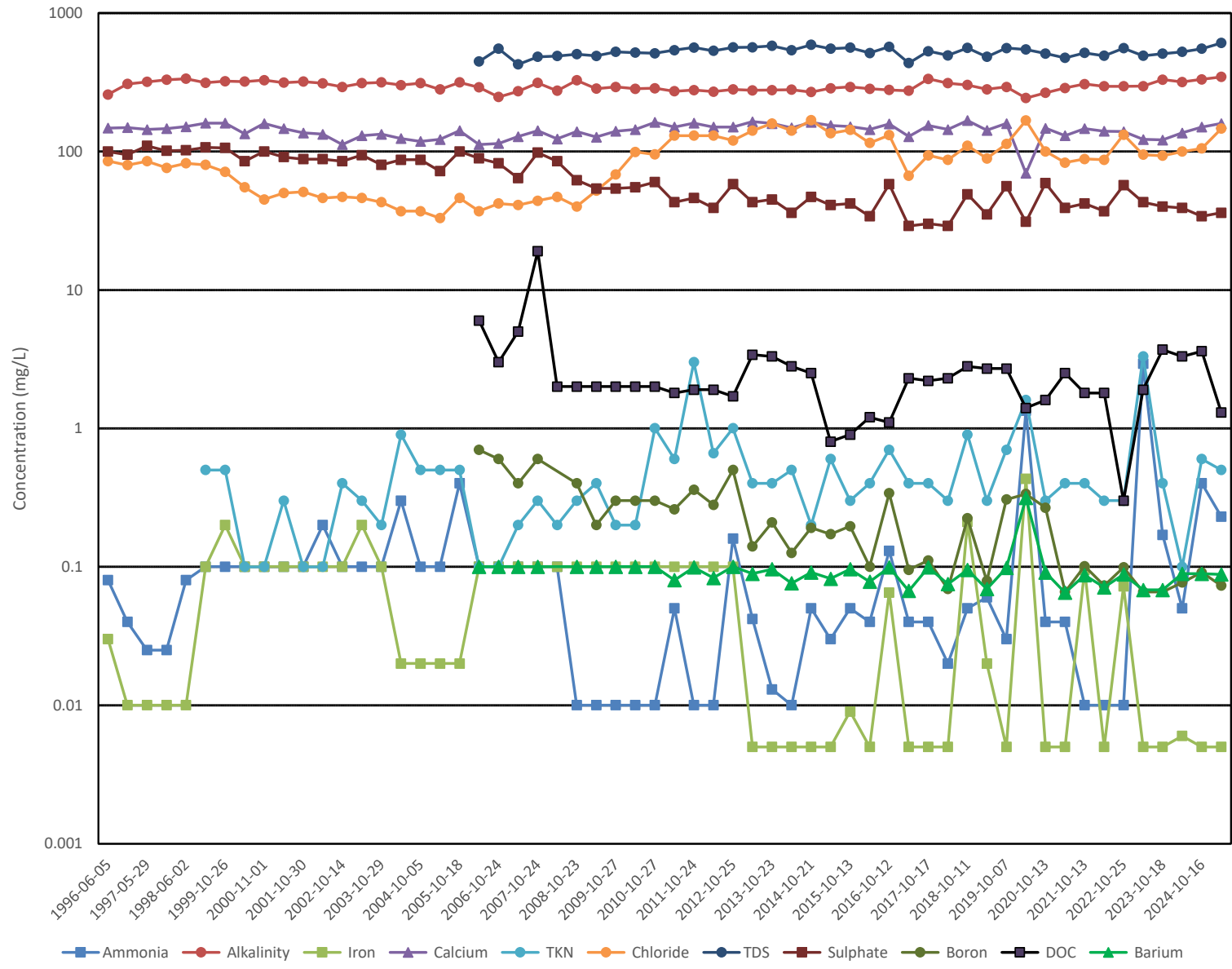
MW49-96-I



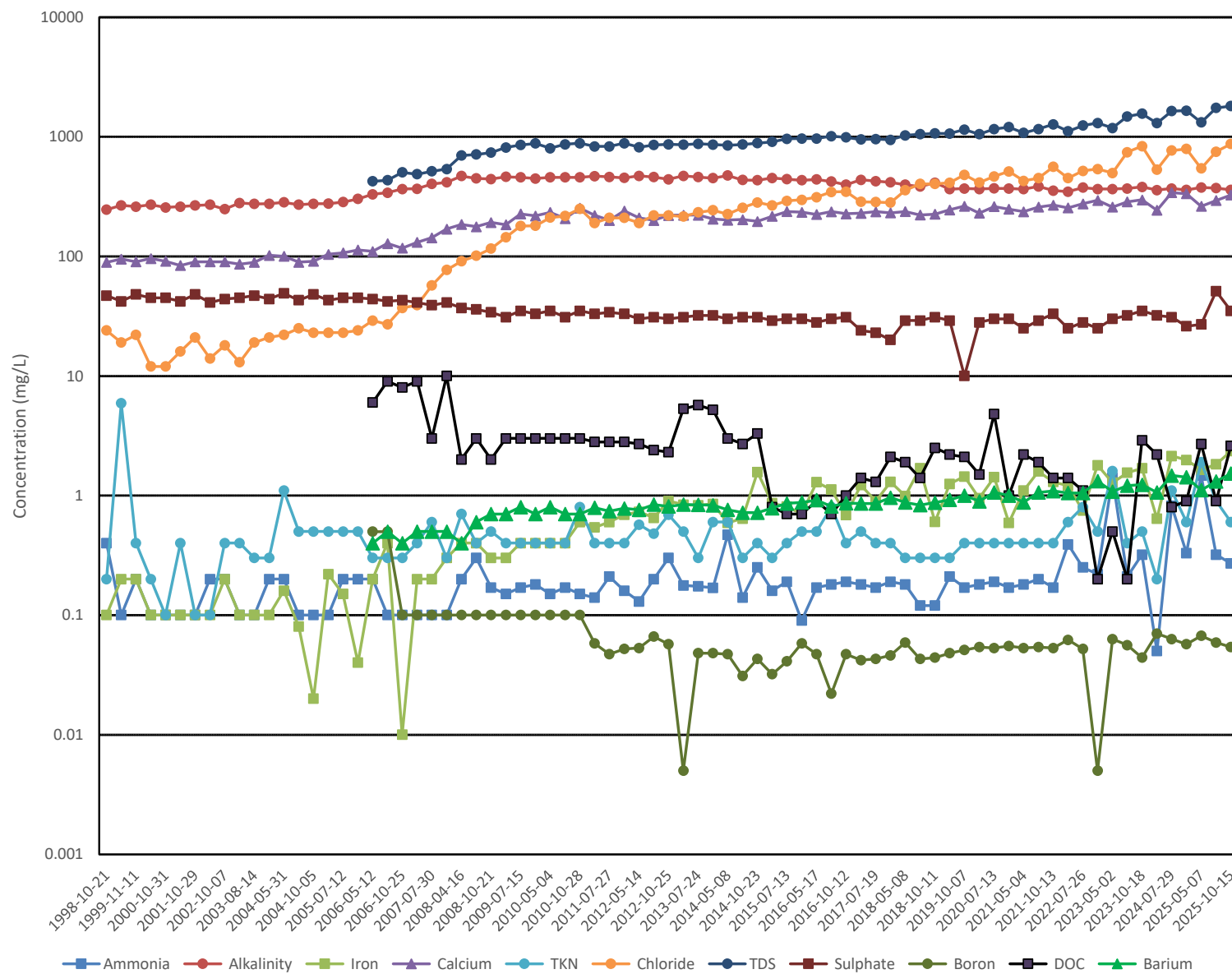
MW49-96-II



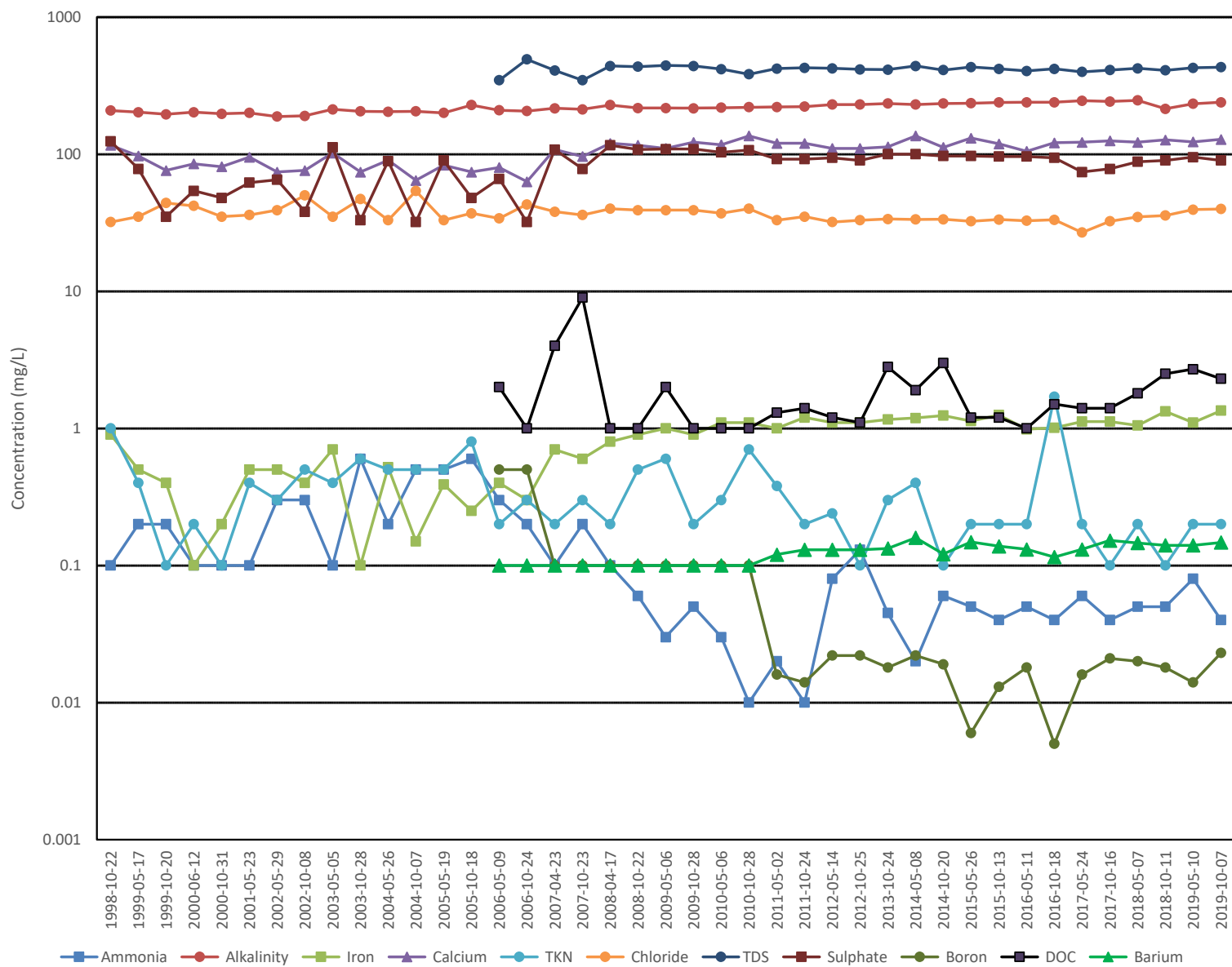
MW49-96-III



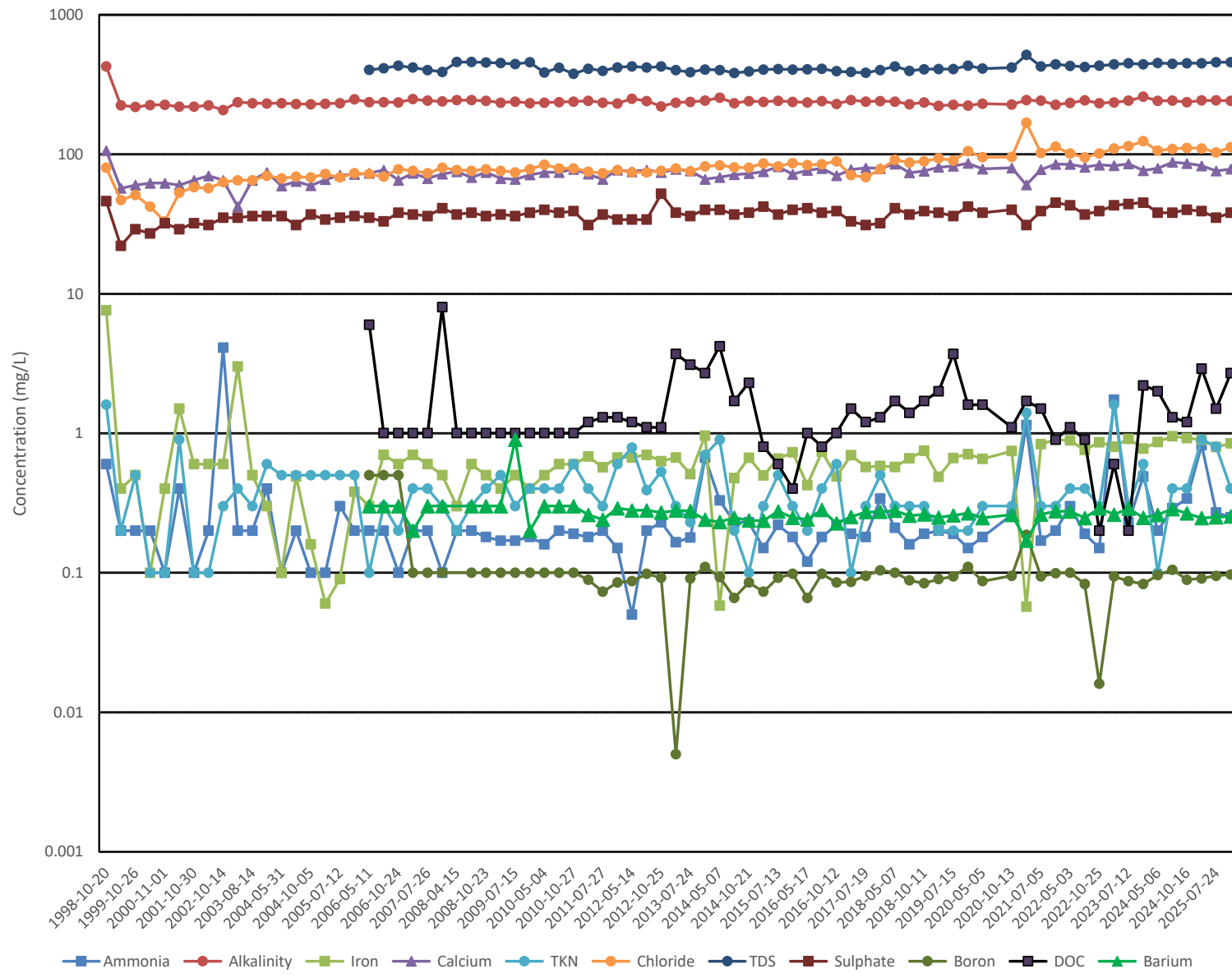
MW53-98



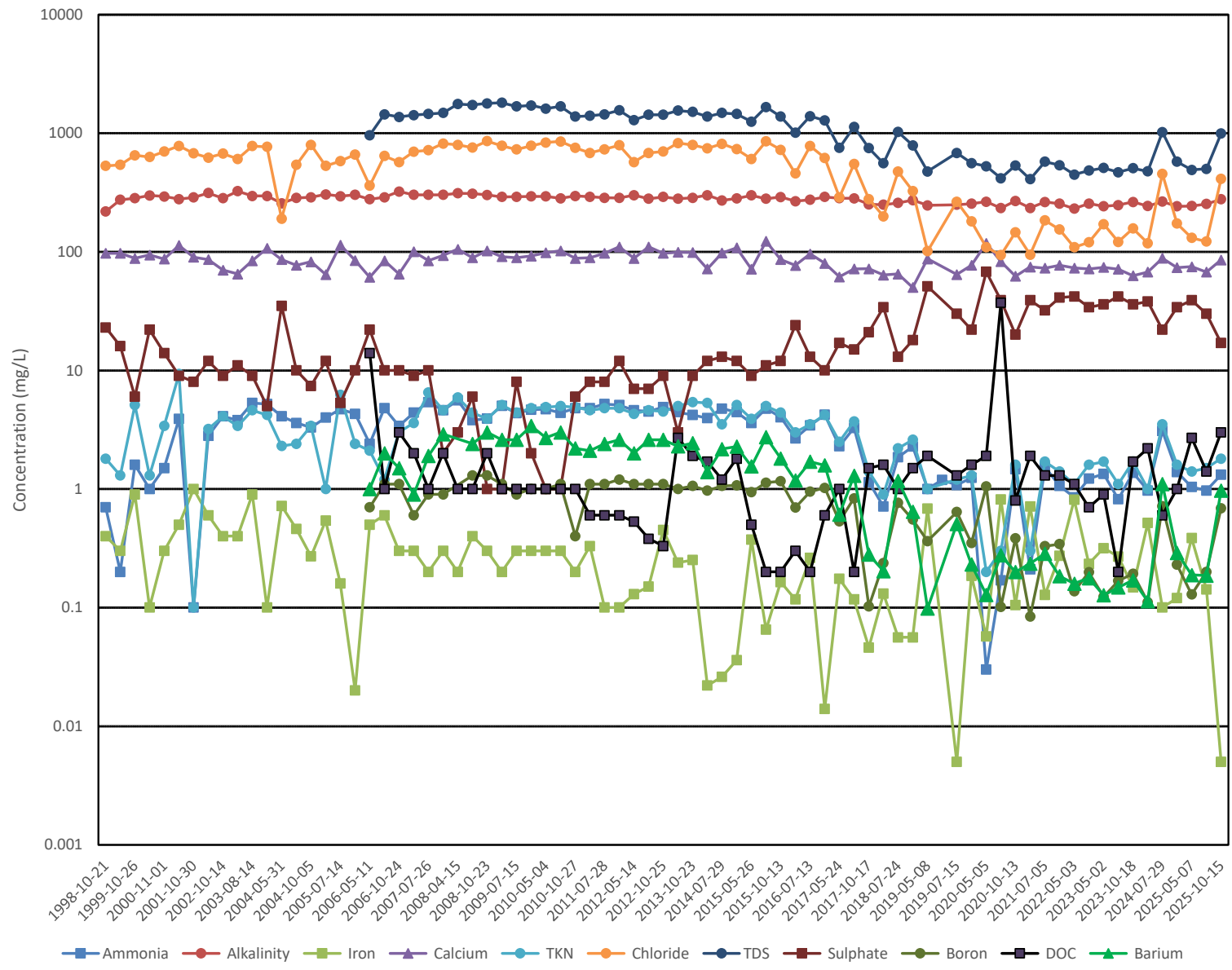
MW54-98



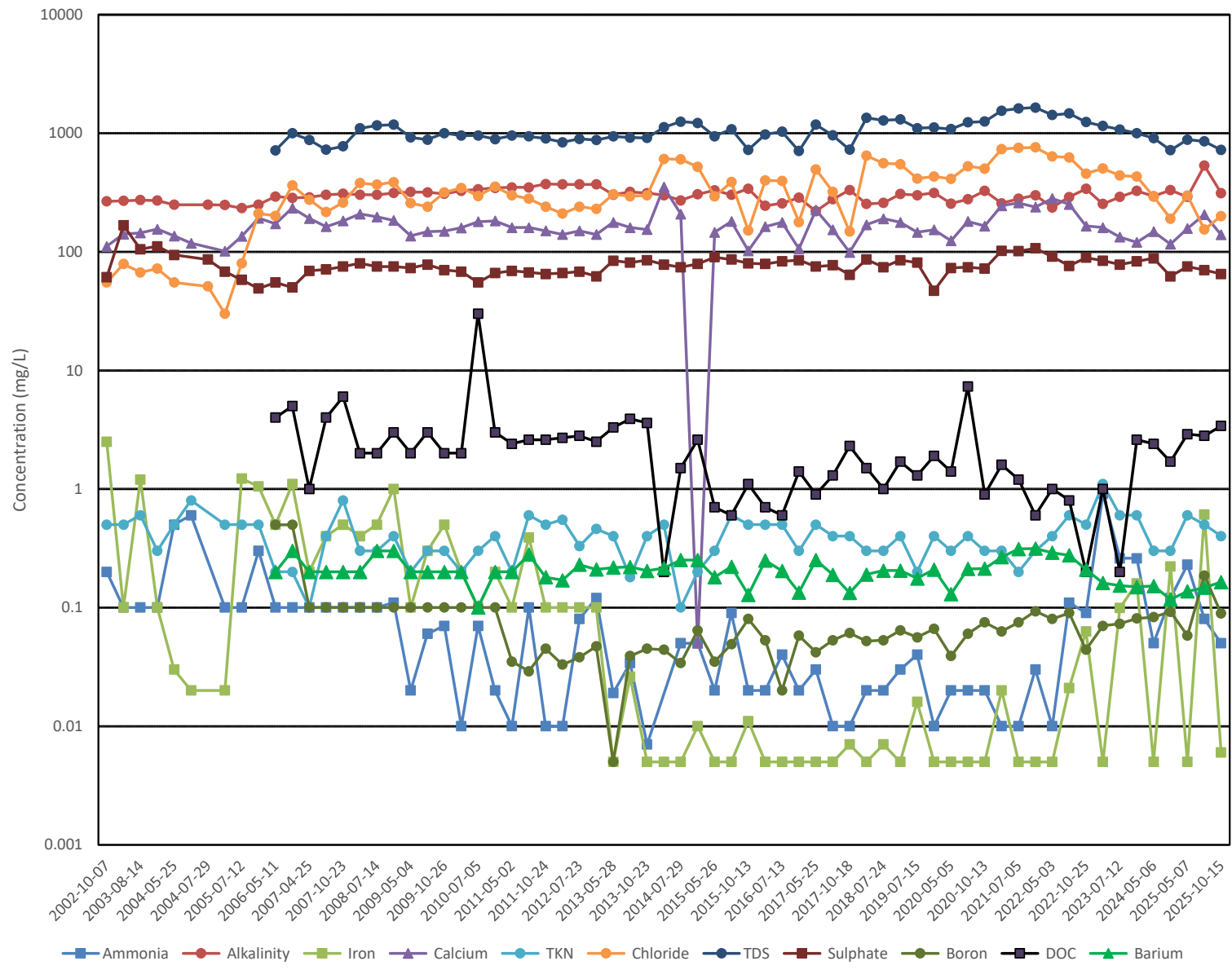
MW55-98-I



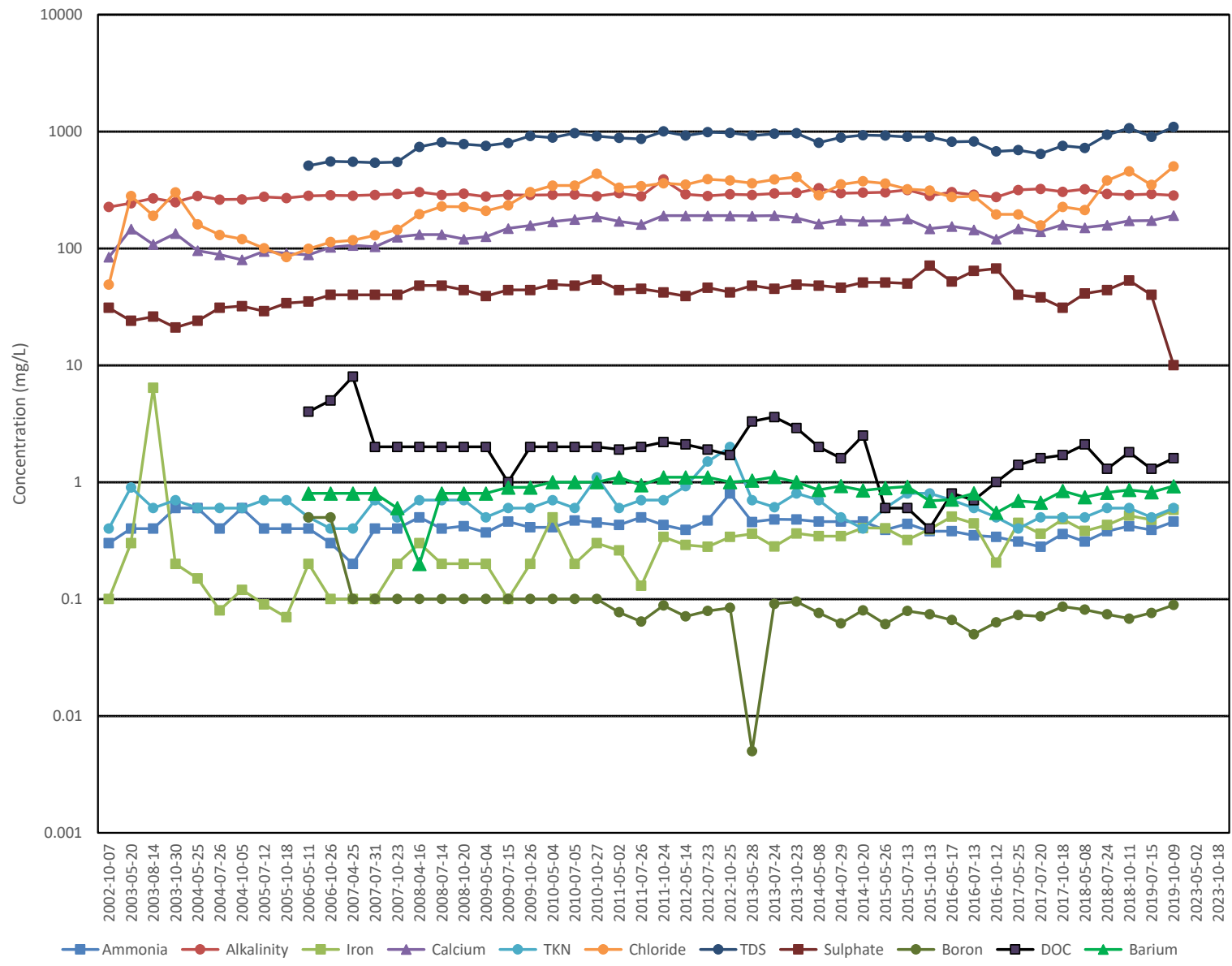
MW55-98-II



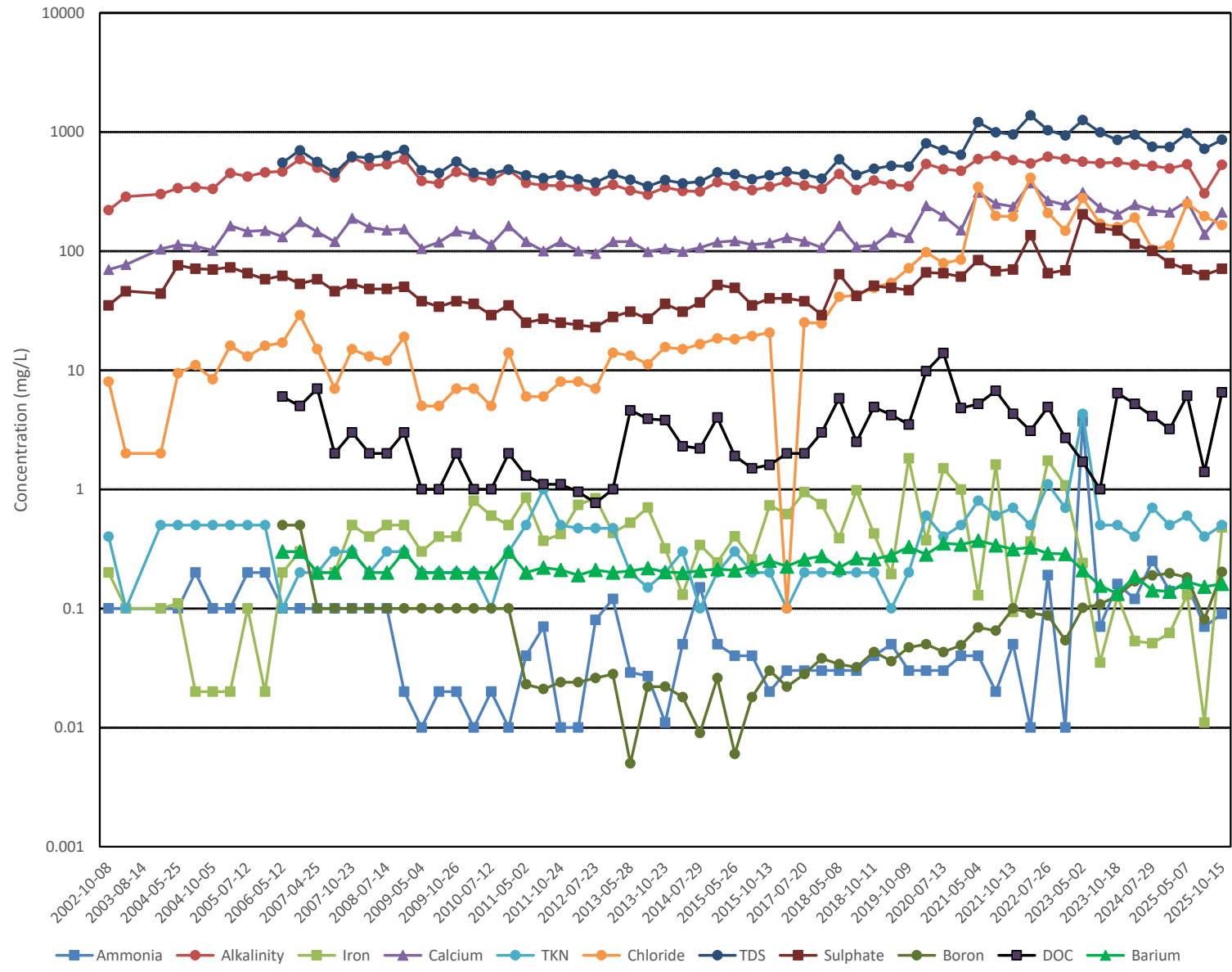
MW57-02-I



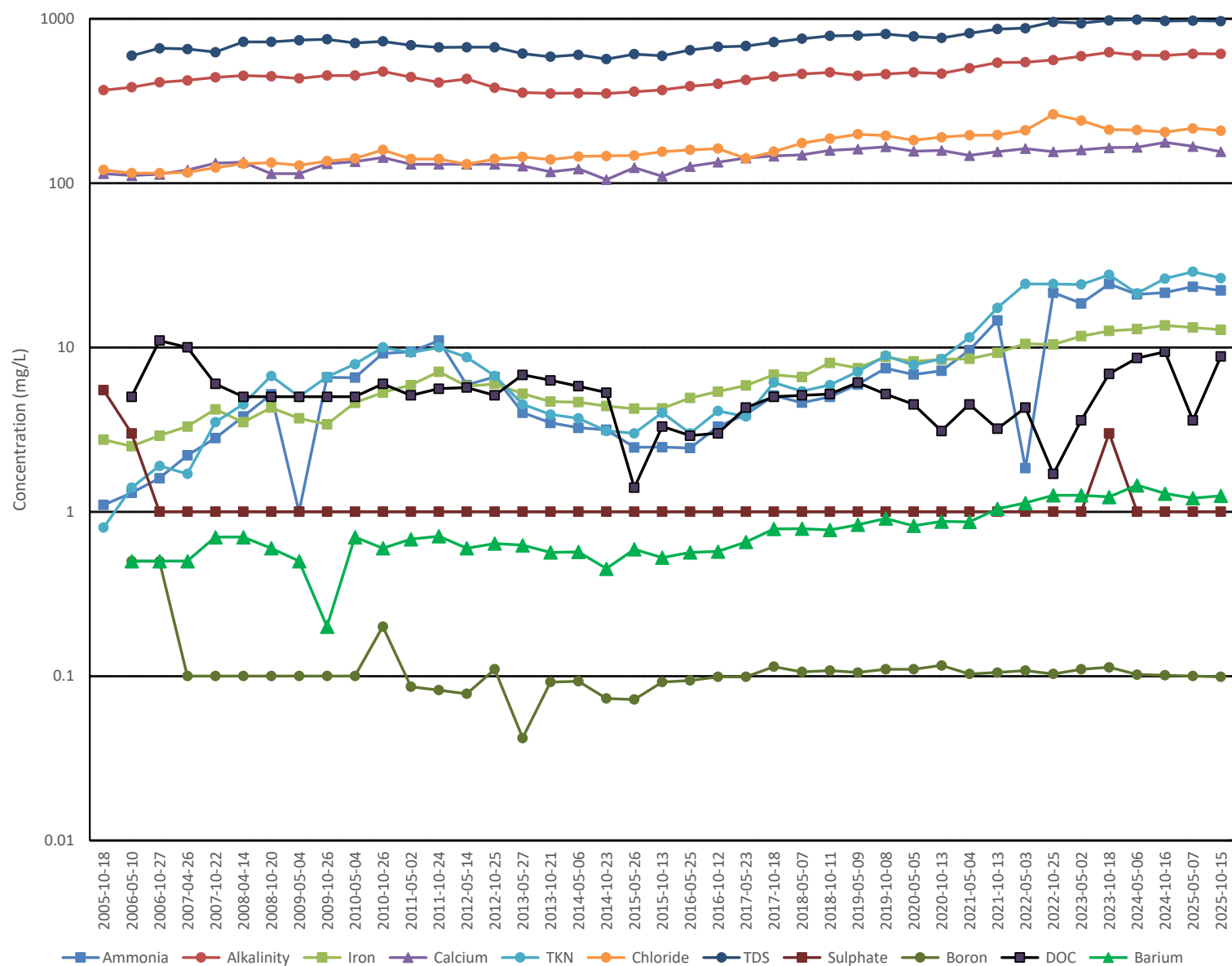
MW57-02-II



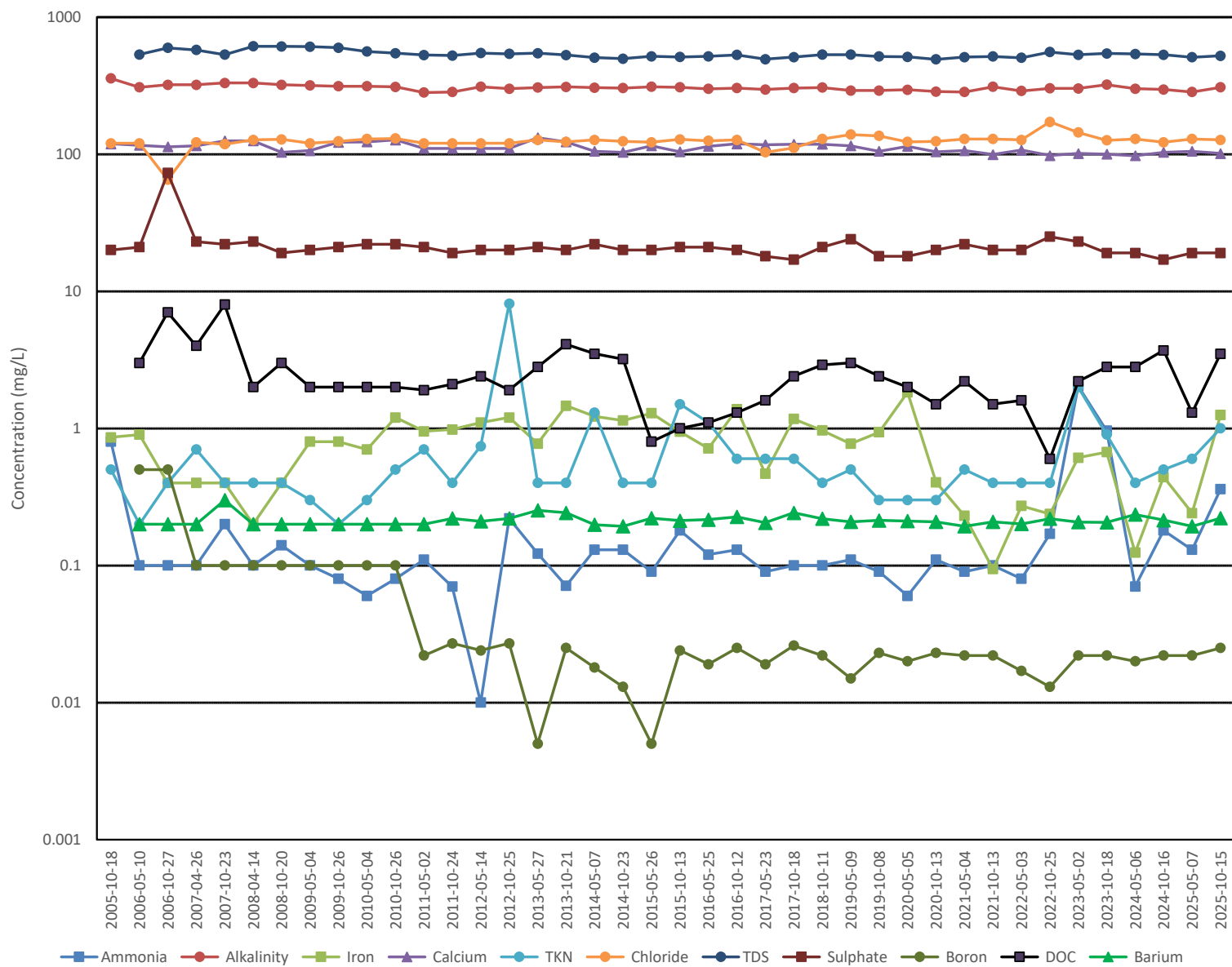
MW58-I



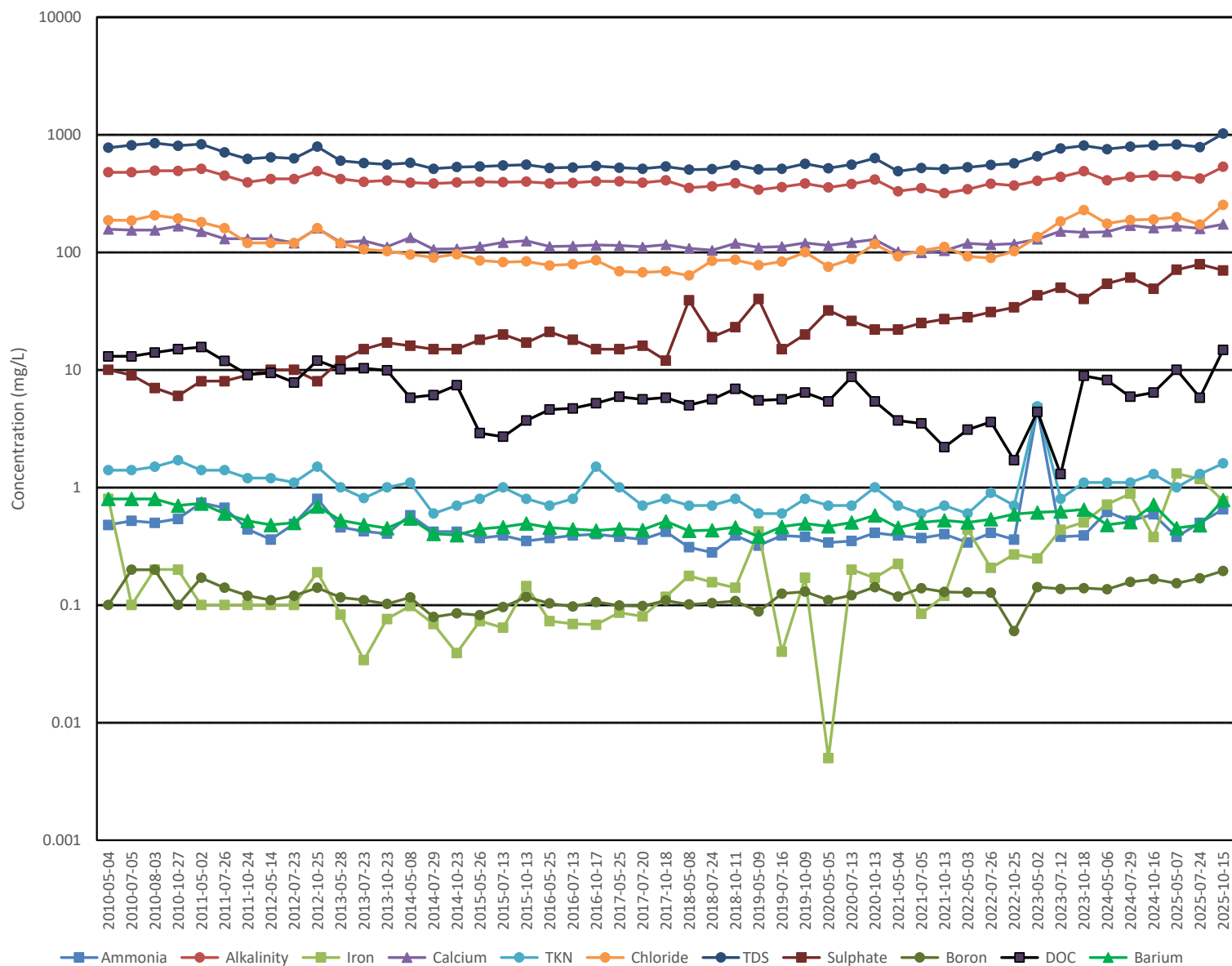
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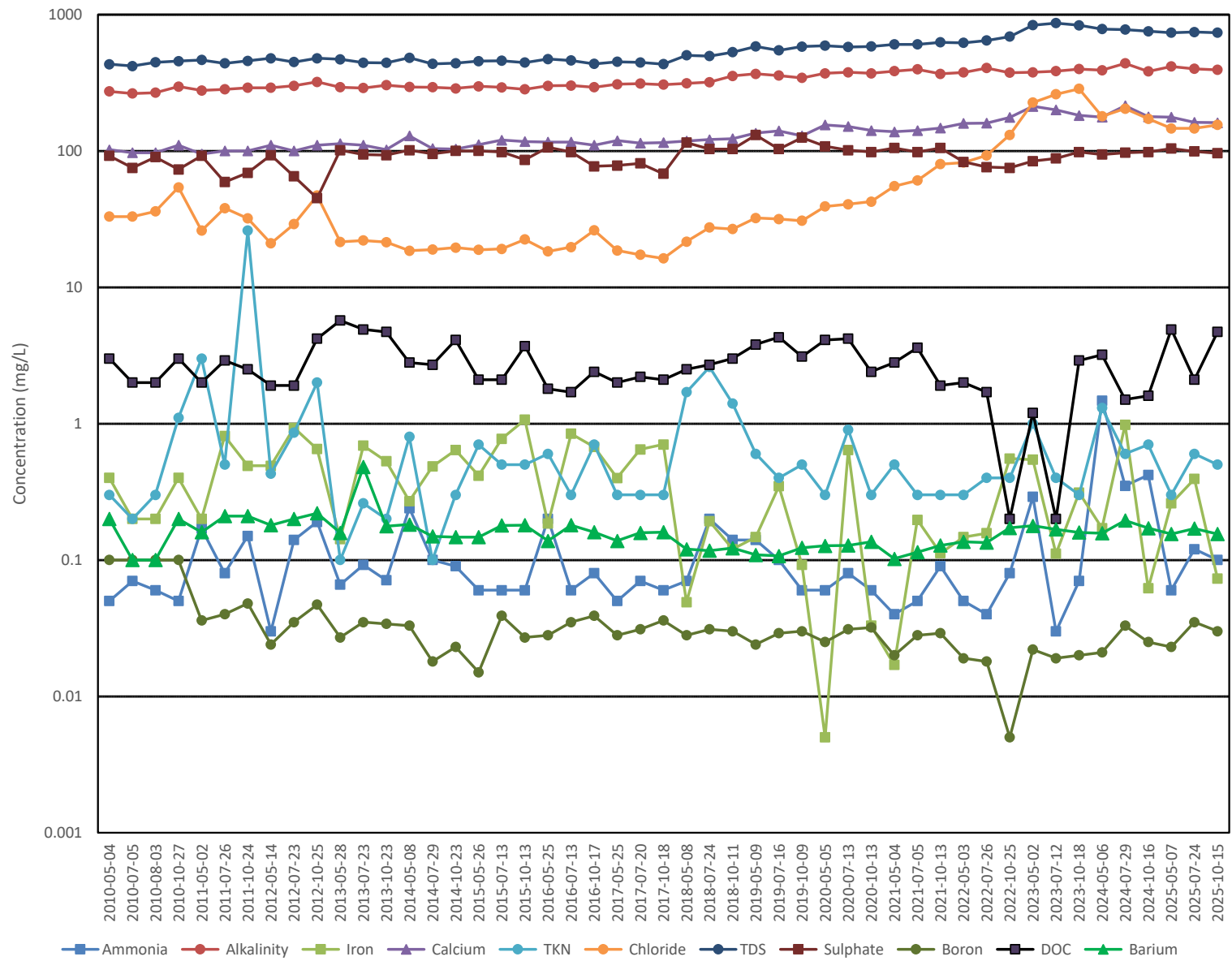
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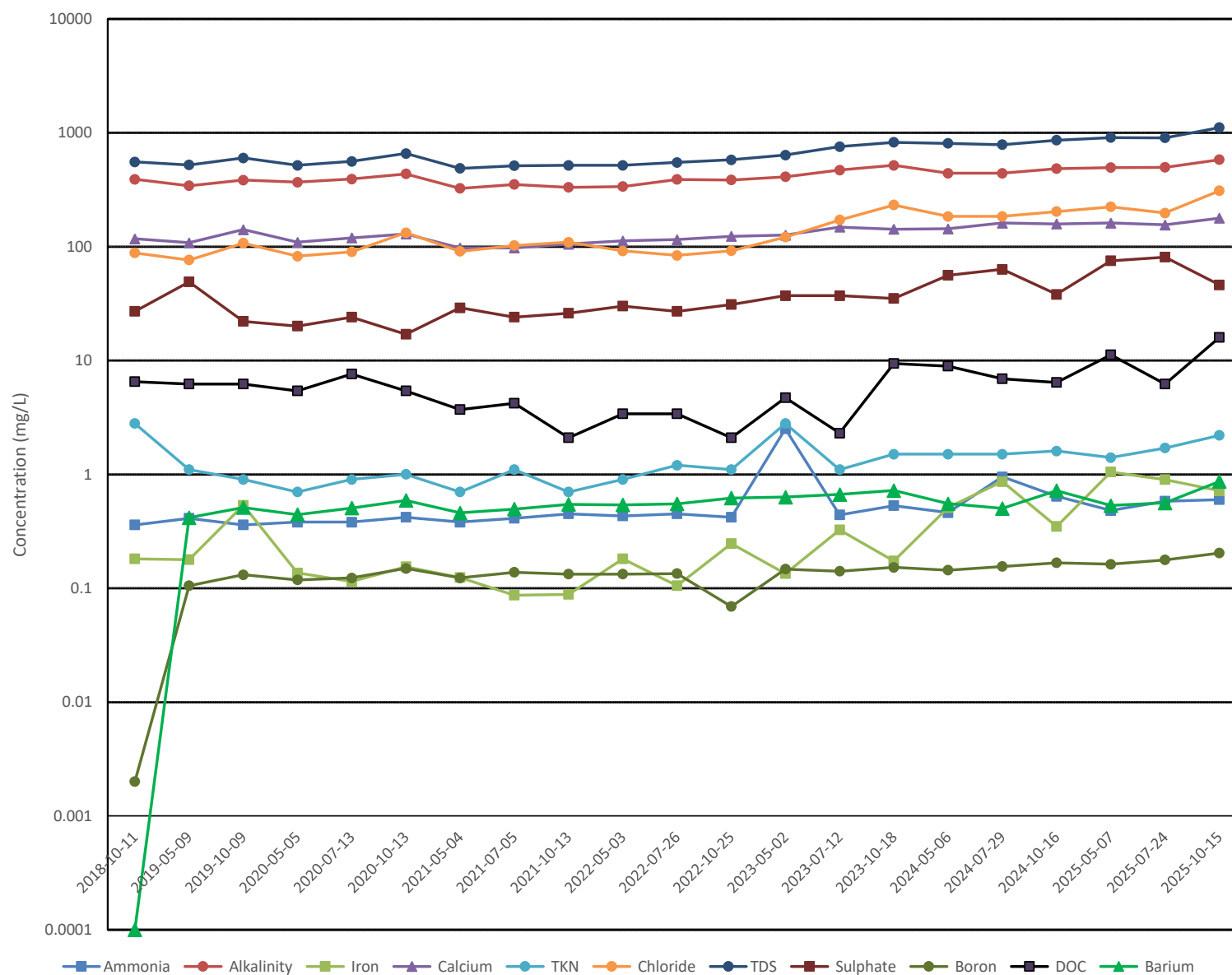
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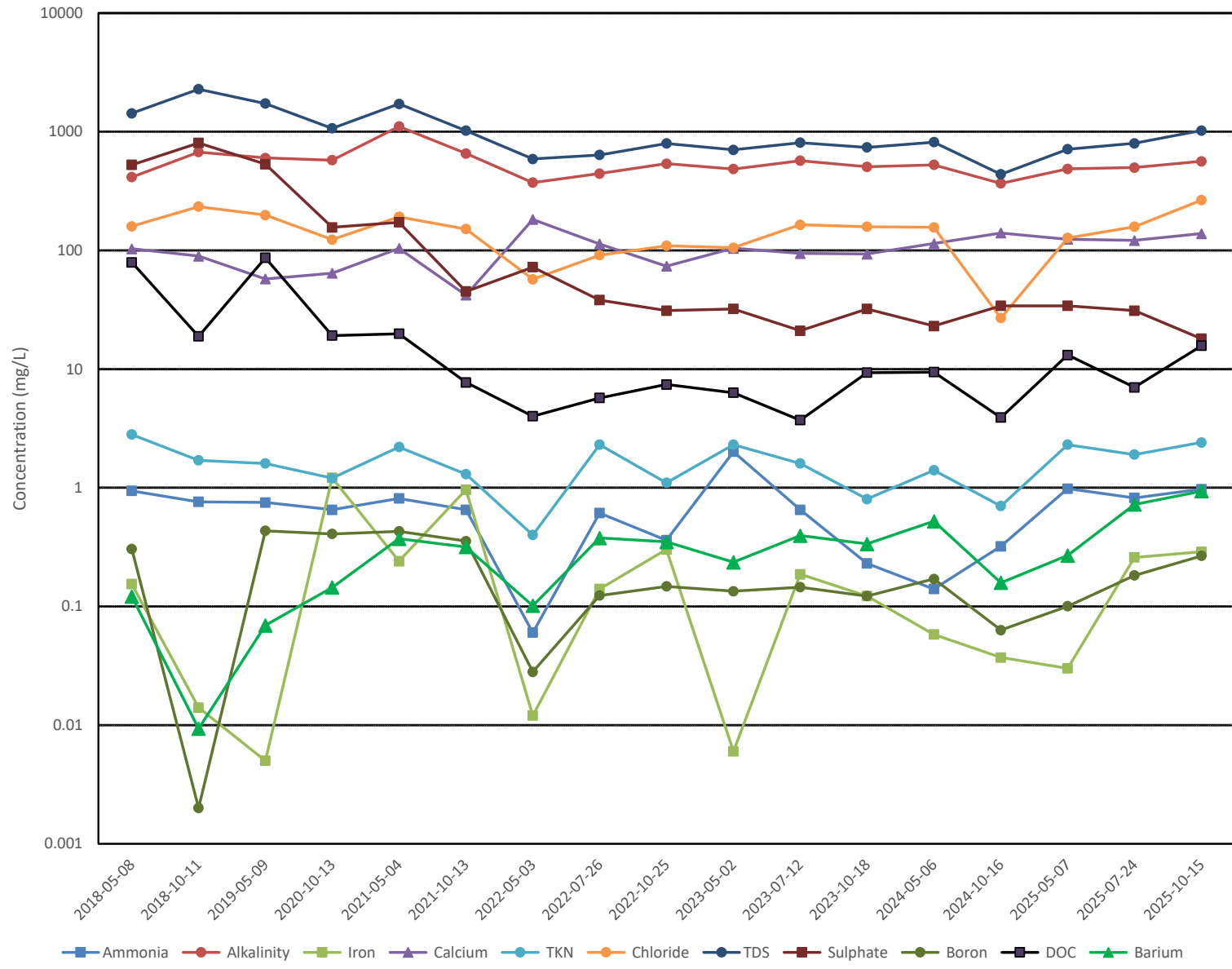
MW61-10-II



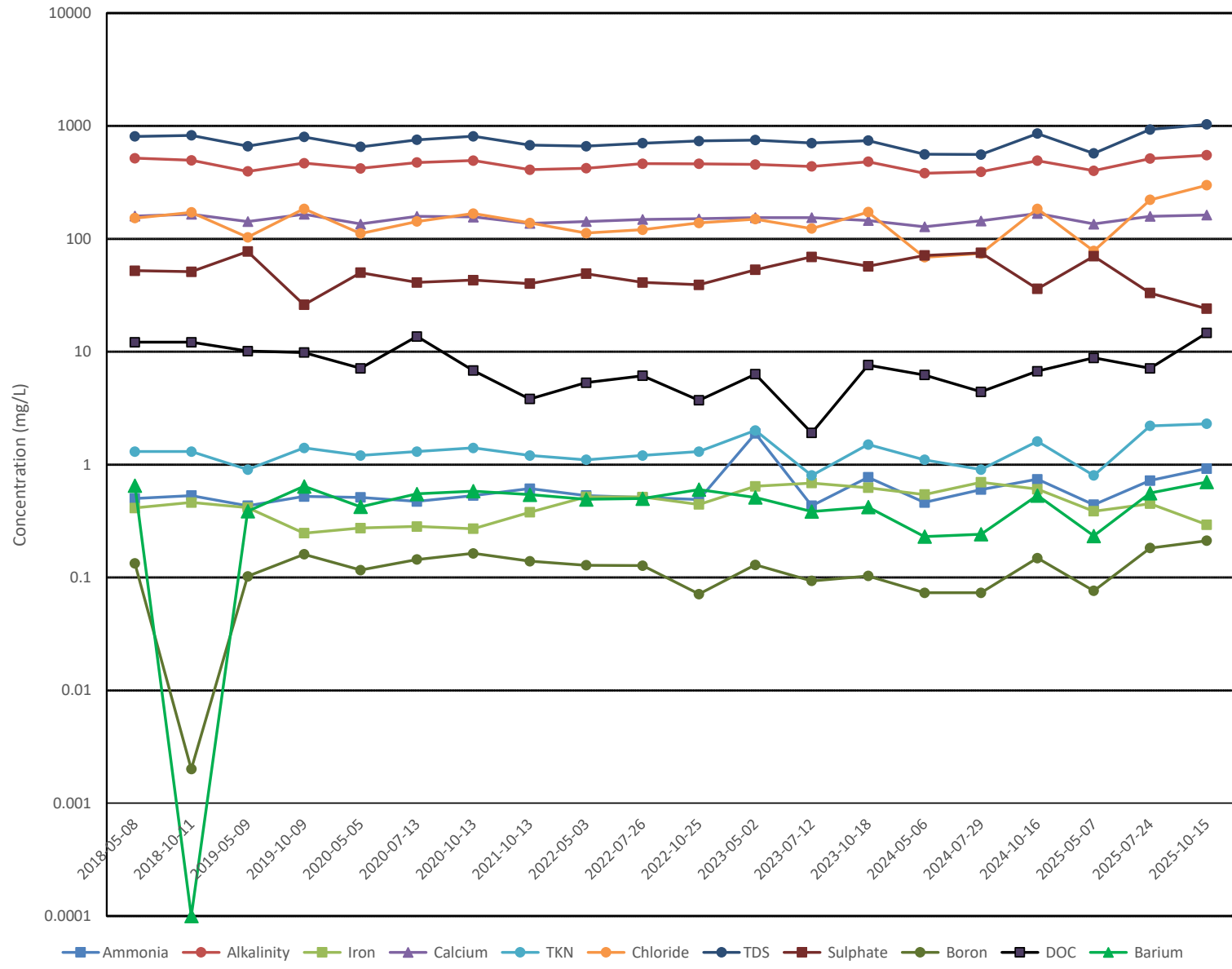
MW61-17-I



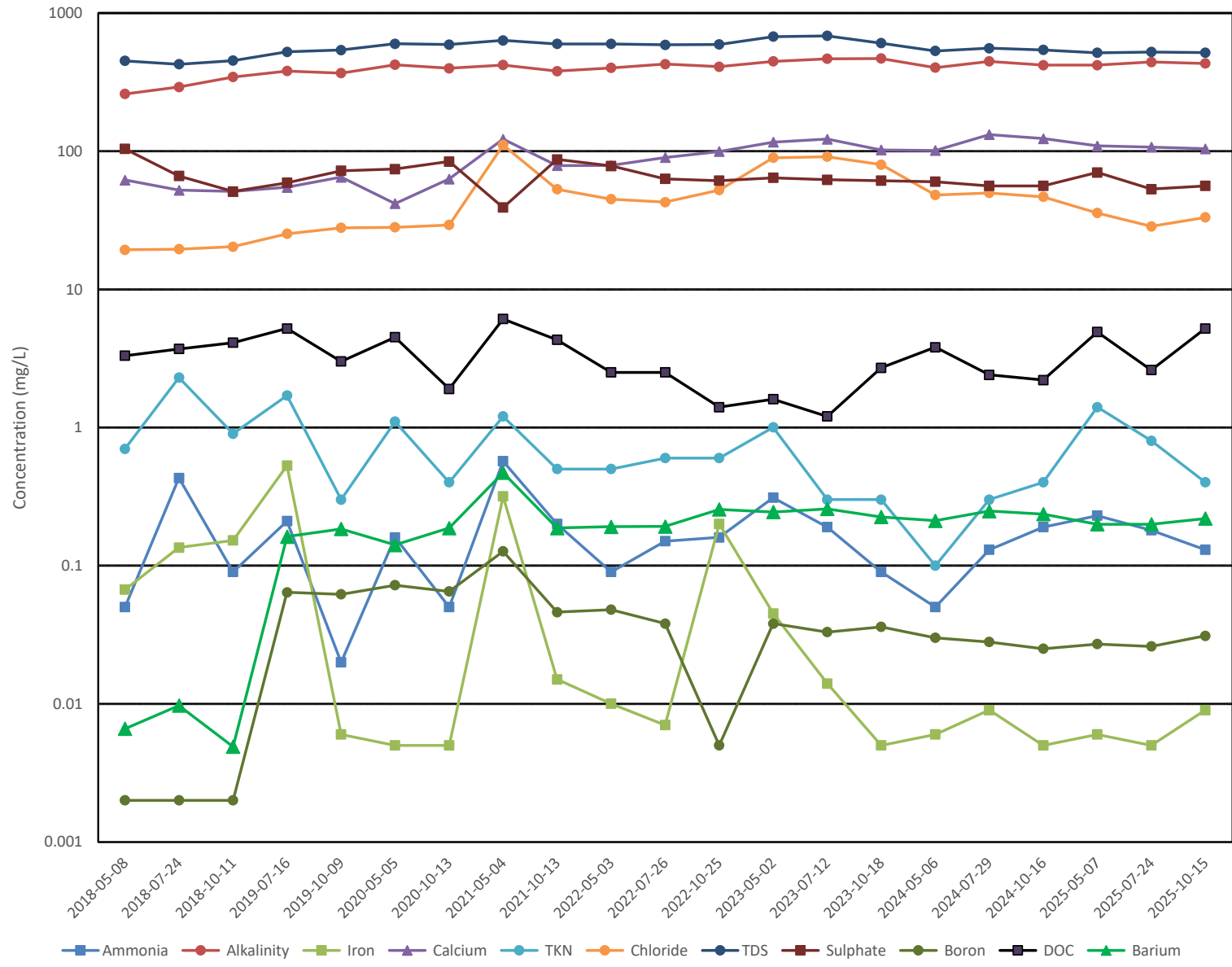
MW62-17-I



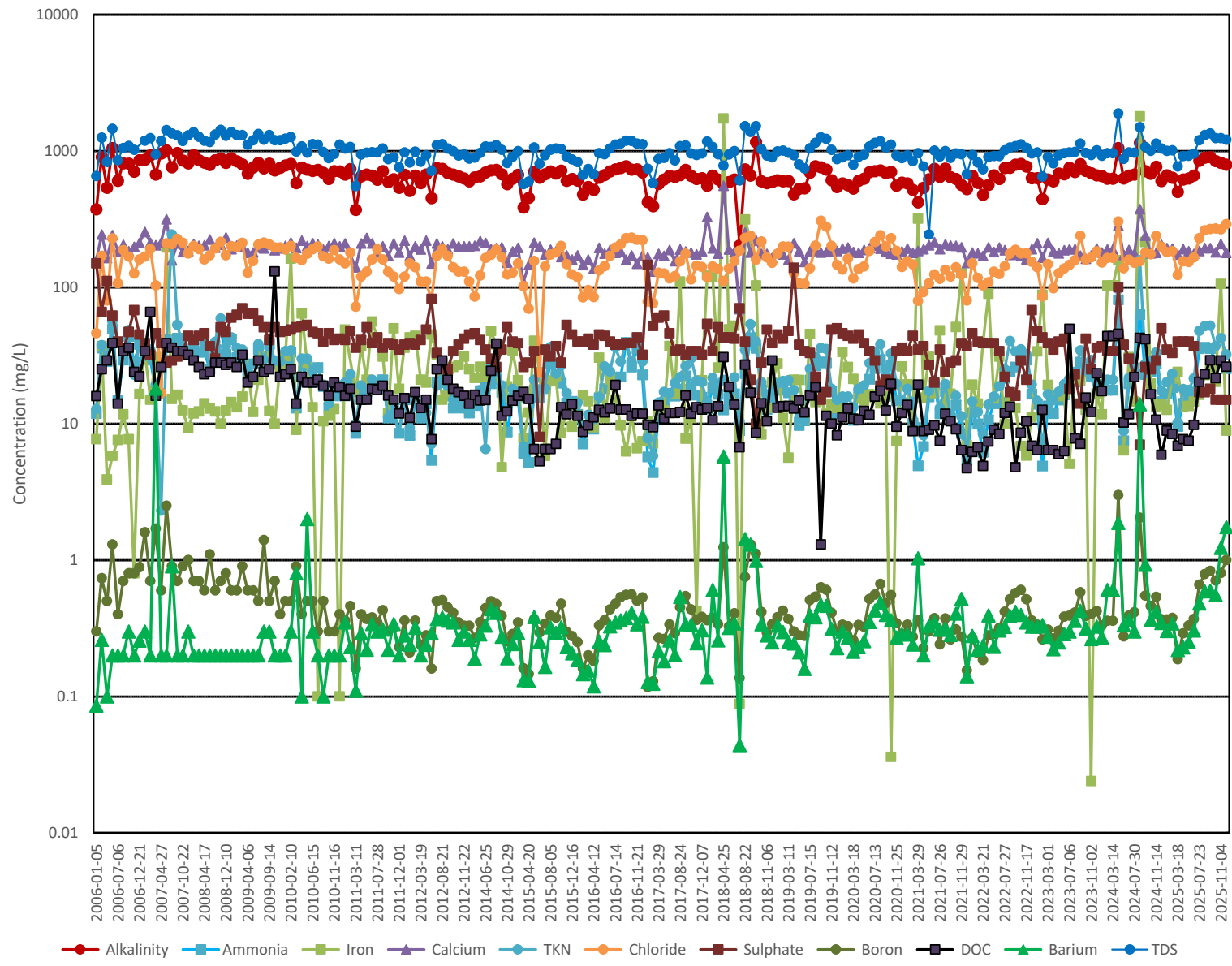
MW62-17-II



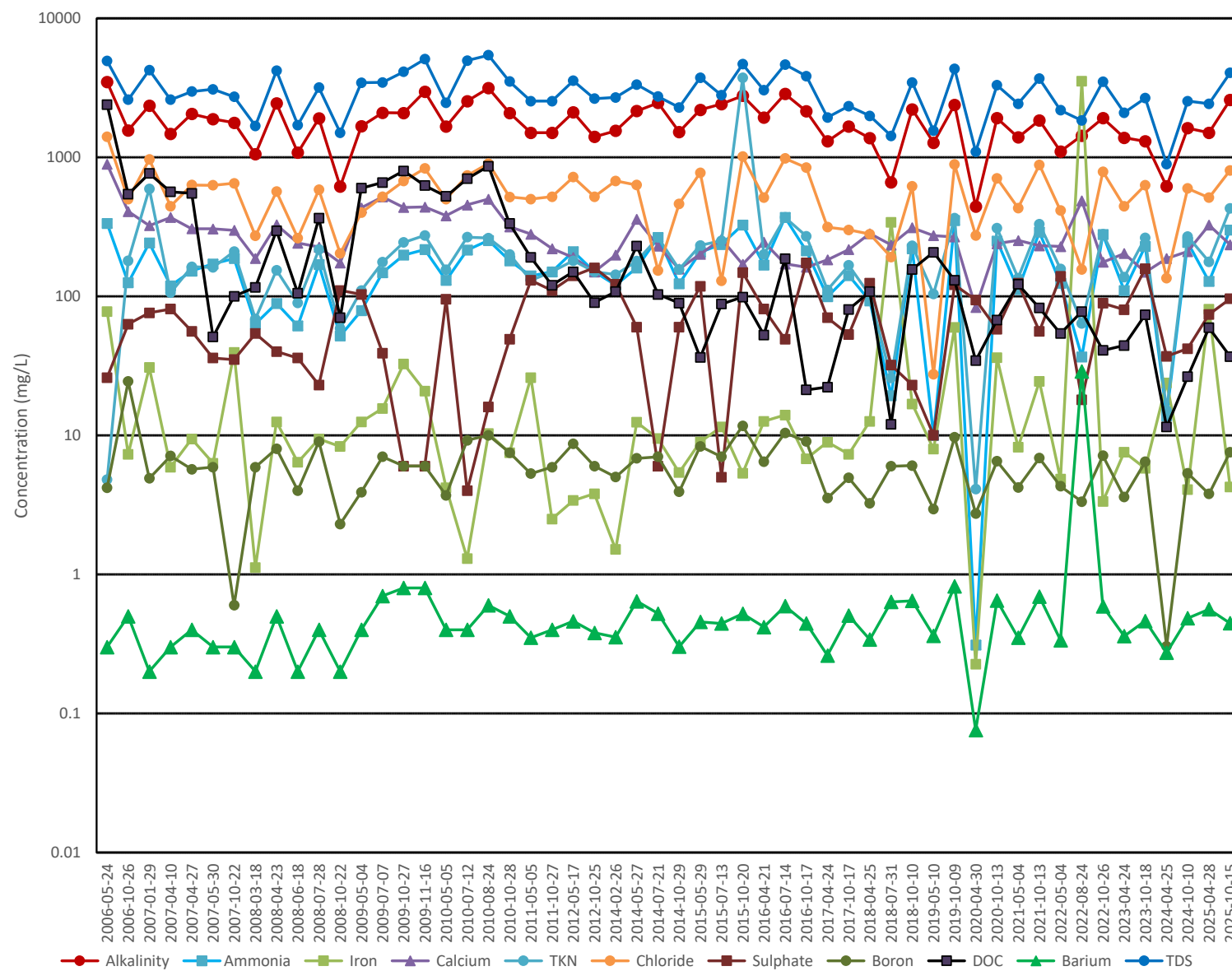
MW62-17-III



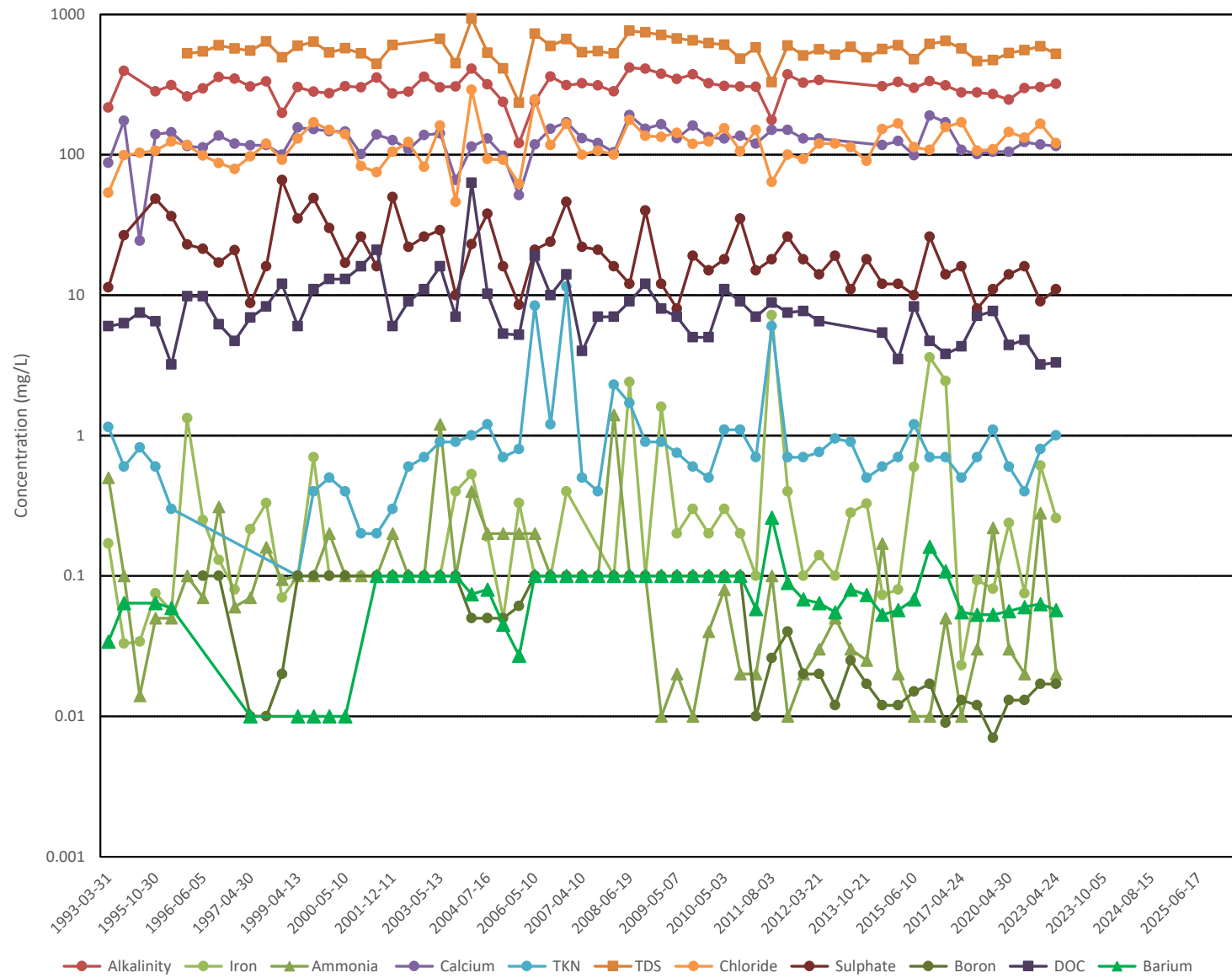
LPC-1



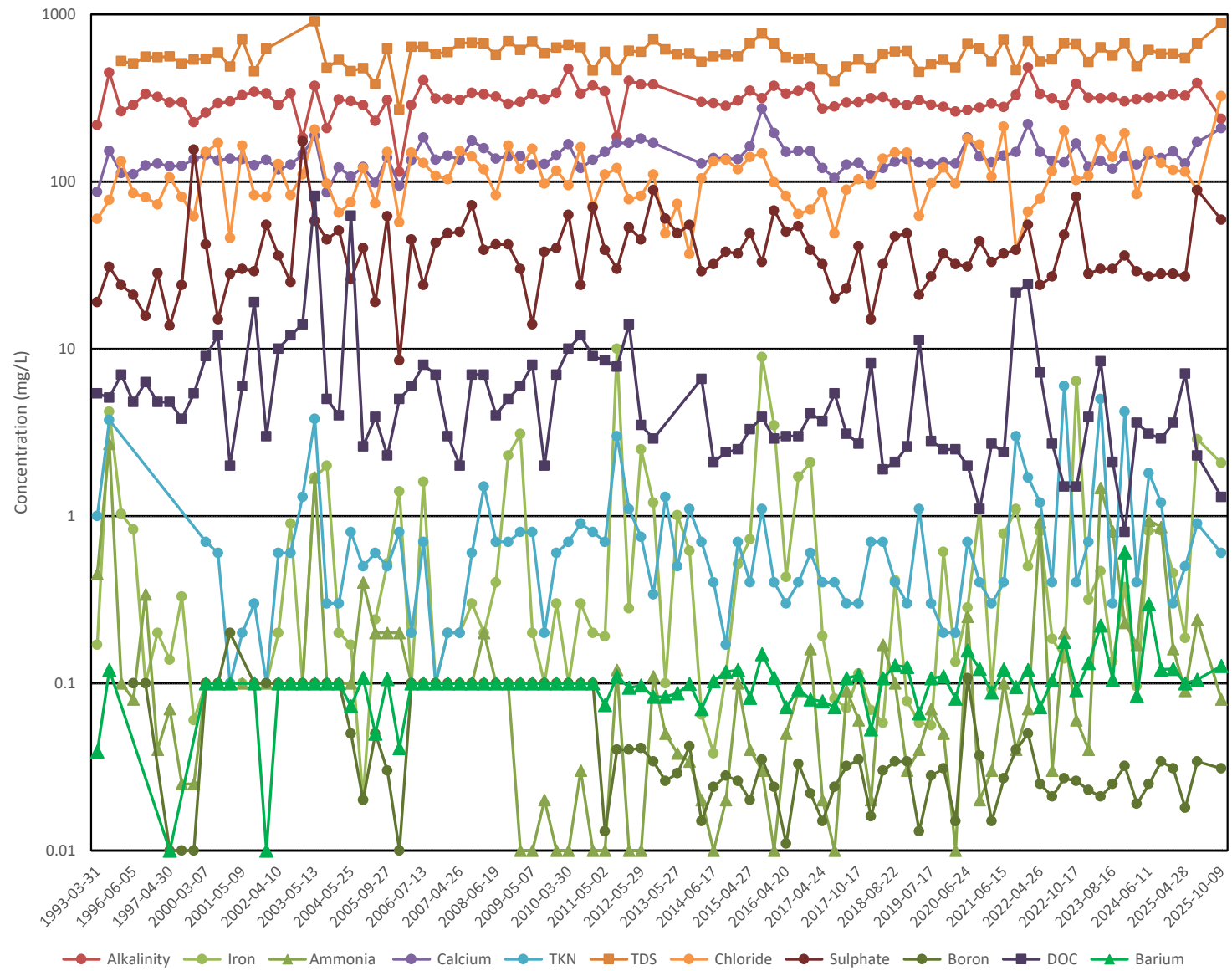
LPC-2



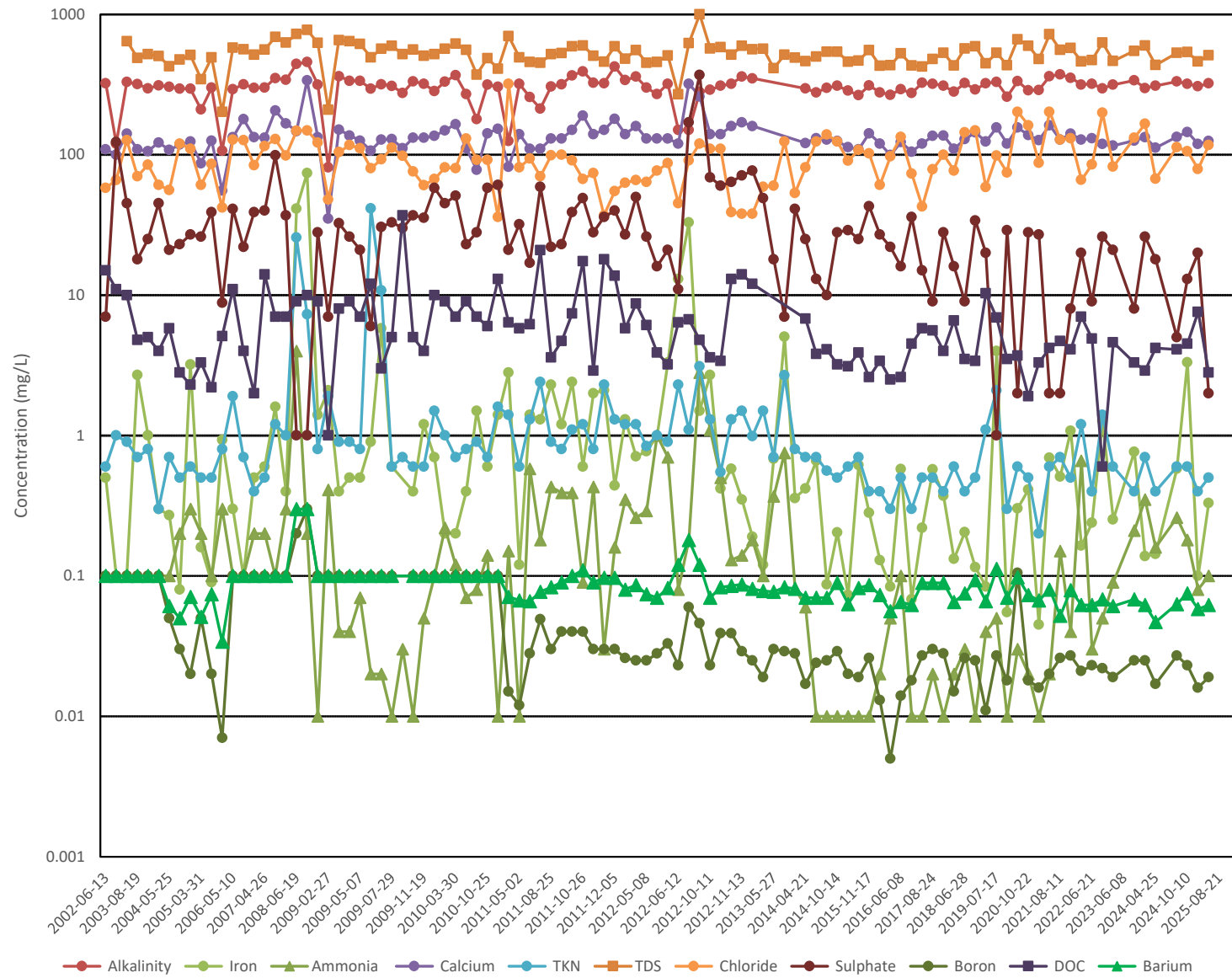
SW1



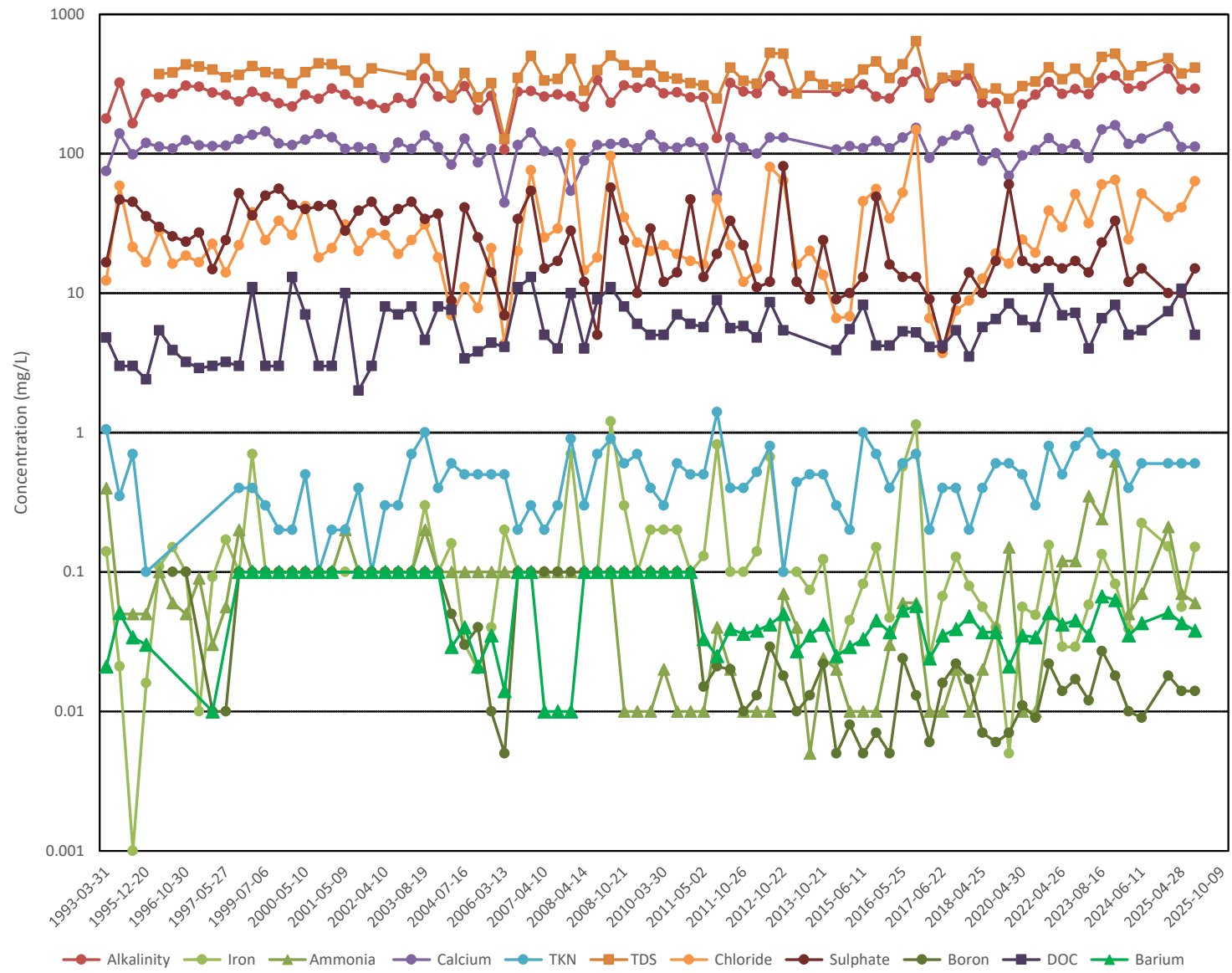
SW2



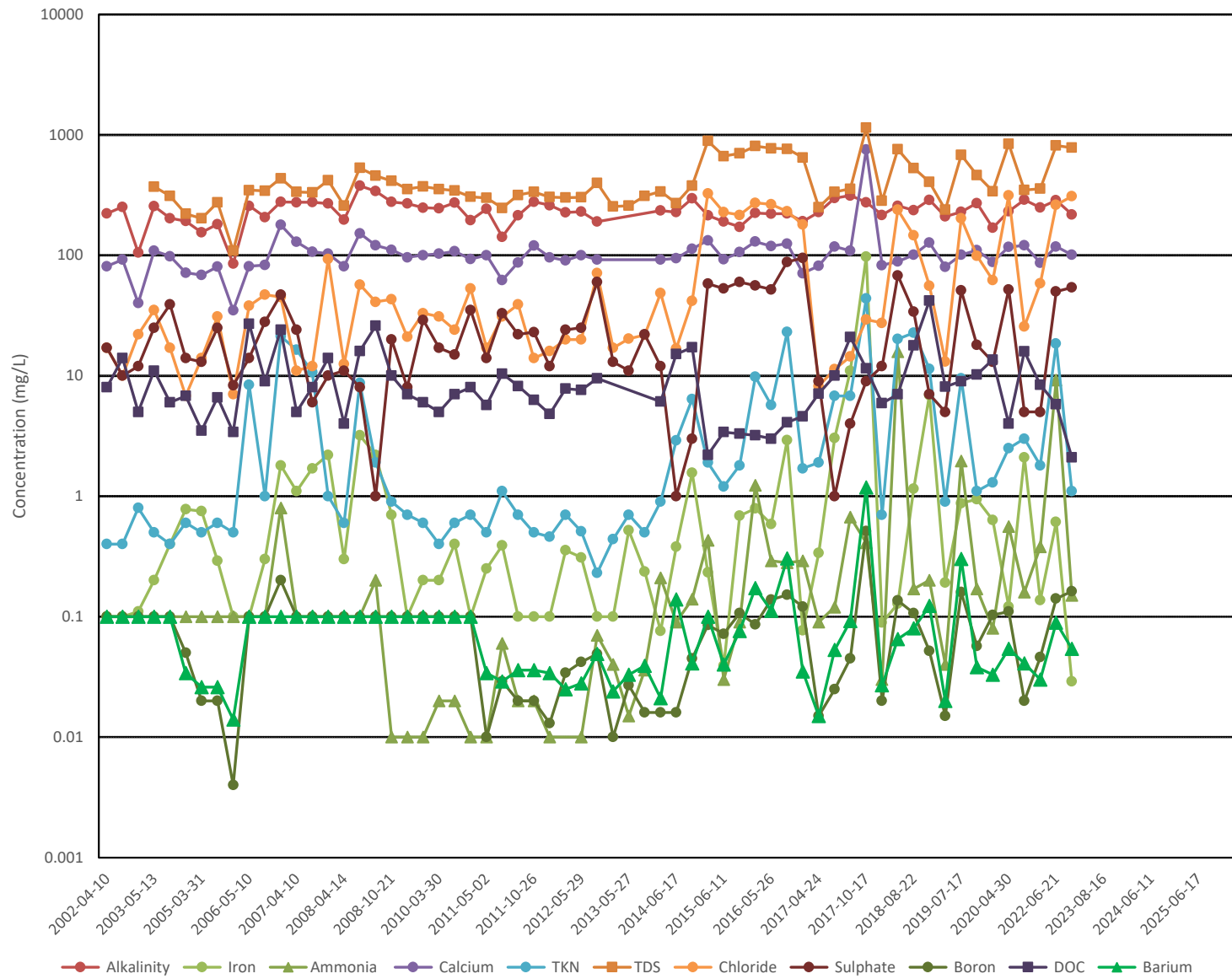
SW3



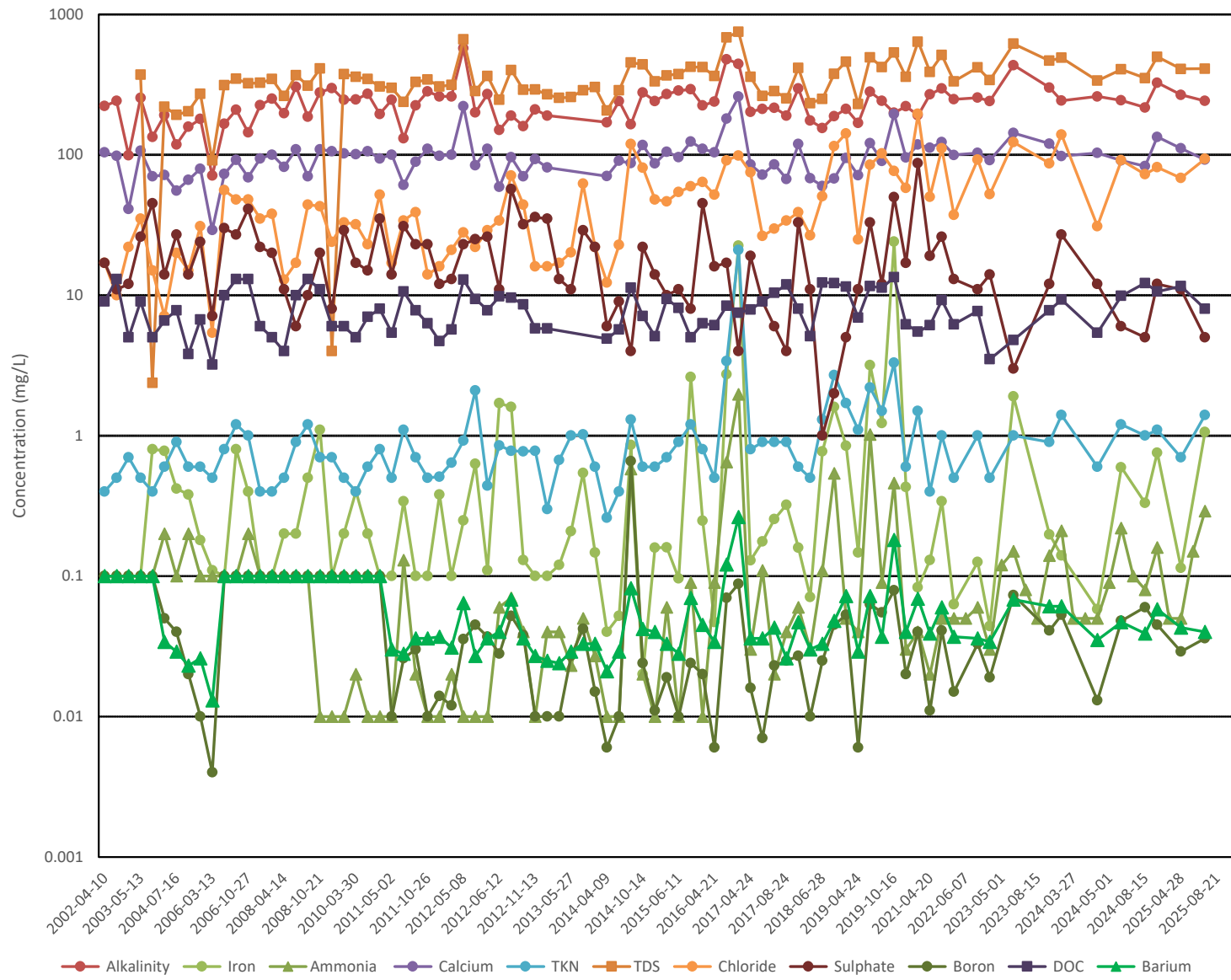
SW4



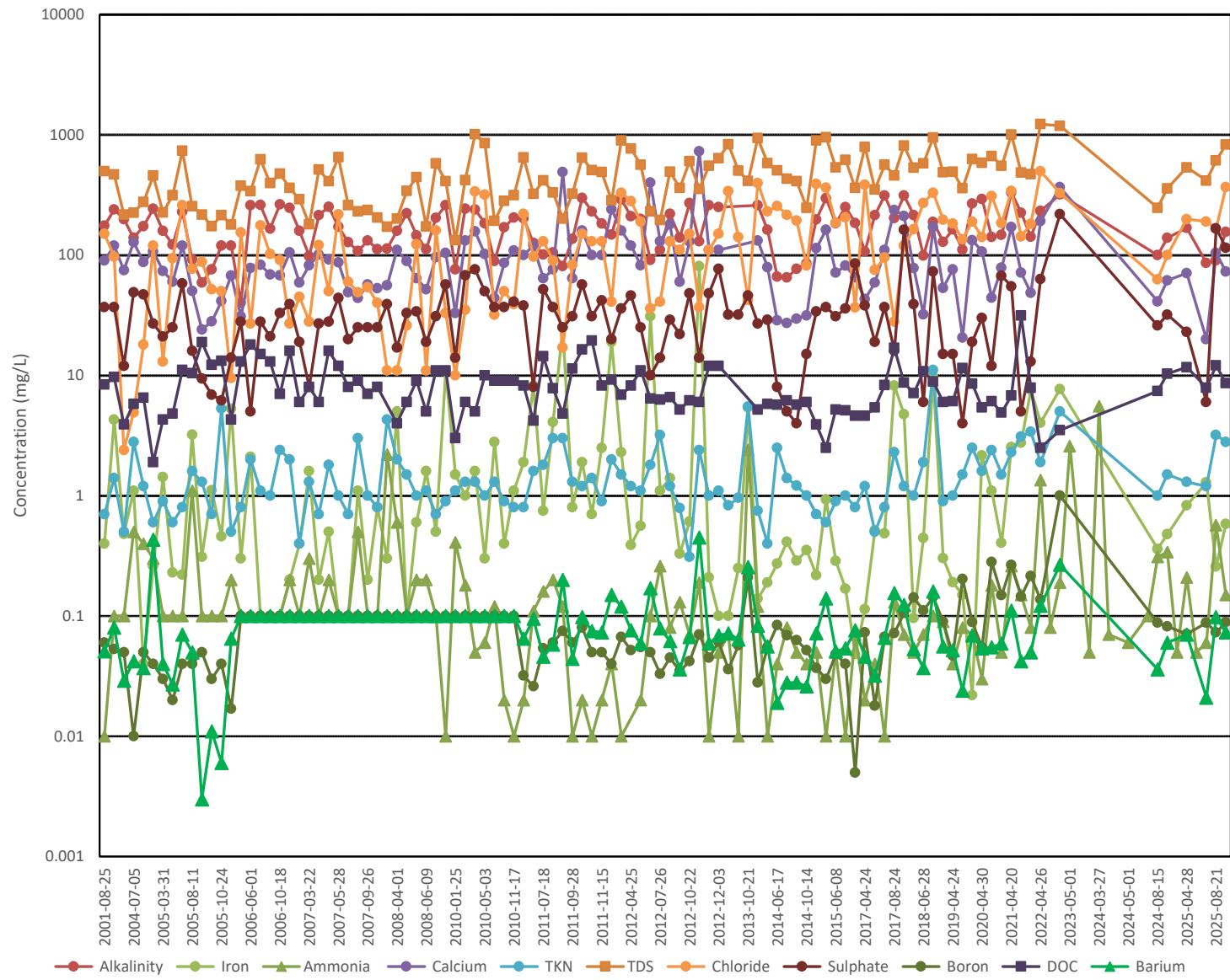
SW13



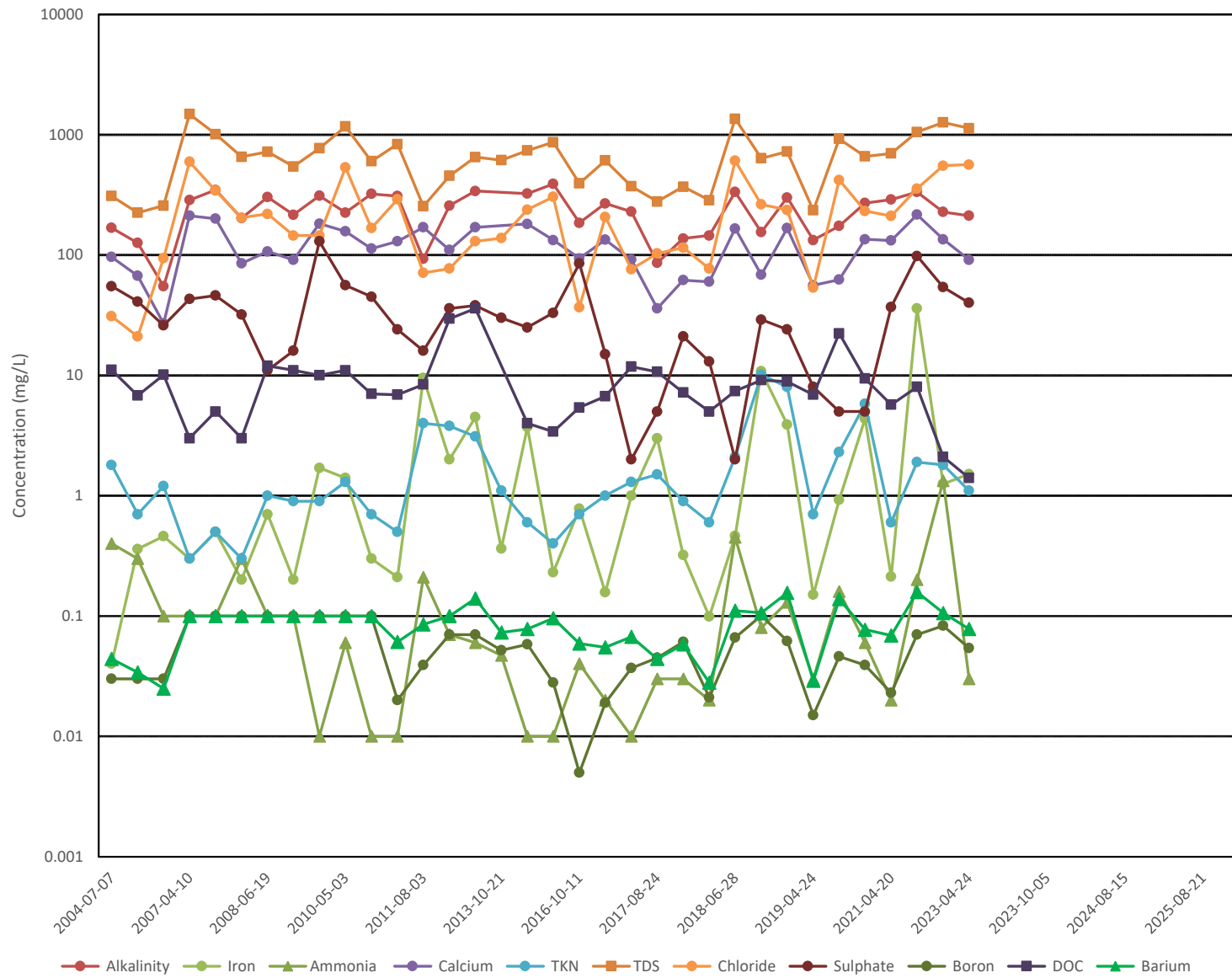
SW14



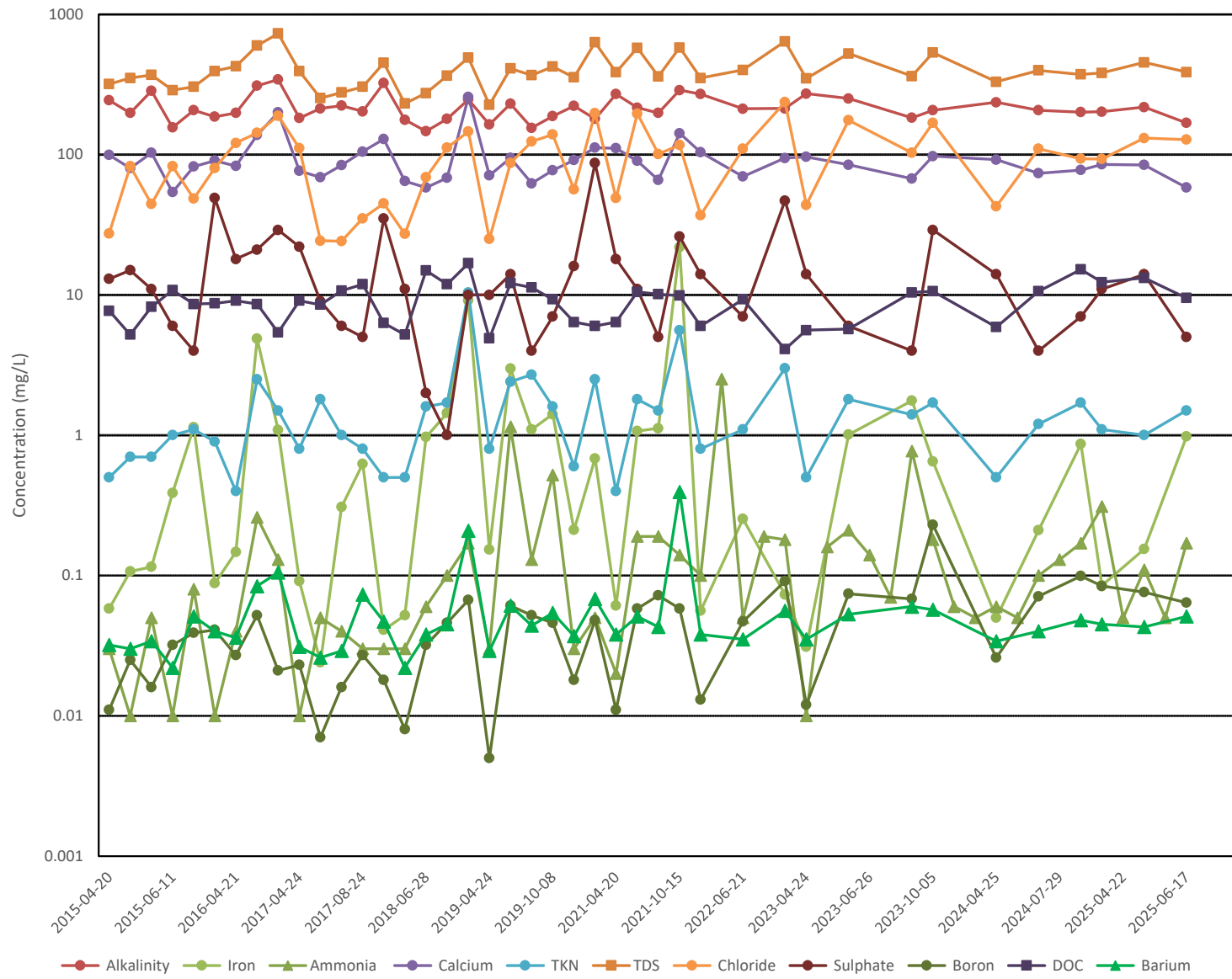
SW15



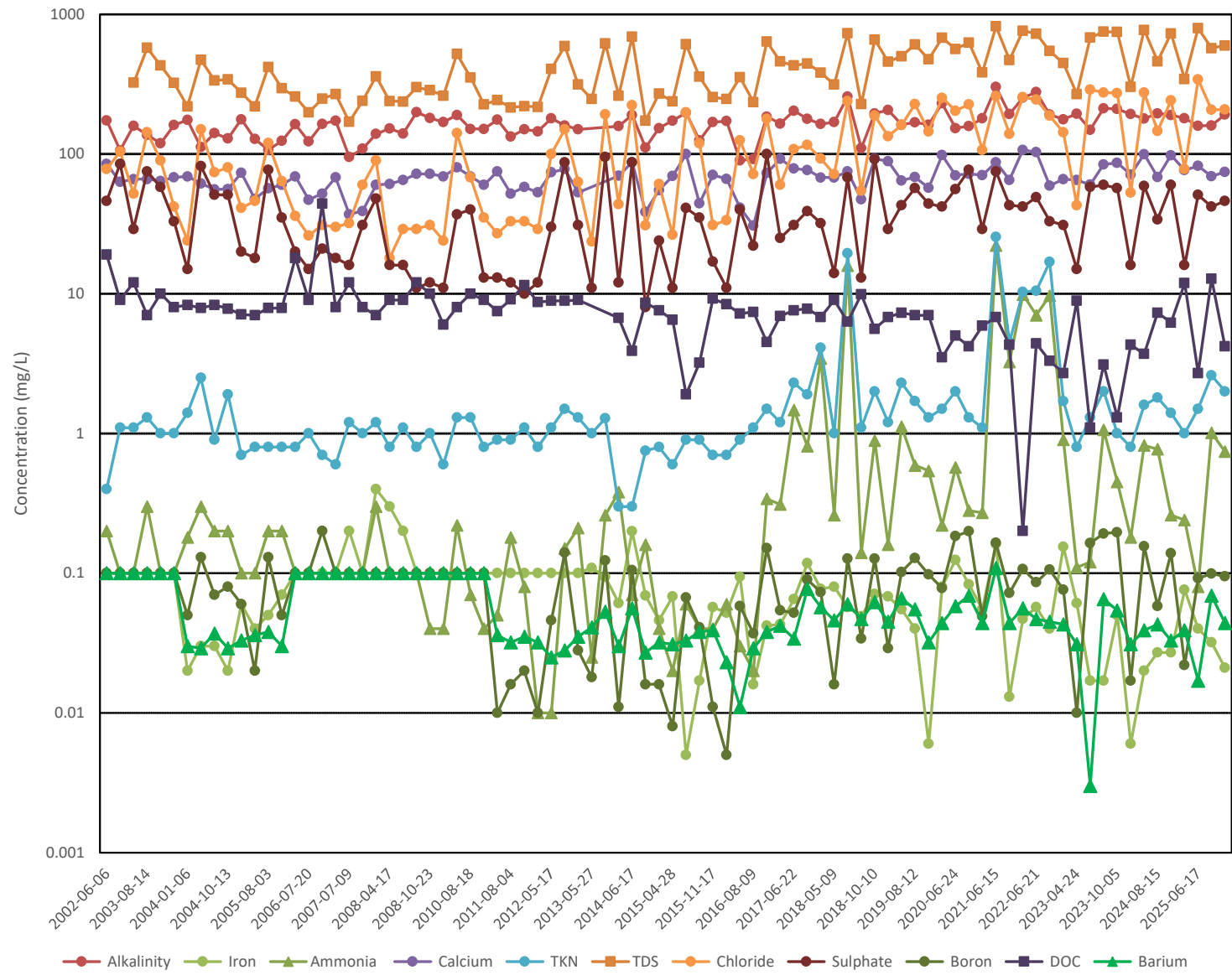
SW16



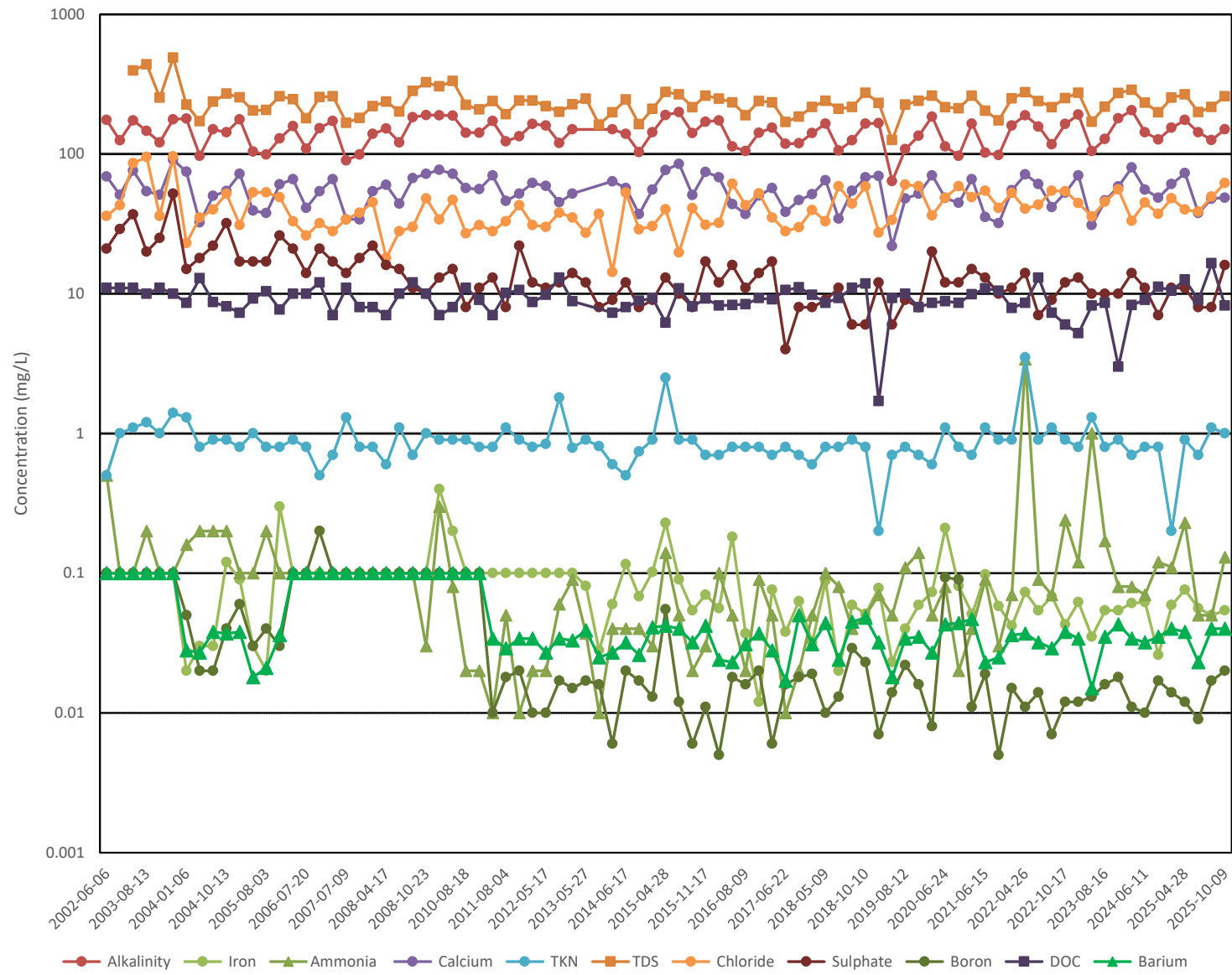
SW18



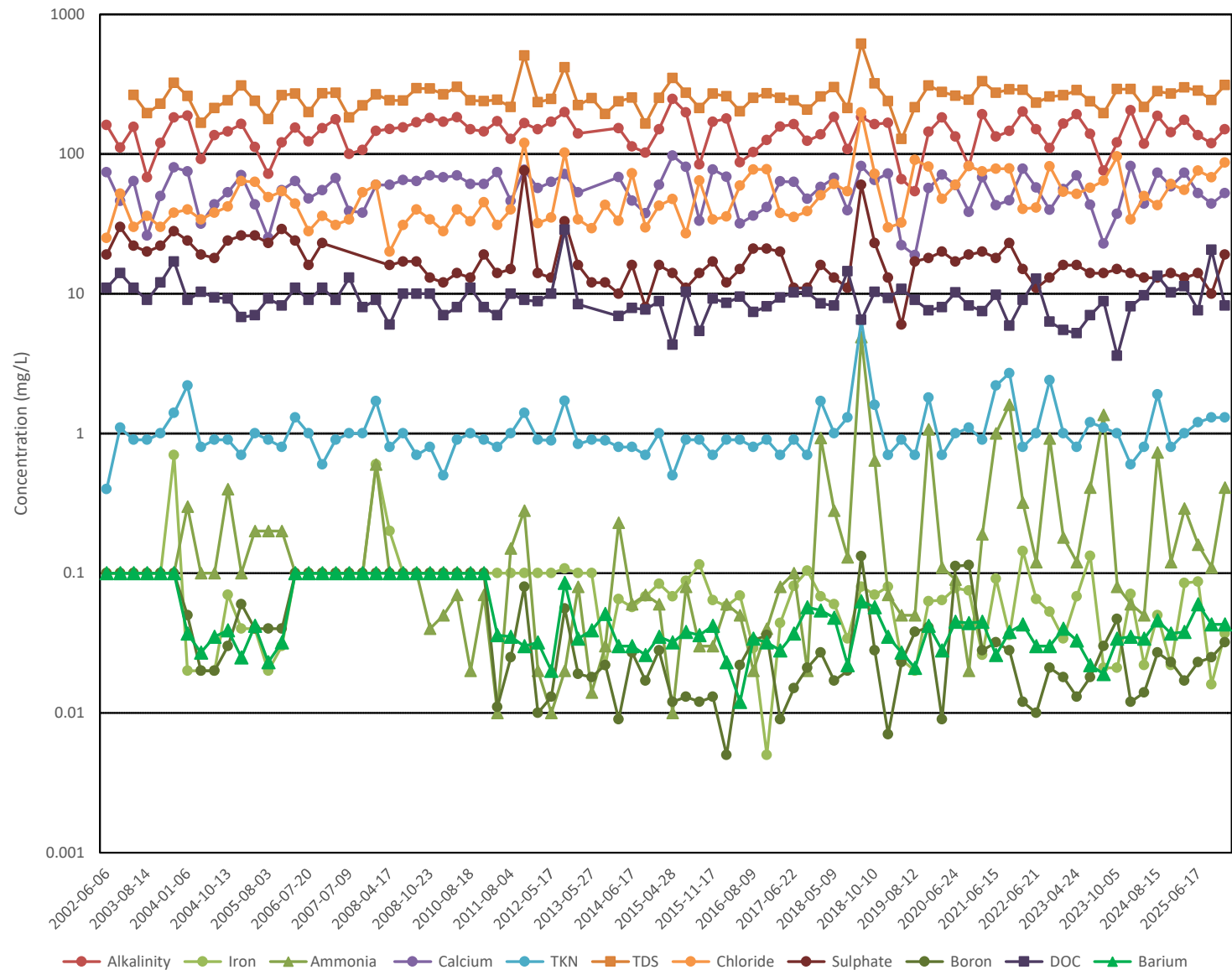
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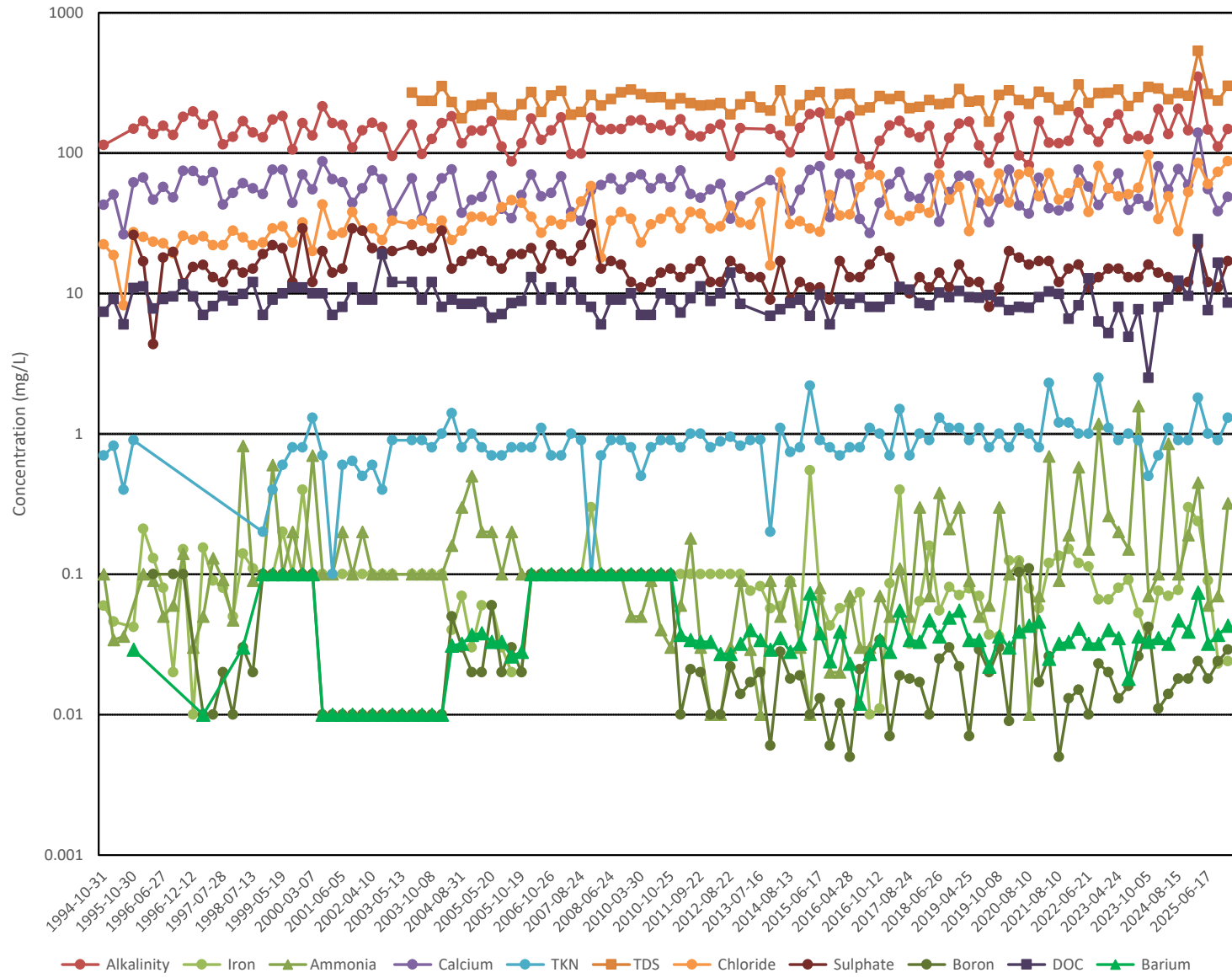
Emb B



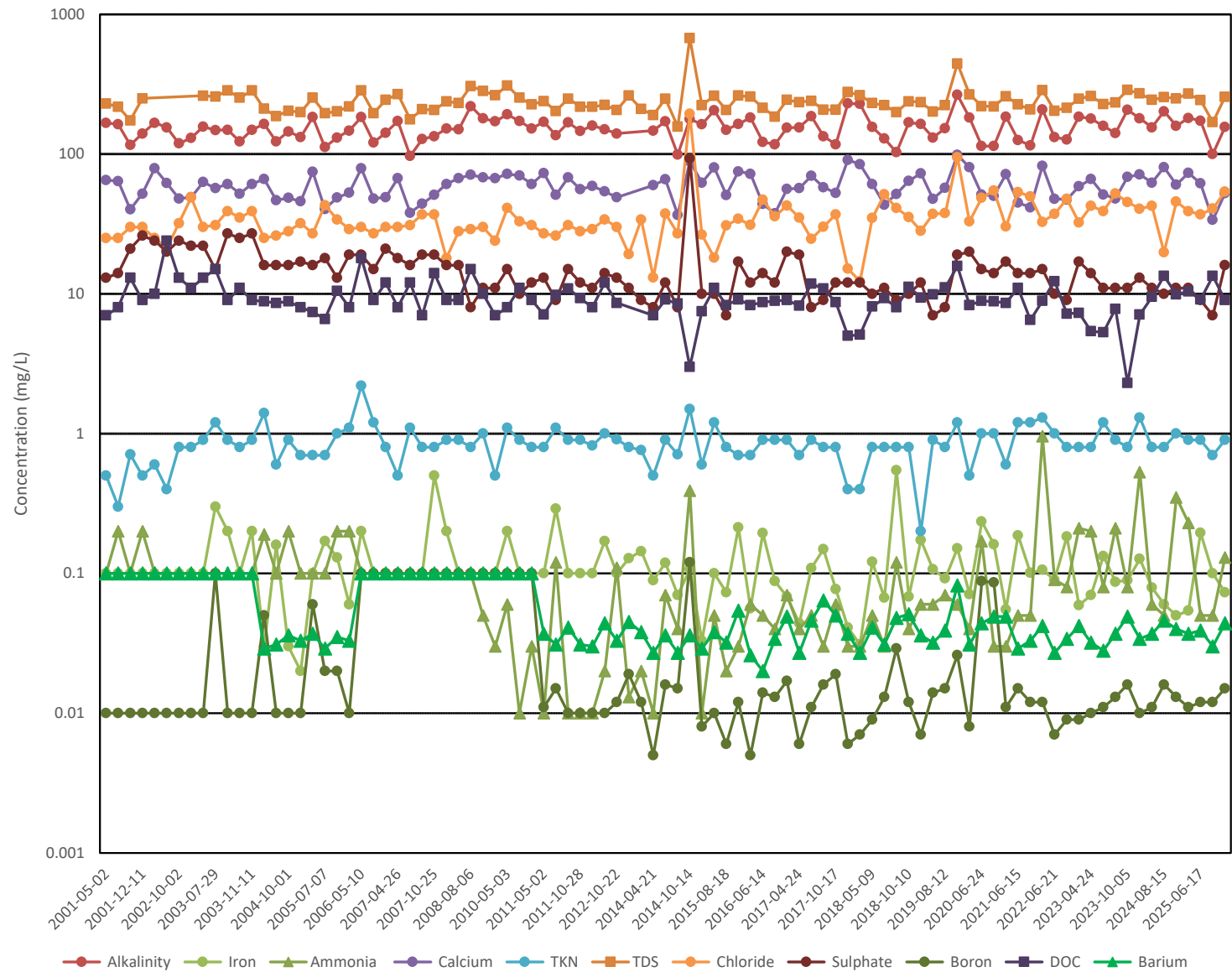
Emb C



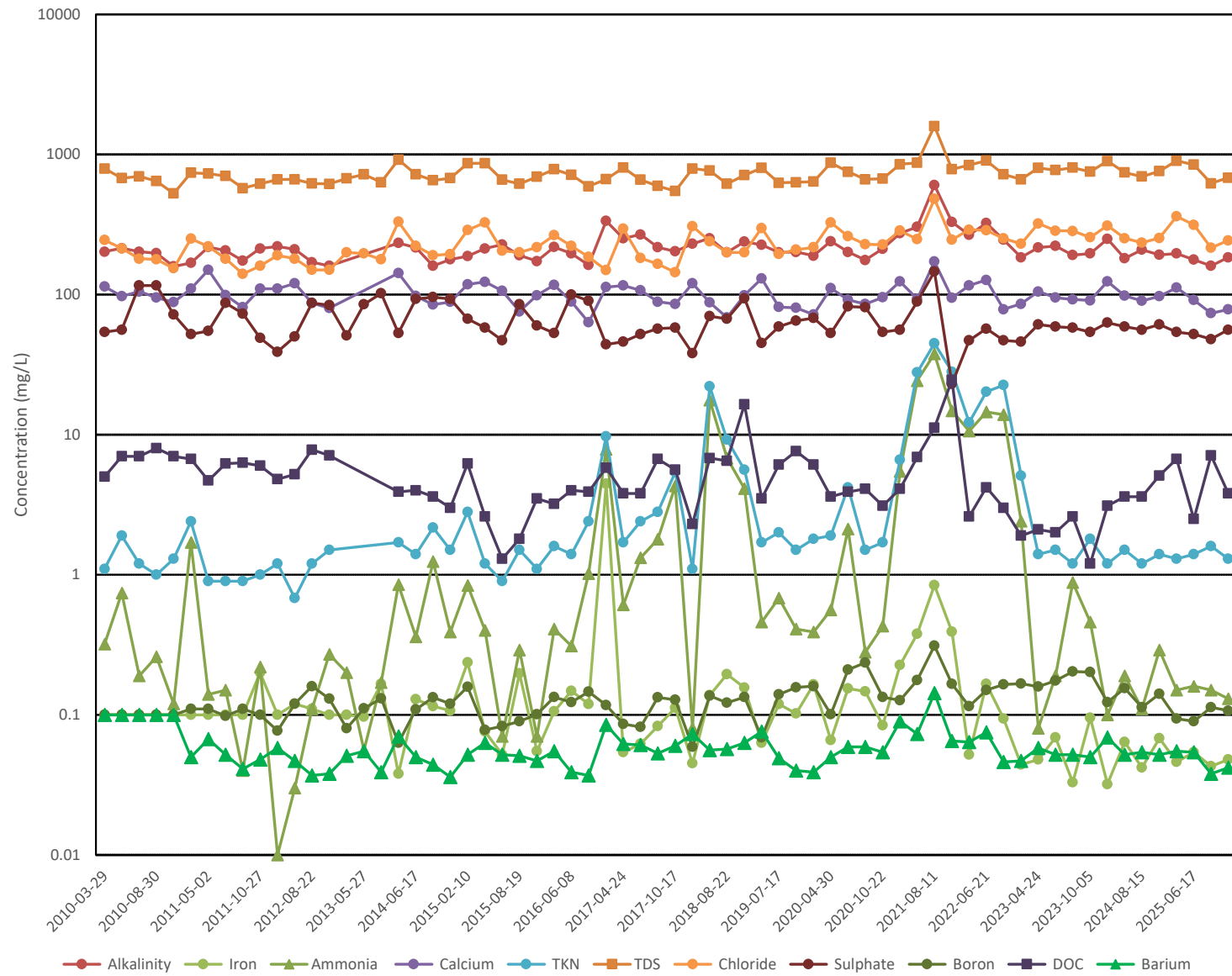
Scg- Down



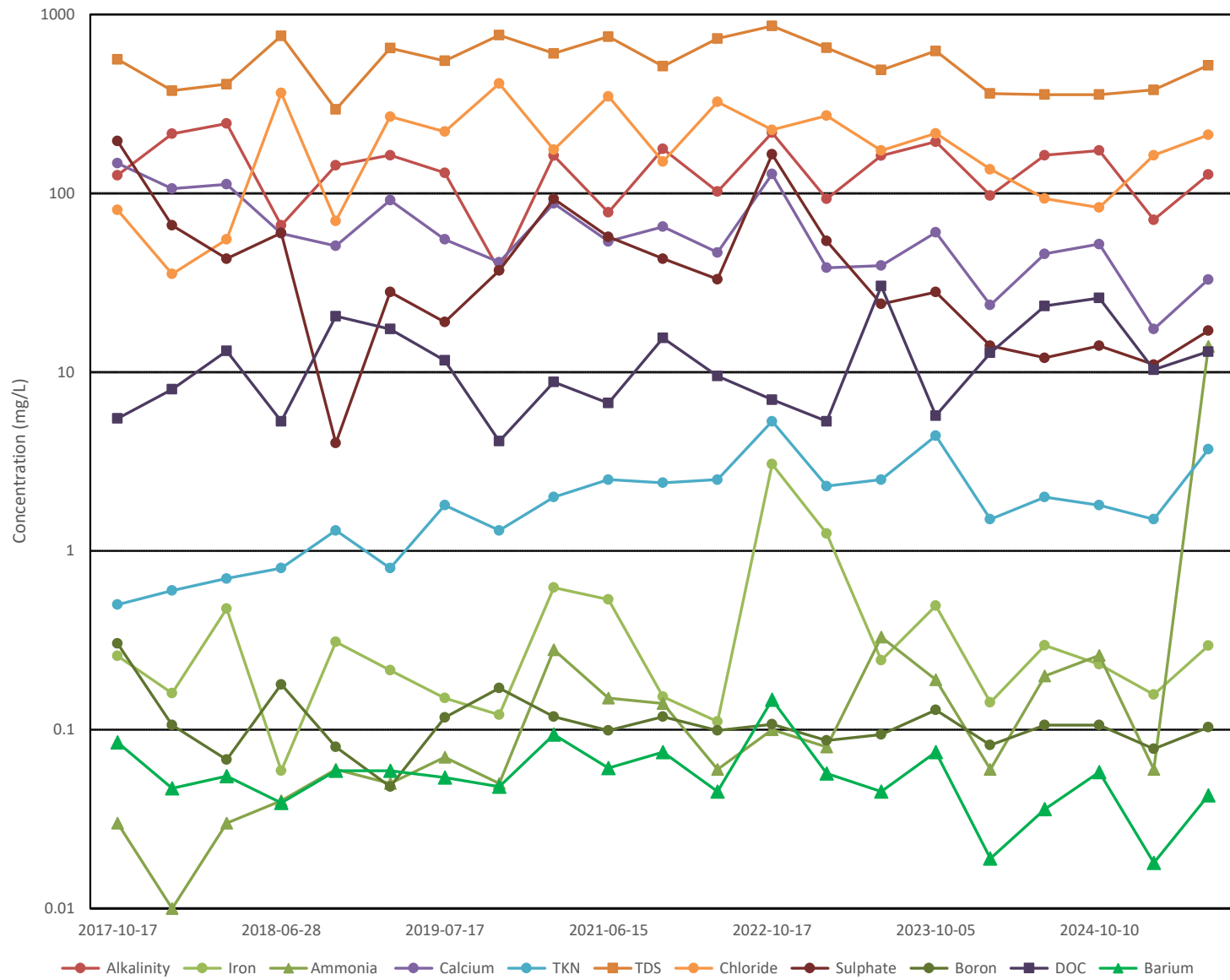
Scg- Up



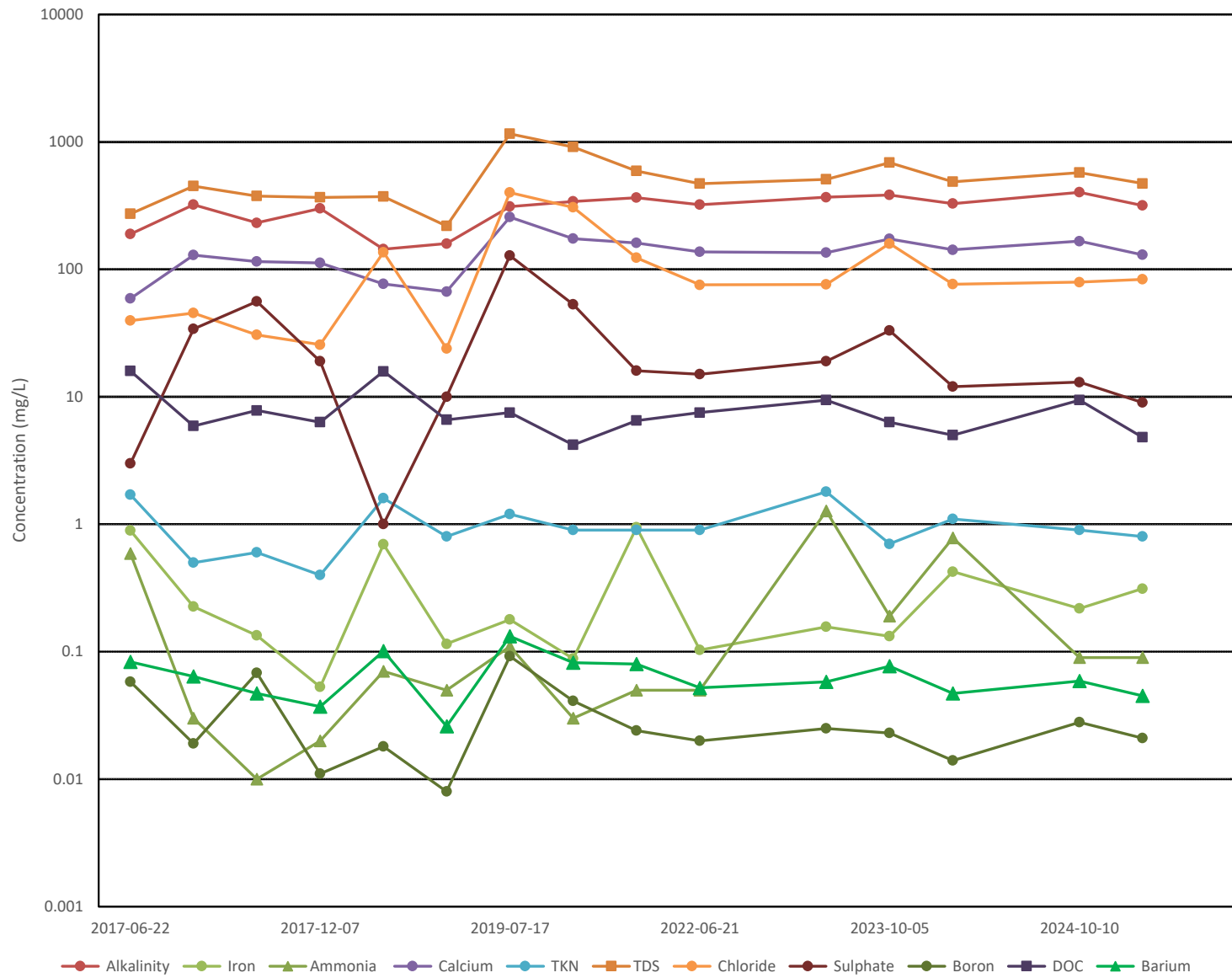
WPCP - Eff



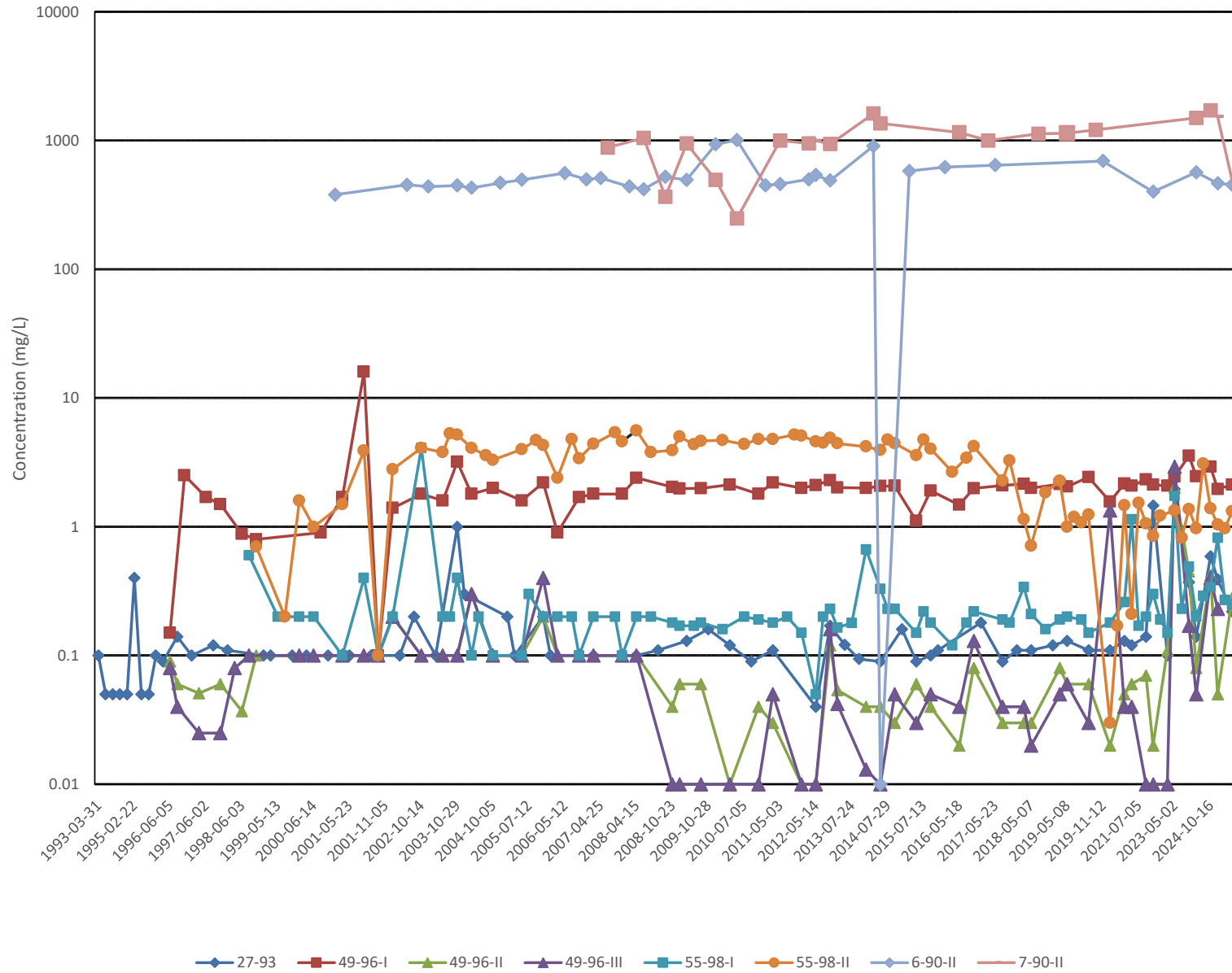
CP1



CP2



Ammonia Concentrations Over Time



Chloride Concentrations Over Time

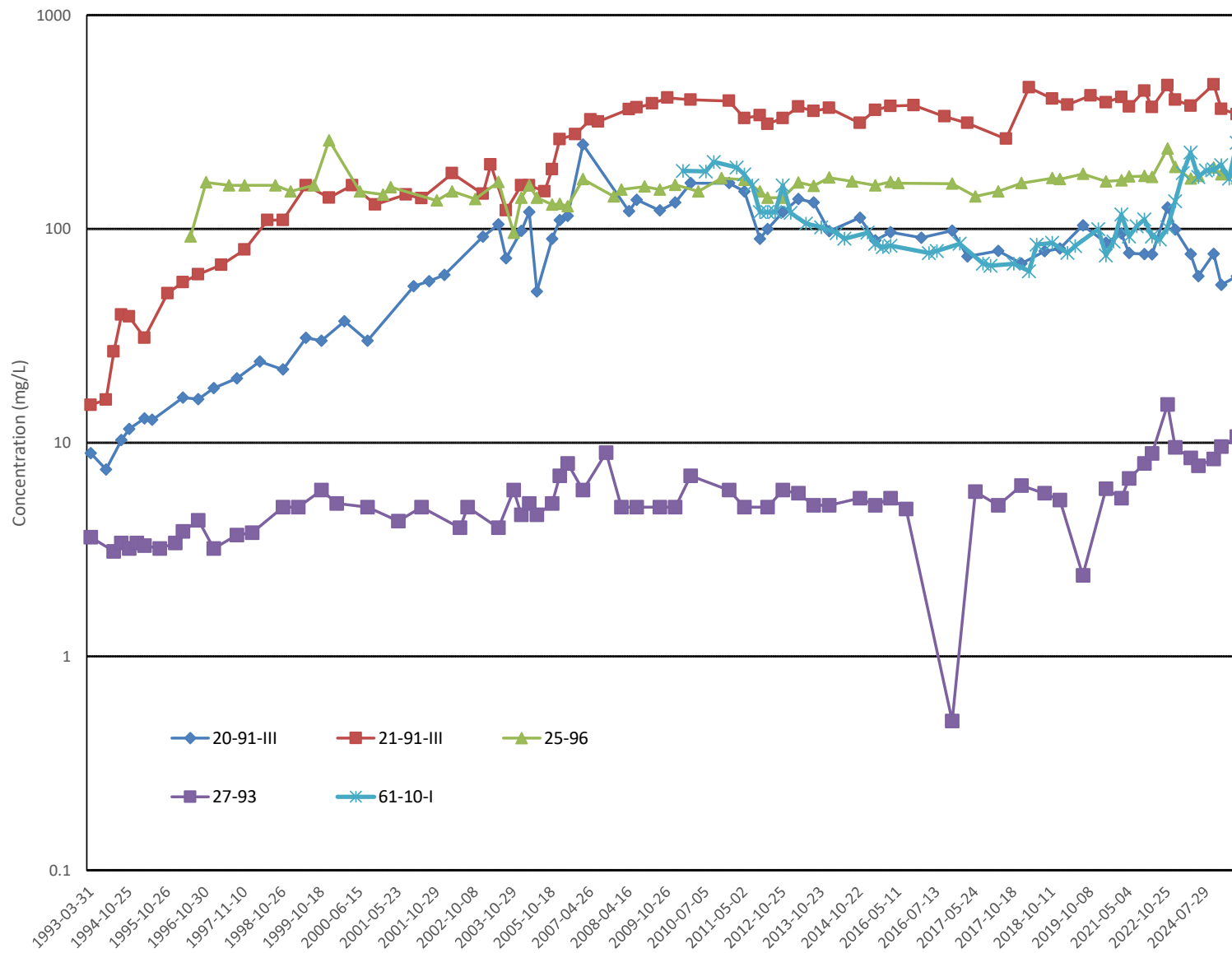
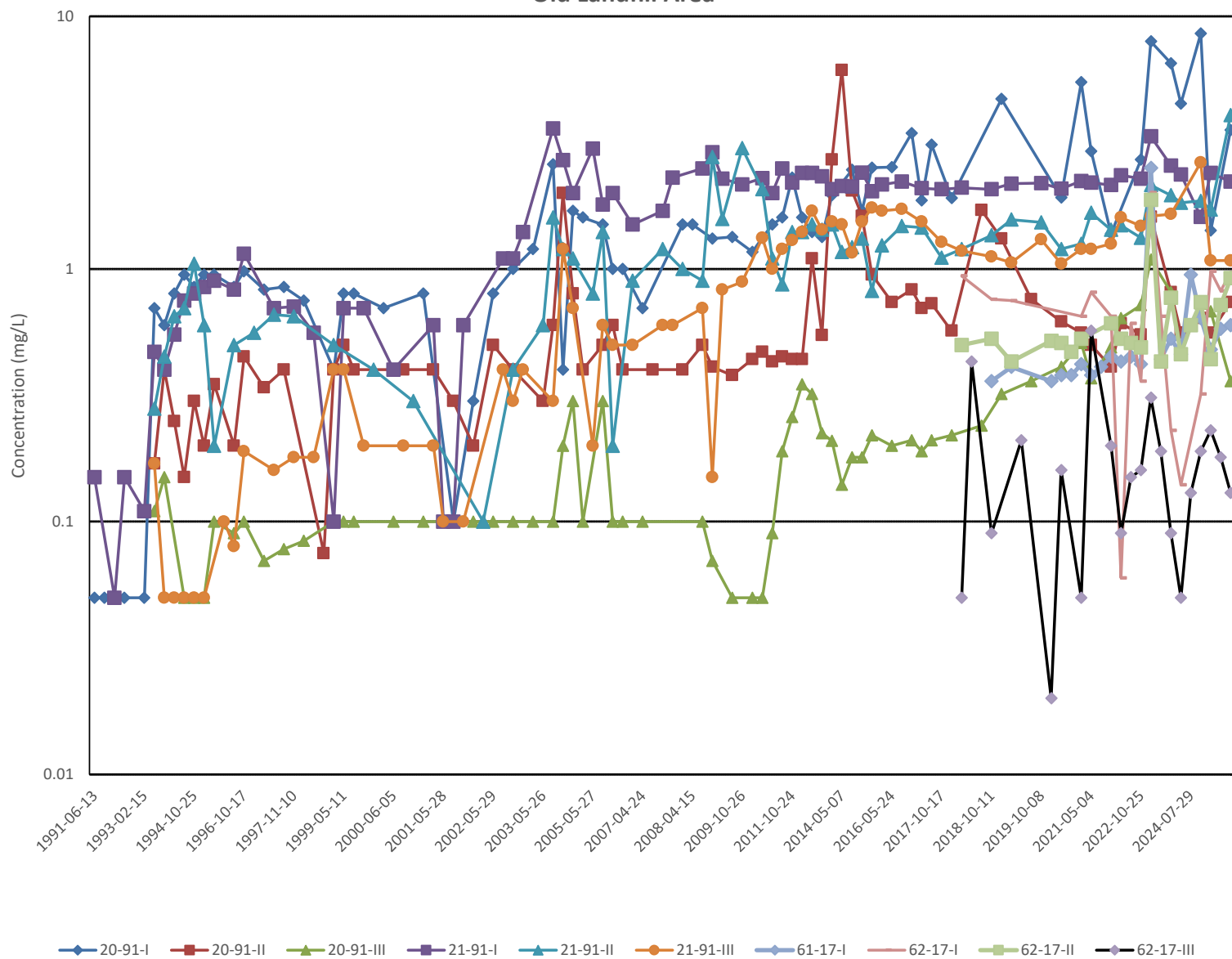
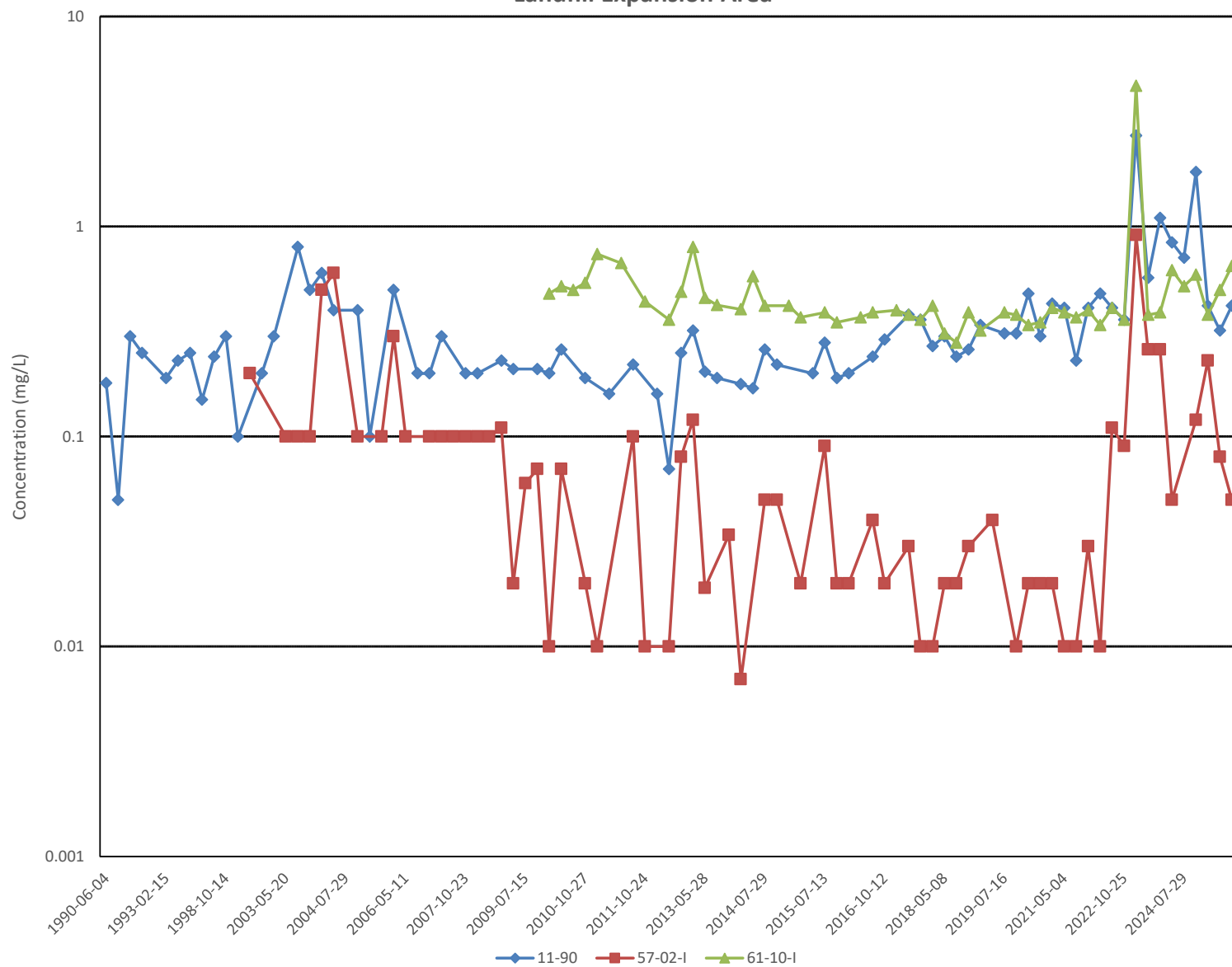


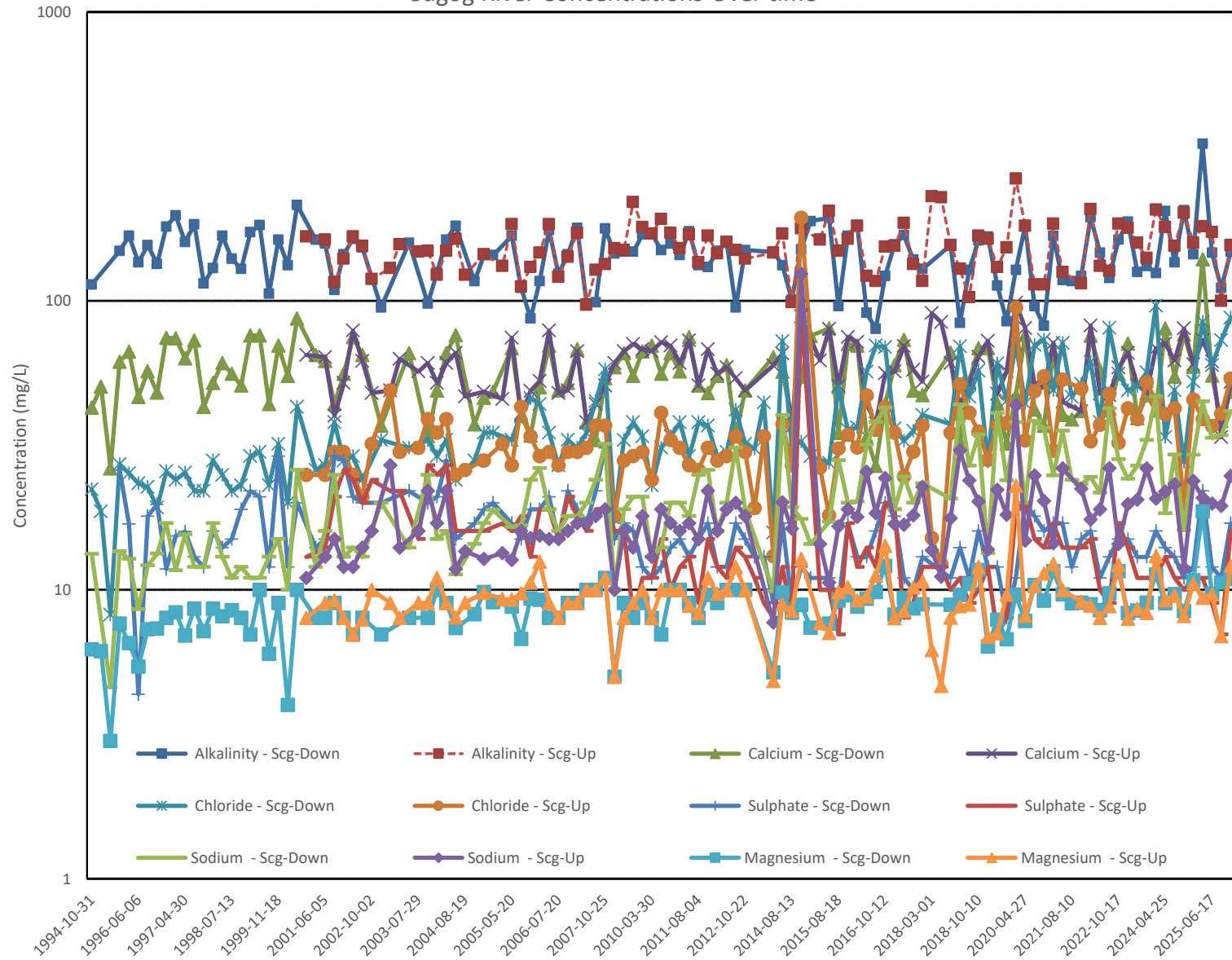
Figure 7 - Total Ammonia Concentrations at Upper Bedrock Aquifer Trigger Monitoring Wells - Old Landfill Area



**Figure 8 - Total Ammonia Concentrations at Upper Bedrock Aquifer Trigger Monitoring Wells -
Landfill Expansion Area**



Sugog River Concentrations Over time





APPENDIX F

Old Landfill Perimeter Ground Water Quality Interpretation Tables

Table F1: Interpretation of 2025 Ground Water Quality Data – Overburden Monitoring Wells – West Perimeter of Old Landfill

Monitoring Well (Screen Interval)	Indicator Parameters Exceeding Background and/or Showing Increasing Trend	Trend(s)	Ground Water Quality Interpretation
15-91-I (9.2 – 10.7* mbgs)	Chloride / Iron / Sulphate	- upward trend in chloride from ~15 mg/L (2004) to 89 mg/L (2010) which flatten to 2013 and then declines ~20-30 mg/L since 2019 - sulphate increasing since 2019, but still within historical range and stable - iron concentration routinely >1 mg/L since 2006	- downgradient of the landfill - evidence of leachate impact - stable conditions
	Total Ammonia	upward trend in total ammonia from <0.1 mg/L (2011) to variable~1-10 mg/L (2018-2025)	
	Toluene	since (2008) occasional detections, most recent 0.9 µg/L (May, 2021)	
	Phenols / DOC	- more numerous phenols detection since 2011 - DOC trending from 6 mg/L (2007) to 17 mg/L (2014), below 10 mg/L since 2019	
15-91-II (3.8 – 5.3 mbgs)	Chloride / Iron / Sulphate	- upward trend in chloride from ~40 mg/L (1994) to ~130 mg/L (2006) and then decline to ~70 mg/L (2014) and then drop to <10 mg/L by 2016. Stable at ~4mg/L since then - iron rose above 0.1 mg/L in 1997 to >100 mg/L up to 2007 and then declined to ~50 mg/L since then - sulphate declined from ~150 mg/L (1995) to ~1-3 mg/L (2018-2025)	- downgradient of the landfill - evidence of leachate impact - declining leachate influence over time
	Total Ammonia	upward trend from <0.01 mg/L (1998) to ~9 mg/L (2006) and then decline to ~0.5 mg/L with exception of May 2023 value (2.71 mg/L)	
	Phenols/DOC	- DOC at 30 mg/L when monitoring started in 2006 and fluctuated higher and lower through to 2014 and then declined to ~10 mg/L from that point onward with stable concentrations - Phenols concentrations trending down, no detections since 2018	
	Toluene	no detection since 2012	

Table F1: Interpretation of 2025 Ground Water Quality Data – Overburden Monitoring Wells – West Perimeter of Old Landfill

Monitoring Well (Screen Interval)	Indicator Parameters Exceeding Background and/or Showing Increasing Trend	Trend(s)	Ground Water Quality Interpretation
16-91-I (6.2 – 7.7* mbgs)	Chloride / Iron / Sulphate / Boron	- upward trend in chloride from ~20 mg/L (2000) to ~400 mg/L (2010) and between 300-500 mg/L since - iron rose above 0.1 mg/L in 1997 to ~10 mg/L by 2013 and fluctuates seasonally - sulphate declined from ~110 mg/L (1999) to 10 mg/L (2015) and then ranges between 1 & 10 mg/L - boron measured at ~0.2-0.3 mg/L over past six years	- downgradient of the landfill - evidence of leachate impact - stable conditions
	Toluene	consistent BTEX detections from 2006 to 2012, only two since in 2022 and 2024 (benzene)	- downgradient of the landfill - evidence of leachate impact - stable conditions
	Total Ammonia	upward trend from <0.1 mg/L (1997) to ~1 mg/L (2011) and then decline to 0.6 mg/L (2013) with recent years indicating ~0.5-3 mg/L	
	Phenols / DOC	- numerous phenols detection for period of record - DOC at ~30 mg/L in 2006 (start) to 2012 then declines to ~10-15 mg/L and steady	
16-91-II (3.0 – 4.5 mbgs)	Chloride / Iron / Sulphate / Boron	- upward trend in chloride from ~25 mg/L (1991) to ~500 mg/L (2008) and then fluctuated between ~50 mg/L and ~400 mg/L since that time - iron rose above 0.1 mg/L in 1992 to ~20 mg/L in 1996 and fluctuates between 50mg/L and 10 mg/L since that time - sulphate declined from ~100 mg/L (1995) to between 1 mg/L and 10 mg/L (2008) and has remained within this range since - boron measured at ~2 mg/L to 2010 then drops to 0.5 mg/L since then	- downgradient of the landfill - evidence of leachate impact
	Toluene	inconsistent BTEX detections with last toluene detection in 2015	
	Total Ammonia	upward trend from 0.2 mg/L (1995) to ~30 mg/L (2007) and then declines to ~3 mg/L since 2019	
	Phenols / DOC	- numerous phenols detections for period of record - DOC at ~40 mg/L in 2006 (start) to 2010 then declines to ~10-15 mg/L and flattens	

Table F1: Interpretation of 2025 Ground Water Quality Data – Overburden Monitoring Wells – West Perimeter of Old Landfill

Monitoring Well (Screen Interval)	Indicator Parameters Exceeding Background and/or Showing Increasing Trend	Trend(s)	Ground Water Quality Interpretation
17-91-I (8.2 – 9.7* mbgs)	Chloride / Iron / Sulphate	- Long term chloride trending within a range of 3 & 70 mg/L - iron has been above 0.1 mg/L in 1991 (start) and rose above ~1 mg/L in 2002 and flattened since then, although seasonal fluctuations exist more recently - sulphate declined from ~100 mg/L (1991) to ~20 mg/L by 2002 and then has increased to ~80 mg/L in 2019 and subtle decline since with concentrations ~40 mg/L	- downgradient of the landfill - evidence of slight leachate impact
	Total Ammonia	historical results at or below 0.1 mg/L, isolated elevations up to ~1 mg/L since 2022	
	Phenols	Infrequent detections	
17-91-II (5.1 – 6.6 mbgs)	Chloride / Iron / Sulphate	- downward trend in chloride from ~70 mg/L (1994) to 5 mg/L (2019), more variable since 2019 - sulphate trends down from 50 mg/L to ~20 mg/L (2007) and then climbs abruptly to ~75 mg/L (2008) and then slowly declined to ~30 mg/L - iron rose above 1 mg/L; but has declined since 2007 and has remained low but variable since	- downgradient of the landfill - little evidence of leachate impact - slight long-term declining trends noted
	Total Ammonia	variable over time but concentrations within a range of 0.01 to ~1 mg/L	
	Toluene	inconsistent BTEX detections with last toluene detection in 2012	
	Phenols	Infrequent detections	
19-91 (4.5 – 6.1 mbgs)	Chloride / Sulphate	- downward trend in chloride from ~40 mg/L (2000) to 5 mg/L (2017) and has risen steadily since up to ~50 mg/L in 2021 and stable since - sulphate has longer term trends ranging between 30 and 70 mg/L for more than 20 years	- downgradient of the landfill - little evidence of leachate impact - stable conditions
	Total Ammonia	historical results at or below 0.1 mg/L, increased concentrations since 2022 ranging between 0.1 and ~1 mg/L	
	Toluene	inconsistent BTEX detections, with last in 2023	
	Phenols	only three detections historically	

Notes: * - bottom hole depth at bedrock contact

Table F2: Interpretation of 2025 Ground Water Quality Data – Overburden Monitoring Wells – North Perimeter of Old Landfill

Monitoring Well (Screen Interval)	Indicator Parameters Exceeding Background and/or Showing Increasing Trend	Trend(s)	Ground Water Quality Interpretation
32-93-I (5.4 – 6.9* mbgs)	Chloride	slight upward trend in chloride from ~50 mg/L (1994) to ~100 mg/L in 2018 and steady since	- upgradient of the landfill - no significant leachate impact - stable conditions
32-93-II (2.1 – 3.7 mbgs)	Toluene	consistently below MDL except for trace detections but not since 2012	
	Phenols	infrequent detections historically	
43-93-I (6.8 – 8.3 mbgs)	Chloride / Iron / Sulphate	- very subtle increasing chloride trend from 2018 to 2025 from historical range of 50 mg/L to 100 mg/L - sulphate concentrations consistent over time at ~50 mg/L - very subtle increasing iron trend from 2018 to 2023 from historical range of 0.2 mg/L to 0.5 mg/L, stable since	- trans to downgradient of the landfill - little evidence of leachate impact - very slight increasing trends
	Total Ammonia / TKN	Both parameters have a historical range of ~0.01 to 1 mg/L, but relatively consistent over time	
	Phenols	Only two detections historically	
43-93-II (2.3 – 3.8 mbgs)	Chloride / Iron / Sulphate	- chloride concentrations increased from 10 mg/L to ~100 mg/L in 2012, while have remained below this peak since with 2025 concentrations <50 mg/L - sulphate concentrations show long trends within the historical range, with current concentrations <60 mg/L - historically low iron concentrations <0.1 mg/L, although occasional elevations are observed (0.5-6 mg/L)	- trans to downgradient of the landfill - little evidence of leachate impact - overall increasing trends
	Total Ammonia / TKN	ammonia concentrations increased from historical range of <0.1 mg/L to 0.1 - ~1 mg/L in 2022 with increasing concentration since reaching a high of 10 mg/L	
	Toluene	Only two detections in 2022 and 2023	
	Phenols	Only single detection historically	

Notes: * - bottom hole depth at bedrock contact

Table F3: Interpretation of 2025 Ground Water Quality Data – Overburden Monitoring Wells – East Perimeter of Old Landfill

Monitoring Well (Screen Interval)	Indicator Parameters Exceeding Background and/or Showing Increasing Trend	Trend(s)	Ground Water Quality Interpretation
12-91-I (2.8 – 4.2* mbgs)	Total Ammonia / TKN	- ammonia consistent measurement at ~0.1 mg/L until 2022, where concentrations approaching ~1mg/L, but have declined since - TKN remained variable but within predictable range over past 15 years	- immediately upgradient of the landfill - some variability in the major ion chemistry; but no obvious trends - no significant leachate impact
	Toluene	Only one detection in 2012	
	Phenols	only three detections historically	
12-91-II (2.2 – 3.7 mbgs)	Chloride	longer term variance, but within a predictable range	- immediately upgradient of the landfill - some variability in the major ion chemistry; but no obvious trends - no significant leachate impact
	Total Ammonia	longer term variance, but within a predictable range	
	Phenolics / DOC	- consistently below MDL; but a few detections reported since 2017 - DOC consistent at ~10 mg/L	
	Toluene	Only one detection in 2012	
49-96-II (9.0 – 10.8* mbgs)	Chloride / Iron / Boron	- chloride consistent at ~100 mg/L - boron has slow decline in concentrations over time, concentrations now below 1mg/L since 2021 - iron concentrations show seasonal fluctuations	- upgradient of the landfill - no significant leachate impact
	Toluene	Only two detections in 2012	
	Phenols	infrequent detections historically	
49-96-III (3.6 – 4.6 mbgs)	Chloride / Sulphate	- slight chloride upward trend in 2008 from 40 mg/L to 130 mg/L in 2011 and then flattens, current concentrations ~100 mg/L - sulphate has a downward trend after 2007, but more stable past nine years	- upgradient of the landfill - no significant leachate impact
	Toluene	consistently below MDL except for sporadic detections, none since 2011	
	Phenols	only three detections historically	

Table F4: Interpretation of 2024 Ground Water Quality Data – Overburden Monitoring Wells – South Perimeter of Old Landfill

Monitoring Well (Screen Interval)	Indicator Parameters Exceeding Background and/or Showing Increasing Trend	Trend(s)	Ground Water Quality Interpretation
13-91-I (10.5 – 12.0* mbgs)	Chloride / Iron / Sulphate	- slight upward trend from 26 mg/L (1991) to 100 mg/L in 2022 and steady since - slight downward trend in sulphate from 32 mg/L (1993) to 19 mg/L (2025) - iron concentration is constant between 0.1 mg/L and ~0.5 mg/L	- parallel gradient of the landfill - no significant leachate impact - relatively stable
	Total Ammonia	constant at ~0.5 mg/L, although more elevated in 2023 and 2024 (>1 mg/L), with concentrations in historical range in 2025	
	Phenols	infrequent detections historically	
13-91-II (3.0 – 4.5 mbgs)	Chloride / Sulphate / Iron	- chloride increase from ~60 mg/L to 155 mg/L in 1996 then slight upward trend to ~250 mg/L (2017) then upward trend to 790 mg/L (2019), more seasonal variability past five years - upward trend in sulphate from 33 mg/L (1994) to 55 mg/L (2004) then downward trend to ~10 mg/L (2018), although variable last four years - variable iron concentrations, although within predictable range past 15 years	- parallel gradient of the landfill - evidence of leachate impact - seasonally lower influence during May monitoring events the past five years
	Total Ammonia	variable over time between ~0.1 – 1 mg/L	
	Toluene	Only one detection in 2012	
	Phenols	only two detections historically	
14-07 (2.0 – 5.0 mbgs)	Chloride / Iron	Low concentrations with seasonal variance for both iron and chloride	- shows no significant leachate impact - stable conditions
	Total ammonia	Concentrations between 2022 and 2024 more elevated at ~1 mg/L from historical and 2025 concentrations of ~0.1 mg/L	
	Toluene	Only one detection in 2012	
	Phenols	infrequent detections historically	
18-91 (4.5 – 6.0 mbgs)	Chloride / Iron / Sulphate	- chloride declined from 2009 (23 mg/L) to 2013 (7 mg/L) but has risen to ~70 mg/L by 2022 and declined again with 2025 concentration being ~40 mg/L - slight downward trend in sulphate from ~50 mg/L (1995) to ~15-20 mg/L (2021 - 2025) - iron concentration consistent at ~0.3 mg/L from 1996 to 2011 and then decreases to ~0.1 mg/L, although variable since within a predictable range	- parallel gradient to the landfill - no significant leachate impact
	Toluene	Only three detections in 2011 / 2012	
	Phenols	infrequent detections historically	

Table F4: Interpretation of 2025 Ground Water Quality Data – Overburden Monitoring Wells – South Perimeter of Old Landfill

Monitoring Well (Screen Interval)	Indicator Parameters Exceeding Background and/or Showing Increasing Trend	Trend(s)	Ground Water Quality Interpretation
23-07 (5.5 – 8.4 mbgs)	Chloride / Iron	- chloride constant at 10 mg/L until 2019 when slow increase began to 40 mg/ in 2022, with reduced concentrations since (~15-20 mg/L) - iron concentration elevated variable over time but within a predictable range	- monitoring well replaced to construct landfill cap - new well shows no significant leachate impact - detecting anoxic plume - stable conditions
	Total Ammonia	concentrations below 0.1 mg/L until 2022, where concentrations became more elevated and variable up to ~1 mg/L	
	Toluene	Only two detections in 2011/2012	
	Phenols	infrequent detections historically	
25-91 (2.4 – 3.9 mbgs)	Chloride / Sulphate / Iron	- elevated from outset ~150 mg/L and staying this level until 2022 when increased to ~250 mg/L, but been back to historical range since - sulphate declines from ~110 mg/L to ~10-50 mg/L since 2006 - iron fluctuates between ~0.1 mg/L and 1 mg/L, but below 0.5 mg/L since 2019	- parallel gradient of the landfill - slight leachate impact - stable conditions
	Total ammonia	increased from 0.02 (1993) to 0.5 (2004) and then has declined to between 0.01 mg/L and 0.1 mg/L. 2023 concentrations more elevated (~0.5 - 1 mg/L) since 2023	
	DOC	elevated at ~5 mg/L since start (2006), but been below 4 mg/L since 2014	
	Toluene	Only one detection in 2012	
	Phenols	infrequent detections historically	
29-93 (2.8 – 4.3 mbgs)	Chloride / Iron	- elevated chloride from outset ~1,000 mg/L, but consistently below 400 mg/L since 2008. - iron concentration exists between 0.1 mg/L and ~3 mg/L	- parallel gradient of the landfill - evidence of leachate impact - stable conditions
	DOC	elevated at ~10 mg/L since start (2006); but has been below 4 mg/L since 2015	
	Total Ammonia	concentrations below 0.1 mg/L until 2022, where concentrations increased up to ~1 mg/L but are variable since	
	Toluene	Only two detections in 2011/2012	
	Phenols	infrequent detections historically	

Table F4: Interpretation of 2025 Ground Water Quality Data – Overburden Monitoring Wells – South Perimeter of Old Landfill

Monitoring Well (Screen Interval)	Indicator Parameters Exceeding Background and/or Showing Increasing Trend	Trend(s)	Ground Water Quality Interpretation
35-93-I (6.7 – 8.2* mbgs)	Chloride	Chloride has been consistent ~20 mg/L for past 25 years	- parallel gradient of the landfill - no significant leachate impact - stable conditions
	Total Ammonia	concentrations variable over time but within a predictable range	
	Toluene	Only one detection in 2012	
	Phenols	infrequent detections historically	
35-93-II (2.5 – 4.0 mbgs)	Chloride / Iron	- upward trend for chloride from ~2 mg/L (1999) to 120 mg/L (2005) and then variable between ~10 – 150 mg/L until 2018 where an increasing trend has begun up to ~240 mg/L in 2022 but remaining close to this value since - upward trend to iron ~0.08 mg/L (1996) to peaks at ~2 mg/L (2007) and then declining to between ~0.01 – 0.1 mg/L since	- parallel gradient of the landfill - no significant leachate impact - stable conditions
	Total Ammonia	concentrations below 0.1 mg/L until 2022, where concentrations increased up to ~1 mg/L	
	Toluene	Sporadic detections, only one since 2012 in 2021	
	Phenols	Only two detections historically	
36-93 (2.9 – 4.0 mbgs)	Chloride / Iron	- slight upward chloride trend from ~20 mg/L (1994) to 40 mg/L in 2022 and more elevated in 2025 with concentrations close to 100 mg/L - iron concentration consistently at ~1 mg/L	- parallel gradient of the landfill - no significant leachate impact - detecting anoxic plume - relatively stable except chloride
	Total Ammonia	concentrations below 0.1 mg/L until 2022, where concentrations increased up to ~1 mg/L	
	Toluene	No detections since 2012	
	Phenols	only three detections historically	
37-93-I (6.7 – 8.2* mbgs)	Chloride / Iron	- upward chloride trend from ~50 mg/L (1995) to ~200 mg/L (2022-2025) - iron concentration between 0.4 mg/L and 1 mg/L, more consistent at 1 mg/L past 15 years	- parallel gradient of the landfill - no significant leachate impact - detecting anoxic plume - relatively stable
	Total Ammonia	concentrations below ~0.3 mg/L until 2022, where concentrations increased up to ~1 mg/L	
	Toluene	Only one detection in 2023	
	Phenols	only a single detection historically	

Monitoring Well (Screen Interval)	Indicator Parameters Exceeding Background and/or Showing Increasing Trend	Trend(s)	Ground Water Quality Interpretation
37-93-II (2.3 – 3.8 mbgs)	Chloride / Iron	- chloride relatively consistent range past 15 years at 150 – 300 mg/L), within isolated elevation in 2022 up to ~500 mg/L - iron concentrations generally between 0.7 and 2.5 mg/L past 15 years	- parallel gradient of the landfill - no significant leachate impact - brief detection of anoxic plume - stable conditions
	Total Ammonia	concentrations below 0.1 mg/L until 2022 / 2023, where concentrations increased up to ~1 mg/L but were within historical range since	
	Toluene	Last detection in 2012	
	Phenols	Only two detections historically	
38-93 (2.5 – 4.0 mbgs)	Chloride / Iron	- chloride relatively consistent range past 10 years at 10 mg/L - iron concentrations generally between 0.01 and 1 mg/L past 25 years	- parallel gradient of the landfill - no significant leachate impact - parameters values consistent over period of record with minor exceptions
	Total Ammonia	concentrations below 0.1 mg/L until 2022, where concentrations increased up to ~10 mg/L in 2023, but are noted to be lower in 2024 & 2025 (<0.7mg/L)	
	Toluene	Last detection in 2012	
	Phenols	infrequent detections historically	
39-93-I (8.9 – 10.4* mbgs)	Chloride / Iron	- slight upward chloride trend from 50 mg/L (1994) to ~200 mg/L in 2025 - iron concentration elevated at ~1 mg/L, but consistent	- parallel gradient of the landfill - no significant leachate impact - slight increasing trends for some parameters
	Total Ammonia	consistent concentration at ~0.2 mg/L until 2022 with concentration past 2023 up to 0.5 - 1 mg/L	
	Phenols	only three detections historically	
39-93-II (2.3 – 3.8 mbgs)	Chloride / Sulphate	- chloride consistent ~100 mg/L (2006-2014) then upward trend to ~200-500 mg/L (2019 - 2025) with seasonal variance - sulphate concentration between ~10 and ~60 mg/L since 2006, with seasonal variance	- parallel gradient of the landfill - slight leachate impact - seasonal variance for most parameters, but no obvious long term trends
	Total Ammonia	essential no detection until (2012) and then consistent trace detection with occasional elevations but <1 mg/L. concentrations more consistently above 0.1 mg/L since 2022 but variable between 0.05 and 1.53 mg/L	
	Phenols	only three detections historically	

Notes: * - bottom hole depth at bedrock contact



APPENDIX G

Ground Water Quality Summary Tables – PWQO Comparison

**Ground Water - General Water
Quality PWQO Comparison**

Parameters	Units	PWQO	30-93	30-93	31-93	31-93	45-93	45-93	45-93	45-95-I	46-95-I	45-95-II	45-95-II	46-95-I	45-95-I	46-95-II	46-95-II
			7-May-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25	24-Jul-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25	15-Oct-25
Alkalinity	mg/L		449	455	438	472	412	412	390	328	635	272	318	560	324	623	587
Unionized Ammonia	mg/L	0.02					<0.01	<0.01	<0.01								
Ammonia	mg/L		6.82	9	6.33	8.78	0.11	0.17	0.22	0.82	29.8	1.2	5.57	38.2	0.82	31	33.2
BOD	mg/L						11	<3	<3								
Calcium	mg/L		132	145	115	146	130	119	118	128	156	96.6	107	164	117	157	153
COD	mg/L		37	67	40	44	32	64	45	23	62	42	74	56	20	45	42
Chloride	mg/L		177	174	178	178	172	138	148	113	220	49.1	96.2	229	111	230	225
Conductivity	umhos/cm		1410	1390	1390	1420	1310	1250	1200	1130	1830	687	915	1860	1100	1860	1780
Cyanide	mg/L						<0.005	<0.005	<0.005								
DOC	mg/L		2.6	5.9	2.3	5.9	3.1	1.4	3.8	3.2	8.8	3.8	6.6	3.9	5.9	3.5	9.6
Fluoride	mg/L		0.3	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1
Hardness	mg/L		464	503	401	508	365	337	336	429	549	274	316	562	401	545	539
Ion Balance	%		1.32	2.36	9.05	1.18	1.87	1.48	0.492	1.43	4.35	1.04	1.53	0.973	1.04	6.34	2.78
Iron	mg/L	0.3	8.46	9.56	7.61	10.6	0.017	0.042	<0.005	2.22	13.9	0.02	1.42	14.1	2.22	12.7	14.4
Magnesium	mg/L		32.6	34.1	27.5	34.9	9.81	9.6	9.91	26.6	38.4	7.99	11.5	37	26.7	37	38.2
Manganese	mg/L		0.223	0.267	0.266	0.357	<0.001	0.002	<0.001	0.039	0.084	0.075	0.452	0.078	0.044	0.076	0.08
Nitrate	mg/L		<0.05	0.1	0.1	0.26	0.13	0.25	0.08	<0.05	0.07	0.99	0.48	0.08	0.25	<0.05	<0.05
Nitrite	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.15	0.12	<0.05	<0.05	<0.05	<0.05
Tot Kjel N	mg/L		8.9	9.1	8.9	8.9	0.5	1.6	0.6	1.2	30.5	1.7	6	51	1.2	40.2	40.4
pH-Lab	pH unit	8.5	7.54	7.74	7.56	7.56	7.89	7.9	7.86	7.6	7.64	7.75	7.77	7.46	7.75	7.39	7.41
Phenols	mg/L	0.005	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.002	<0.001	0.001	<0.001	0.002
Phosphorus	mg/L	0.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L		3.2	3.8	2.7	4.2	1	1.3	1.5	2.4	9.3	3.1	4.8	8.6	2.6	8.6	10.2
Sodium	mg/L		92.9	98.7	74.3	96.8	131	141	134	63.6	123	29.6	55.7	117	69.1	113	122
Sulphate	mg/L		13	12	13	12	21	18	22	100	1	5	6	<1	88	<1	3
TDS	mg/L		768	753	753	773	708	678	646	609	1000	357	485	1020	589	1020	974
TSS	mg/L						1030	3620	1920								
Turbidity	NTU						1910	1420	753								
Colour	TCU						<2	<2	<2								
Aluminum	mg/L	0.075	0.06	0.07	0.08	0.06	0.07	0.08	0.04	0.07	0.05	0.05	0.03	0.08	0.03	0.08	0.05
Antimony	mg/L	0.02	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.1	0.0049	0.0058	0.0022	0.0038	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0005	0.0001	0.0002	0.0001	0.0002
Barium	mg/L		0.39	0.468	0.358	0.471	0.073	0.072	0.077	0.043	1.15	0.026	0.043	1.06	0.049	0.989	1.15
Beryllium	mg/L	1.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	0.2	0.095	0.098	0.072	0.091	0.01	0.009	0.013	0.111	0.101	0.033	0.073	0.107	0.116	0.097	0.1
Cadmium	mg/L	0.0005	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0009	0.0029	0.0027	0.0015	0.0017	0.0002	0.0002	0.0002	0.0004	0.0008	0.0004	0.0008	0.001	0.0003	0.0009	0.0008
Copper	mg/L	0.005	0.0001	0.0002	0.0002	0.0003	0.0004	0.0015	0.0007	0.0002	<0.0001	0.0008	0.0009	<0.0001	0.0003	<0.0001	0.0014
Lead	mg/L	0.005	0.00002	0.00004	0.00012	0.00004	0.00005	0.00008	<0.00002	0.00008	<0.00002	0.00004	0.00002	0.00004	0.00002	0.00003	<0.00002
Mercury	mg/L	0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04	0.0005	0.0005	0.0003	0.0004	0.0004	0.0003	0.0005	0.0001	<0.0001	0.0002	0.0002	<0.0001	0.0002	0.0001	<0.0001
Nickel	mg/L	0.025	0.0062	0.0056	0.0039	0.0046	0.0005	0.0006	0.0005	0.0016	0.0024	0.0006	0.0013	0.0023	0.0015	0.0021	0.0023
Selenium	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L		0.503	0.53	0.418	0.523	0.314	0.314	0.31	0.404	0.727	0.253	0.326	0.707	0.402	0.689	0.722
Thallium	mg/L	0.0003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	0.006	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0002	0.0002	<0.0001	0.0003	<0.0001	<0.0001	0.0004	<0.0001	0.0003	0.0003
Zinc	mg/L	0.03	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.028	<0.005	<0.005

PWQO - Provincial Water Quality Objective

Bold & Highlighted - PWQO exceedance

**Ground Water - General Water
Quality PWQO Comparison**

Parameters	Units	PWQO	47-96-I	47-96-I	47-96-II	47-96-II	48-96-I	48-96-I	48-96-II	48-96-II	49-96-I	49-96-I	49-96-II	49-96-II	49-96-III	49-96-II	59-05
			7-May-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25	15-Oct-25	7-May-25
Alkalinity	mg/L		381	369	422	381	288	287	518	440	274	318	264	285	346	Dry	611
Unionized Ammonia	mg/L	0.02															
Ammonia	mg/L		0.87	0.74	31.4	17.3	0.11	0.25	0.46	0.38	1.96	2.12	<0.05	0.28	0.23		23.4
BOD	mg/L																
Calcium	mg/L		113	107	111	107	68.2	62.3	165	127	31.1	26.8	105	113	159		167
COD	mg/L		18	21	92	84	28	10	104	125	7	9	8	41	20		35
Chloride	mg/L		119	111	255	231	61.4	56.3	146	111	118	136	134	136	146		215
Conductivity	umhos/cm		1110	1060	1630	1450	745	723	1380	1140	956	1060	1010	1050	1130		1770
Cyanide	mg/L																
DOC	mg/L		2.9	5.9	2.6	5.1	1.9	3.9	3	6.4	0.9	2.5	1.1	3.2	1.3		3.6
Fluoride	mg/L		<0.1	<0.1	0.5	<0.1	0.3	0.2	<0.1	<0.1	0.8	0.9	<0.1	<0.1	<0.1		0.5
Hardness	mg/L		427	408	367	363	320	308	587	478	158	158	406	433	460		571
Ion Balance	%		1.1	1.21	5.31	2.93	0.672	0.348	0.281	1.26	3.43	5.24	2.94	1.22	2.34		3.48
Iron	mg/L	0.3	1.6	1.5	13	12.3	<0.005	0.168	4.33	3.18	<0.005	0.02	0.012	0.619	<0.005		13.2
Magnesium	mg/L		35.1	34.3	21.8	23	36.3	37.1	42.4	39	19.5	22.1	35	36.6	15.3		37.4
Manganese	mg/L		0.057	0.058	0.227	0.227	<0.001	0.006	0.065	0.053	<0.001	0.002	<0.001	0.033	<0.001		0.071
Nitrate	mg/L		<0.05	0.27	<0.05	<0.05	0.18	0.26	<0.05	0.35	0.74	0.28	<0.05	0.3	0.06		<0.05
Nitrite	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05
Tot Kjel N	mg/L		1.3	1.1	39.4	20.5	0.5	0.5	1.1	0.9	2.1	2.4	0.2	0.6	0.5		28.9
pH-Lab	pH unit	8.5	7.67	7.68	7.71	7.84	7.97	7.92	7.45	7.62	8.07	8.15	7.91	7.92	7.7		7.5
Phenols	mg/L	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Phosphorus	mg/L	0.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Potassium	mg/L		2.4	2.5	10.3	8.1	3	3.3	2.9	2.9	7.6	8.5	2.3	2.6	1		8
Sodium	mg/L		59	58.1	133	122	28.4	29.6	58.7	46.1	127	141	37.5	41.2	46.5		109
Sulphate	mg/L		26	28	1	5	15	13	2	9	32	16	66	61	36		<1
TDS	mg/L		595	565	894	791	389	377	749	616	509	570	541	564	608		972
TSS	mg/L																
Turbidity	NTU																
Colour	TCU																
Aluminum	mg/L	0.075	0.06	0.03	0.07	0.04	0.04	0.02	0.09	0.04	0.02	<0.01	0.06	0.04	0.1		0.08
Antimony	mg/L	0.02	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001
Arsenic	mg/L	0.1	<0.0001	<0.0001	0.0043	0.0047	0.0002	0.0003	<0.0001	0.0002	<0.0001	<0.0001	0.0001	0.0002	<0.0001		0.0001
Barium	mg/L		0.439	0.481	0.121	0.112	0.963	1	0.846	0.726	0.024	0.024	0.105	0.127	0.088		1.21
Beryllium	mg/L	1.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001
Boron	mg/L	0.2	0.091	0.088	0.102	0.087	0.127	0.129	0.071	0.07	0.467	0.526	0.692	0.696	0.073		0.1
Cadmium	mg/L	0.0005	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015		<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Cobalt	mg/L	0.0009	0.0003	0.0002	0.0008	0.0007	0.0002	0.0002	0.0004	0.0003	<0.0001	<0.0001	0.0002	0.0003	0.0004		0.0009
Copper	mg/L	0.005	0.0001	0.0008	0.0002	0.0002	0.0008	0.0006	0.0001	0.0009	0.0004	0.0005	0.0009	0.0005	0.0006		<0.0001
Lead	mg/L	0.005	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002		0.00003
Mercury	mg/L	0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002
Molybdenum	mg/L	0.04	<0.0001	<0.0001	0.0008	0.0009	0.0002	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.001	0.0009	0.0003		<0.0001
Nickel	mg/L	0.025	0.002	0.0019	0.0022	0.0023	0.0012	0.0016	0.0023	0.0022	<0.0002	0.0003	<0.0002	0.0003	0.0004		0.0024
Selenium	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Silver	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001
Strontium	mg/L		0.67	0.666	0.391	0.398	1.15	1.19	0.959	0.866	1.83	2.1	0.77	0.836	0.507		0.726
Thallium	mg/L	0.0003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005
Vanadium	mg/L	0.006	<0.0001	<0.0001	0.0001	0.0001	0.0003	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		0.0005
Zinc	mg/L	0.03	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005

PWQO - Provincial Water Quality Objective

Bold & Highlighted - PWQO exceedance

**Ground Water - General Water
Quality PWQO Comparison**

Parameters	Units	PWQO	59-05	60-05	60-05
			15-Oct-25	7-May-25	15-Oct-25
Alkalinity	mg/L		610	284	307
Unionized Ammonia	mg/L	0.02			
Ammonia	mg/L		22.2	0.13	0.36
BOD	mg/L				
Calcium	mg/L		155	105	101
COD	mg/L		40	49	44
Chloride	mg/L		208	129	127
Conductivity	umhos/cm		1760	956	978
Cyanide	mg/L				
DOC	mg/L		8.8	1.3	3.5
Fluoride	mg/L		<0.1	<0.1	<0.1
Hardness	mg/L		544	417	410
Ion Balance	%		3.23	1.8	0.305
Iron	mg/L	0.3	12.8	0.241	1.25
Magnesium	mg/L		38.4	37.6	38.2
Manganese	mg/L		0.073	0.021	0.036
Nitrate	mg/L		<0.05	<0.05	0.32
Nitrite	mg/L		<0.05	<0.05	<0.05
Tot Kjel N	mg/L		26.4	0.6	1
pH-Lab	pH unit	8.5	7.46	7.73	8.03
Phenols	mg/L	0.005	0.001	<0.001	<0.001
Phosphorus	mg/L	0.03	<0.1	<0.1	<0.1
Potassium	mg/L		8.5	2.6	3.2
Sodium	mg/L		118	38.4	42.4
Sulphate	mg/L		<1	19	19
TDS	mg/L		965	509	521
TSS	mg/L				
Turbidity	NTU				
Colour	TCU				
Aluminum	mg/L	0.075	0.05	0.07	0.04
Antimony	mg/L	0.02	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.1	<0.0001	<0.0001	0.0001
Barium	mg/L		1.25	0.193	0.221
Beryllium	mg/L	1.1	<0.0001	<0.0001	<0.0001
Boron	mg/L	0.2	0.099	0.022	0.025
Cadmium	mg/L	0.0005	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0009	0.0007	0.0008	0.001
Copper	mg/L	0.005	0.0001	0.0004	0.0008
Lead	mg/L	0.005	0.00002	0.00012	0.00003
Mercury	mg/L	0.0002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04	<0.0001	<0.0001	<0.0001
Nickel	mg/L	0.025	0.0022	0.0011	0.001
Selenium	mg/L	0.1	<0.001	<0.001	<0.001
Silver	mg/L		<0.0001	<0.0001	<0.0001
Strontium	mg/L		0.745	0.519	0.548
Thallium	mg/L	0.0003	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	0.006	0.0005	<0.0001	<0.0001
Zinc	mg/L	0.03	<0.005	<0.005	0.005

PWQO - Provincial Water Quality Objective

Bold & Highlighted - PWQO exceedance



APPENDIX H

Laboratory Certificates of Analysis

C.O.C.: -

REPORT No: 25-002741 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
 Unit #14
 Richmond Hill, ON L4B 1J9

Attention: Bonnie Ferguson

DATE RECEIVED: 2025-Jan-31
 DATE REPORTED: 2025-Feb-11
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2025-Feb-03	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Feb-03	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	EHINCH	2025-Feb-11	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Feb-03	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC/DIC (Liquid)	1	OTTAWA	TPRICE	2025-Feb-04	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-Feb-05	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	TPRICE	2025-Feb-04	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	APRUDYVUS	2025-Feb-04	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-Feb-04	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	DCASSIDY	2025-Feb-11	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-Feb-03	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Feb-06	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	FLENA	2025-Feb-04	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-002741 - Rev. 0

		Client I.D.	LPC
		Sample I.D.	25-002741-1
		Date Collected	2025-01-30
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	663
TDS (Calc. from Cond.)	mg/L	3	978
Conductivity @25°C	uS/cm	1	1780
pH @25°C	pH units	-	7.73
Fluoride	mg/L	0.1	<0.7
Chloride	mg/L	0.5	181
Nitrate (N)	mg/L	0.05	0.76
Nitrite (N)	mg/L	0.05	<0.40
Sulphate	mg/L	1	35
BOD5	mg/L	3	5
Phosphorus (Total)	mg/L	0.01	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	20.2
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	16.6
Dissolved Organic Carbon	mg/L	0.8	8.9
Phenolics	mg/L	0.001	<0.001
COD	mg/L	5	56
Hardness (as CaCO3)	mg/L	0.02	633
Aluminum (Total)	mg/L	0.01	0.11
Barium (Total)	mg/L	0.001	0.302
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.367



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

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Final Report
REPORT No: 25-002741 - Rev. 0

		Client I.D.	LPC
		Sample I.D.	25-002741-1
		Date Collected	2025-01-30
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	194
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	<0.005
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	12.6
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	36.2
Manganese (Total)	mg/L	0.001	0.451
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	<0.01
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	18.3
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	126
Strontium (Total)	mg/L	0.001	0.697
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	0.009
Antimony (Total)	mg/L	0.0005	<0.0005



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-002741 - Rev. 0

		Client I.D.	LPC
		Sample I.D.	25-002741-1
		Date Collected	2025-01-30
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0011
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum	meq/L	-	19.1
Cation Sum	meq/L	-	19.3
% Difference	%	-	0.453
Ion Ratio	-	-	0.991
Sodium Adsorption Ratio	-	-	2.18
TDS (Ion Sum Calc)	mg/L	1	1000
TDS(calc.)/EC(actual)	-	-	0.564
Conductivity Calc	µmho/cm	-	1660
Conductivity Calc / Conductivity	-	-	0.934
Langelier Index(25°C)	-	-	1.33
Saturation pH (25°C)	-	-	6.40
pH (Client Data)	pH units	-	7.13
Temperature (Client Data)	°C	-	4.1



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

		Client I.D.	LPC
		Sample I.D.	25-002741-1
		Date Collected	2025-01-30
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	0.8
Ethylbenzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	<1
Xylene, m,p,o-	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5

Elevated RLs due to sample matrix interferences



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-005015 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Feb-27
DATE REPORTED: 2025-Mar-06
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2025-Mar-04	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Feb-28	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	EHINCH	2025-Mar-04	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Mar-03	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC/DIC (Liquid)	1	OTTAWA	SLOZO	2025-Mar-03	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-Mar-04	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	AOZKAYMAK	2025-Mar-04	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	APRUDYVUS	2025-Mar-03	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-Mar-03	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	DCASSIDY	2025-Mar-04	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-Mar-04	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Mar-06	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	CBURKE	2025-Mar-06	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-005015 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-005015-1
		Date Collected	2025-02-26
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	638
TDS (Calc. from Cond.)	mg/L	3	1010
Conductivity @25°C	uS/cm	1	1840
pH @25°C	pH units	-	7.49
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	184
Nitrate (N)	mg/L	0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	33
BOD5	mg/L	3	7
Phosphorus (Total)	mg/L	0.01	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	23.2
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	18.4
Dissolved Organic Carbon	mg/L	0.8	8.4
Phenolics	mg/L	0.001	<0.001
COD	mg/L	5	58
Hardness (as CaCO3)	mg/L	0.02	629
Aluminum (Total)	mg/L	0.01	0.11
Barium (Total)	mg/L	0.001	0.343
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.376



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-005015 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-005015-1
		Date Collected	2025-02-26
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	192
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	0.007
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	21.4
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	36.6
Manganese (Total)	mg/L	0.001	0.476
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	<0.01
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	19.0
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	130
Strontium (Total)	mg/L	0.001	0.738
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	0.011
Antimony (Total)	mg/L	0.0005	0.0006



Michelle Dubien
Data Specialist

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CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-005015 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-005015-1
		Date Collected	2025-02-26
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0016
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum	meq/L	-	18.6
Cation Sum	meq/L	-	20.7
% Difference	%	-	5.27
Ion Ratio	-	-	0.900
Sodium Adsorption Ratio	-	-	2.26
TDS (Ion Sum Calc)	mg/L	1	1010
TDS(calc.)/EC(actual)	-	-	0.552
Conductivity Calc	µmho/cm	-	1700
Conductivity Calc / Conductivity	-	-	0.924
Langelier Index(25°C)	-	-	1.06
Saturation pH (25°C)	-	-	6.43
pH (Client Data)	pH units	-	7.97
Temperature (Client Data)	°C	-	9.5



Michelle Dubien
Data Specialist

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		Client I.D.	LPC 1
		Sample I.D.	25-005015-1
		Date Collected	2025-02-26
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	1.4
Ethylbenzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	<1
Xylene, m,p,o-	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-006906 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
 Unit #14
 Richmond Hill, ON L4B 1J9

Attention: Bonnie Ferguson

DATE RECEIVED: 2025-Mar-19
 DATE REPORTED: 2025-Mar-26
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	LMACGREGOR	2025-Mar-20	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Mar-20	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	MWILSON	2025-Mar-24	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Mar-20	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC/DIC (Liquid)	1	OTTAWA	SLOZO	2025-Mar-24	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-Mar-25	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	AOZKAYMAK	2025-Mar-21	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	APRUDYVUS	2025-Mar-24	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-Mar-21	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	DCASSIDY	2025-Mar-25	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-Mar-20	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Mar-25	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	FLENA	2025-Mar-22	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-006906 - Rev. 0

		Client I.D.	LPC
		Sample I.D.	25-006906-1
		Date Collected	2025-03-18
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	501
TDS (Calc. from Cond.)	mg/L	3	744
Conductivity @25°C	uS/cm	1	1370
pH @25°C	pH units	-	7.29
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	123
Nitrate (N)	mg/L	0.05	0.16
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	40
BOD5	mg/L	3	<3
Phosphorus (Total)	mg/L	0.01	0.02
Total Kjeldahl Nitrogen	mg/L	0.1	10.2
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	9.53
Dissolved Organic Carbon	mg/L	0.8	6.9
Phenolics	mg/L	0.001	<0.001
COD	mg/L	5	33
Hardness (as CaCO3)	mg/L	0.02	524
Aluminum (Total)	mg/L	0.01	0.10
Barium (Total)	mg/L	0.001	0.219
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.187



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-006906 - Rev. 0

		Client I.D.	LPC
		Sample I.D.	25-006906-1
		Date Collected	2025-03-18
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	174
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	0.007
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	24.0
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	21.8
Manganese (Total)	mg/L	0.001	0.401
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	<0.01
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	9.8
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	75.2
Strontium (Total)	mg/L	0.001	0.529
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	0.005
Antimony (Total)	mg/L	0.0005	<0.0005



Michelle Dubien
Data Specialist

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CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-006906 - Rev. 0

		Client I.D.	LPC
		Sample I.D.	25-006906-1
		Date Collected	2025-03-18
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0014
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	0.0004
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum	meq/L	-	14.3
Cation Sum	meq/L	-	15.3
% Difference	%	-	3.34
Ion Ratio	-	-	0.935
Sodium Adsorption Ratio	-	-	1.43
TDS (Ion Sum Calc)	mg/L	1	769
TDS(calc.)/EC(actual)	-	-	0.562
Conductivity Calc	µmho/cm	-	1270
Conductivity Calc / Conductivity	-	-	0.929
Langelier Index(25°C)	-	-	0.747
Saturation pH (25°C)	-	-	6.54
pH (Client Data)	pH units	-	6.89
Temperature (Client Data)	°C	-	8.3



Michelle Dubien
Data Specialist

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		Client I.D.	LPC
		Sample I.D.	25-006906-1
		Date Collected	2025-03-18
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	1.0
Ethylbenzene	µg/L	0.5	0.6
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	1
Xylene, m,p,o-	µg/L	1.1	1.3
Xylene, o-	µg/L	0.5	<0.5



Michelle Dubien
Data Specialist

Location Lindsay OPS Date Apr 22/25
 Project / Client Stormwater

Sw18
 PH 7.67 DO 6.41 Cond 743 H₂O Temp 8.0 Air Temp
 Ammonia Nitrogen -0
 Sampled @ 10:45am

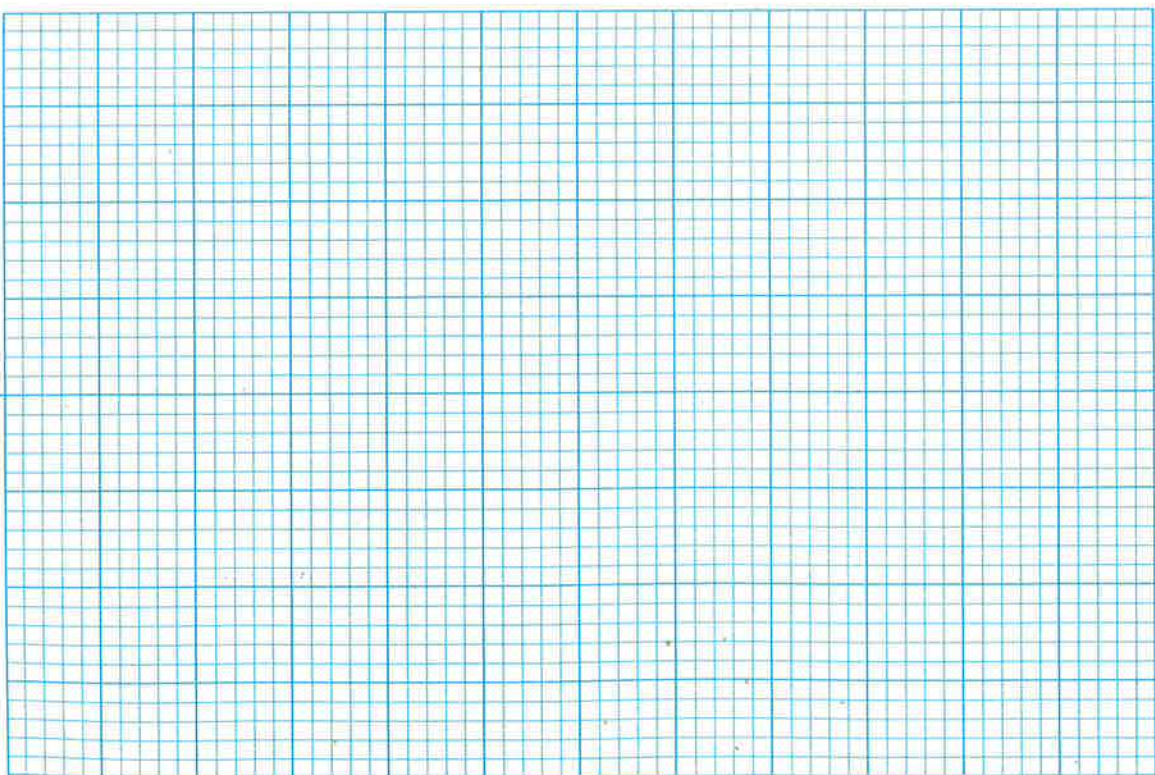
Sw14
 PH 8.17 DO 16.53 Cond 661 H₂O Temp 7.6 Air Temp
 Ammonia Nitrogen -0
 Sampled @ 11:00am

Sw15
 PH 8.35 DO 12.45 Cond 1036 H₂O Temp 9.3 Air Temp
 Ammonia Nitrogen -0
 Sampled @ 11:30am

Weather: Overcast, high winds

Project / Client

Scale



Return to Room

C.O.C.: -

REPORT No: 25-010533 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
 Unit #14
 Richmond Hill, ON L4B 1J9

Attention: Bonnie Ferguson

DATE RECEIVED: 2025-Apr-23
 DATE REPORTED: 2025-Apr-25
 SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Cond/pH/Alk Auto (Liquid)	3	OTTAWA	SBOUDREAU	2025-Apr-24	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Ammonia (Liquid)	3	KINGSTON	DCASSIDY	2025-Apr-24	NH3-001	SM 4500NH3

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

Parameter	Units	R.L.	Client I.D.	SW14	SW15	SW18
			Sample I.D.	25-010533-1	25-010533-2	25-010533-3
			Date Collected	2025-04-22	2025-04-22	2025-04-22
				-	-	-
pH @25°C	pH units	-		8.21	8.30	8.16
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		<0.05	<0.05	<0.05
pH (Client Data)	pH units	-		8.17	8.35	7.67
Temperature (Client Data)	°C	-		7.6	9.3	8



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-011186 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
 Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Apr-29
 DATE REPORTED: 2025-May-23
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	LMACGREGOR	2025-May-01	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-May-07	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	MWILSON	2025-May-20	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-May-01	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC (Liquid)	1	OTTAWA	TPRICE	2025-May-20	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-May-06	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	TPRICE	2025-May-02	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	SGORMAN	2025-May-02	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-May-02	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	DCASSIDY	2025-May-08	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-May-06	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-May-16	TPTKN-001	MECP E3516.2

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-011186 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-011186-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	619
TDS (Calc. from Cond.)	mg/L	3	891
Conductivity @25°C	uS/cm	1	1630
pH @25°C	pH units	-	7.61
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	155
Nitrate (N)	mg/L	0.05	0.08
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	40
BOD5	mg/L	3	<3
Phosphorus (Total)	mg/L	0.01	0.09
Total Kjeldahl Nitrogen	mg/L	0.1	17.9
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	14.1
Dissolved Organic Carbon	mg/L	0.8	7.7
Phenolics	mg/L	0.001	<0.001
COD	mg/L	5	38
Hardness (as CaCO3)	mg/L	0.02	606
Aluminum (Total)	mg/L	0.01	0.07
Barium (Total)	mg/L	0.001	0.229
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.291



Michelle Dubien
Data Specialist

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CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-011186 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-011186-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	191
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	<0.005
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	13.2
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	31.2
Manganese (Total)	mg/L	0.001	0.496
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	<0.01
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	14.2
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	98.8
Strontium (Total)	mg/L	0.001	0.634
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	<0.005
Antimony (Total)	mg/L	0.0005	<0.0005



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-011186 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-011186-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0008
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum	meq/L	-	17.6
Cation Sum	meq/L	-	17.5
% Difference	%	-	0.188
Ion Ratio	-	-	1.00
Sodium Adsorption Ratio	-	-	1.75
TDS (Ion Sum Calc)	mg/L	1	915
TDS(calc.)/EC(actual)	-	-	0.562
Conductivity Calc	µmho/cm	-	1520
Conductivity Calc / Conductivity	-	-	0.932
Langelier Index(25°C)	-	-	1.18
Saturation pH (25°C)	-	-	6.43
pH (Client Data)	pH units	-	7.31
Temperature (Client Data)	°C	-	8.5



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

C.O.C.: -

REPORT No: 25-011200 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
 Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Apr-29
 DATE REPORTED: 2025-May-23
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2025-May-02	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-May-07	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	YLIEN	2025-May-16	COD-001	SM 5220D
Colour (Liquid)	1	OTTAWA	STAILLON	2025-May-02	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-May-01	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	1	KINGSTON	EHINCH	2025-May-01	CN-001	SM 4500-CN-E
DOC (Liquid)	1	OTTAWA	SLOZO	2025-May-22	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-May-06	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	TPRICE	2025-May-02	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	SGORMAN	2025-May-02	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-May-02	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	DCASSIDY	2025-May-08	NH3-001	SM 4500NH3
PCB's (Liquid)	1	KINGSTON	CSUMMERHAYS	2025-May-02	PCB-001	EPA 8081
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-May-06	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-May-16	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-May-06	TSS-001	SM 2540D
Turbidity (Liquid)	1	OTTAWA	MMIRELLA	2025-Apr-30	A-TURB-01	SM 2130B
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	FLENA	2025-May-02	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-011200 - Rev. 0

		Client I.D.	LPC 2
		Sample I.D.	25-011200-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	1500
TDS (Calc. from Cond.)	mg/L	3	2290
Conductivity @25°C	uS/cm	1	4070
pH @25°C	pH units	-	7.67
Colour	TCU	2	188
Turbidity	NTU	0.1	155
Fluoride	mg/L	0.1	<0.4
Chloride	mg/L	0.5	512
Nitrate (N)	mg/L	0.05	<0.20
Nitrite (N)	mg/L	0.05	<0.20
Sulphate	mg/L	1	74
BOD5	mg/L	3	30
Total Suspended Solids	mg/L	3	3240
Phosphorus (Total)	mg/L	0.01	1.98
Total Kjeldahl Nitrogen	mg/L	0.1	177
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	128
Ammonia (N)-unionized	mg/L	0.01	0.33
Dissolved Organic Carbon	mg/L	0.8	59.3
Cyanide (WAD)	mg/L	0.005	<0.005
Phenolics	mg/L	0.001	0.155
COD	mg/L	5	583



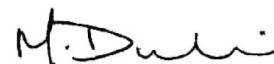
Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-011200 - Rev. 0

		Client I.D.	LPC 2
		Sample I.D.	25-011200-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Hardness (as CaCO ₃)	mg/L	0.02	1050
Aluminum (Total)	mg/L	0.01	1.79
Barium (Total)	mg/L	0.001	0.562
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	3.79
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	325
Chromium (Total)	mg/L	0.002	0.038
Cobalt (Total)	mg/L	0.005	0.018
Copper (Total)	mg/L	0.002	0.041
Iron (Total)	mg/L	0.005	80.5
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	58.7
Manganese (Total)	mg/L	0.001	0.958
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	0.05
Phosphorus (Total)	mg/L	0.1	2.0
Potassium (Total)	mg/L	0.1	136
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	341
Strontium (Total)	mg/L	0.001	1.74



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REPORT No: 25-011200 - Rev. 0

		Client I.D.	LPC 2
		Sample I.D.	25-011200-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	0.140
Vanadium (Total)	mg/L	0.005	0.025
Zinc (Total)	mg/L	0.005	0.350
Antimony (Total)	mg/L	0.0005	0.0053
Arsenic (Total)	mg/L	0.0005	0.0285
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	0.0004
Uranium (Total)	mg/L	0.0003	0.0007
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	0.00005
Anion Sum	meq/L	-	45.9
Cation Sum	meq/L	-	43.6
% Difference	%	-	2.54
Ion Ratio	-	-	1.05
Sodium Adsorption Ratio	-	-	4.57
TDS (Ion Sum Calc)	mg/L	1	2420
TDS(calc.)/EC(actual)	-	-	0.596
Conductivity Calc	µmho/cm	-	3390
Conductivity Calc / Conductivity	-	-	0.834
Langelier Index(25°C)	-	-	1.83



Michelle Dubien
Data Specialist

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		Client I.D.	LPC 2
		Sample I.D.	25-011200-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Saturation pH (25°C)	-	-	5.84
pH (Client Data)	pH units	-	7.04
Temperature (Client Data)	°C	-	13.2



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Final Report
REPORT No: 25-011200 - Rev. 0

		Client I.D.	LPC 2
		Sample I.D.	25-011200-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Acetone	µg/L	30	344
Benzene	µg/L	0.5	0.7
Bromodichloromethane	µg/L	2	<2
Bromoform	µg/L	5	<5
Bromomethane	µg/L	0.5	<0.5
Carbon Tetrachloride	µg/L	0.2	<0.2
Chlorobenzene	µg/L	0.5	<0.5
Chloroform	µg/L	1	<1
Chloromethane (Methyl Chloride)	µg/L	2	<2
Dibromochloromethane	µg/L	2	<2
Ethylene Dibromide	µg/L	0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5	<0.5
Dichloroethane,1,1-	µg/L	0.5	<0.5
Dichloroethane,1,2-	µg/L	0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5



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Final Report
REPORT No: 25-011200 - Rev. 0

		Client I.D.	LPC 2
		Sample I.D.	25-011200-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	3.0
Dichloromethane (Methylene Chloride)	µg/L	5	<5
Methyl Ethyl Ketone	µg/L	2	227
Methyl Isobutyl Ketone	µg/L	20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2
Styrene	µg/L	0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5
Tetrachloroethylene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	5.6
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5	<0.5
Trichloroethylene	µg/L	0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5	<5
Vinyl Chloride	µg/L	0.2	<0.2
Xylene, m,p-	µg/L	1	2
Xylene, o-	µg/L	0.5	0.8



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Data Specialist

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		Client I.D.	LPC 2
		Sample I.D.	25-011200-1
		Date Collected	2025-04-28
Parameter	Units	R.L.	-
Poly-Chlorinated Biphenyls (PCB's)	µg/L	0.05	<0.05
Identification Comment	-	-	-

Elevated RLs due to sample matrix interferences



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-011214 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Apr-29
DATE REPORTED: 2025-May-16
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS SW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-May-01	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
ICP/OES Total (Liquid)	2	OTTAWA	SGORMAN	2025-May-02	D-ICP-01	SM 3120B
ICP/OES (Liquid)	2	OTTAWA	SGORMAN	2025-May-02	D-ICP-01	SM 3120B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-May-08	NH3-001	SM 4500NH3
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-May-06	TSS-001	SM 2540D
Turbidity (Liquid)	2	OTTAWA	MMIRELLA	2025-Apr-30	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

Parameter	Units	R.L.	Client I.D.	Nearshore 1	Nearshore 2
			Sample I.D.	25-011214-1	25-011214-2
			Date Collected	2025-04-28	2025-04-28
				-	-
pH @25°C	pH units	-		8.12	8.00
Turbidity	NTU	0.1		1.4	1.0
Total Suspended Solids	mg/L	3		4	3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.16	0.07
Iron	mg/L	0.005		0.021	0.042
Iron (Total)	mg/L	0.005		0.078	0.089
pH (Client Data)	pH units	-		8.36	8.47
Temperature (Client Data)	°C	-		13	13.5



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-011235 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Apr-29
DATE REPORTED: 2025-May-26
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS SW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	14	OTTAWA	PCURIEL	2025-May-02	A-IC-01	SM 4110B
BOD5 (Liquid)	14	KINGSTON	DCASSIDY	2025-May-07	BOD-001	SM 5210B
COD (Liquid)	14	KINGSTON	YLIEN	2025-May-16	COD-001	SM 5220D
Colour (Liquid)	14	OTTAWA	STAILLON	2025-May-02	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	14	OTTAWA	SBOUDREAU	2025-May-01	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	14	KINGSTON	EHINCH	2025-May-01	CN-001	SM 4500-CN-E
DOC (Liquid)	14	OTTAWA	SLOZO	2025-May-20	C-OC-01	EPA 415.2
Ion Balance (Calc.)	14	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	14	OTTAWA	STAILLON	2025-May-08	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	14	OTTAWA	TPRICE	2025-May-06	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	14	OTTAWA	GFENTON	2025-May-06	D-ICP-01	SM 3120B
ICP/OES (Liquid)	14	OTTAWA	SGORMAN	2025-May-02	D-ICP-01	SM 3120B
Mercury (Liquid)	14	OTTAWA	TBENNETT	2025-May-06	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	14	KINGSTON	DCASSIDY	2025-May-08	NH3-001	SM 4500NH3
Phenols (Liquid)	14	KINGSTON	EHINCH	2025-May-07	PHEN-01	MECP E3179
Tannins (Liquid)	2	KINGSTON	MWILSON	2025-May-05	TAN-001	SM 5550
TP & TKN (Liquid)	14	KINGSTON	YLIEN	2025-May-16	TPTKN-001	MECP E3516.2
TSS (Liquid)	14	KINGSTON	MCLOSS	2025-May-06	TSS-001	SM 2540D
Turbidity (Liquid)	14	OTTAWA	MMIRELLA	2025-Apr-30	A-TURB-01	SM 2130B
VOC-Volatiles Full (Water)	7	RICHMOND_HILL	FLENA	2025-May-07	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

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Final Report

REPORT No: 25-011235 - Rev. 0

Client I.D.			SCG-Upstream	SCG-Downstream	Embay A	Embay B	Embay C
Sample I.D.			25-011235-1	25-011235-2	25-011235-3	25-011235-4	25-011235-5
Date Collected			2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	181	176	180	175	175
Conductivity @25°C	uS/cm	1	494	489	625	476	533
pH @25°C	pH units	-	8.30	8.20	8.16	8.19	8.20
Colour	TCU	2	15	15	12	12	13
Turbidity	NTU	0.1	2.7	6.3	2.7	2.3	2.9
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	39.0	42.0	78.1	40.0	55.2
Nitrate (N)	mg/L	0.05	1.08	0.92	1.64	0.82	1.13
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	11	11	16	11	13
BOD5	mg/L	3	<3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	8	12	7	6	9
Phosphorus (Total)	mg/L	0.01	0.02	0.03	0.02	0.02	0.03
Total Kjeldahl Nitrogen	mg/L	0.1	0.9	0.9	1.0	0.9	1.0
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.23	0.23	0.24	0.23	0.29
Ammonia (N)-unionized	mg/L	0.01	0.02	<0.01	0.01	0.01	0.02
Dissolved Organic Carbon	mg/L	0.8	10.4	12.4	11.9	12.6	11.3
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	0.002	<0.001	<0.001
COD	mg/L	5	20	24	29	20	33
Aluminum	mg/L	0.01	0.04	0.03	0.06	0.03	0.14



Michelle Dubien
Data Specialist

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Final Report

REPORT No: 25-011235 - Rev. 0

			Client I.D.	SCG-Upstream	SCG-Downstream	Embay A	Embay B	Embay C
			Sample I.D.	25-011235-1	25-011235-2	25-011235-3	25-011235-4	25-011235-5
			Date Collected	2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.		-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02		222	218	232	223	223
Aluminum (Total)	mg/L	0.01		0.06	0.08	0.10	0.04	0.15
Barium (Total)	mg/L	0.001		0.037	0.038	0.039	0.038	0.038
Boron (Total)	mg/L	0.005		0.011	0.013	0.022	0.012	0.017
Calcium (Total)	mg/L	0.02		73.2	71.3	76.5	72.9	73.2
Iron (Total)	mg/L	0.005		0.054	0.124	0.076	0.076	0.085
Magnesium (Total)	mg/L	0.02		9.38	9.67	9.97	9.86	9.77
Manganese (Total)	mg/L	0.001		0.074	0.073	0.049	0.066	0.048
Phosphorus (Total)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium (Total)	mg/L	0.1		2.5	2.5	3.6	2.4	3.1
Sodium (Total)	mg/L	0.2		20.8	23.1	43.8	22.8	34.5
Strontium (Total)	mg/L	0.001		0.206	0.204	0.218	0.207	0.210
Tin (Total)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc (Total)	mg/L	0.005		0.029	0.076	0.032	0.019	0.024
Antimony (Total)	mg/L	0.0001		0.0004	0.0004	0.0002	0.0004	0.0003
Arsenic (Total)	mg/L	0.0001		0.0002	0.0003	0.0002	0.0002	0.0002
Beryllium (Total)	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium (Total)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt (Total)	mg/L	0.0001		0.0002	0.0002	0.0002	0.0002	0.0002



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Data Specialist**

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REPORT No: 25-011235 - Rev. 0

Client I.D.			SCG-Upstream	SCG-Downstream	Embay A	Embay B	Embay C
Sample I.D.			25-011235-1	25-011235-2	25-011235-3	25-011235-4	25-011235-5
Date Collected			2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.	-	-	-	-	-
Copper (Total)	mg/L	0.0001	0.0006	0.0006	0.0010	0.0003	0.0010
Lead (Total)	mg/L	0.00002	0.00011	0.00026	0.00015	0.00009	0.00019
Molybdenum (Total)	mg/L	0.0001	0.0002	0.0002	0.0004	0.0002	0.0003
Nickel (Total)	mg/L	0.0002	0.0007	0.0006	0.0008	0.0006	0.0007
Selenium (Total)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005	0.00057	0.00051	0.00046	0.00049	0.00049
Vanadium (Total)	mg/L	0.0001	0.0004	0.0005	0.0004	0.0004	0.0004
Chromium (VI)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	5.04	5.00	6.25	4.90	5.40
Cation Sum	meq/L	-	5.41	5.43	6.64	5.51	6.05
% Difference	%	-	3.58	4.16	3.05	5.83	5.66
Ion Ratio	-	-	0.931	0.920	0.941	0.890	0.893
Sodium Adsorption Ratio	-	-	0.609	0.681	1.25	0.664	1.01
TDS (Ion Sum Calc)	mg/L	1	270	270	343	267	299
TDS(calc.)/EC(actual)	-	-	0.547	0.551	0.549	0.562	0.560
Conductivity Calc	µmho/cm	-	514	515	650	514	570
Conductivity Calc / Conductivity	-	-	1.04	1.05	1.04	1.08	1.07
Langelier Index(25°C)	-	-	0.980	0.856	0.846	0.862	0.865



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REPORT No: 25-011235 - Rev. 0

			Client I.D.	SCG-Upstream	SCG-Downstream	Embay A	Embay B	Embay C
			Sample I.D.	25-011235-1	25-011235-2	25-011235-3	25-011235-4	25-011235-5
			Date Collected	2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		7.32	7.34	7.31	7.33	7.34
pH (Client Data)	pH units	-		8.52	8.04	8.4	8.49	8.63
Temperature (Client Data)	°C	-		12.3	11.3	11.7	11.6	11.4



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REPORT No: 25-011235 - Rev. 0

Client I.D.			SW-2	SW-3	SW-4	SW-14	SW-15
Sample I.D.			25-011235-6	25-011235-7	25-011235-8	25-011235-9	25-011235-10
Date Collected			2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	325	307	289	267	168
Conductivity @25°C	uS/cm	1	1000	828	670	717	983
pH @25°C	pH units	-	8.05	8.33	8.31	8.23	8.14
Colour	TCU	2	5	9	18	16	21
Turbidity	NTU	0.1	7.2	1.4	1.0	2.0	6.6
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	114	78.9	41.0	68.3	199
Nitrate (N)	mg/L	0.05	0.33	0.05	1.75	0.84	0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	27	20	10	11	23
BOD5	mg/L	3	4	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	10	6	3	6	9
Phosphorus (Total)	mg/L	0.01	0.02	<0.01	0.01	0.02	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	0.5	0.4	0.6	0.7	1.3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.09	0.08	0.07	0.05	0.21
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	7.1	7.6	10.7	11.6	11.7
Tannin & Lignin	mg/L	0.5				<0.5	
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	16	8	18	21	35



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Client I.D.			SW-2	SW-3	SW-4	SW-14	SW-15
Sample I.D.			25-011235-6	25-011235-7	25-011235-8	25-011235-9	25-011235-10
Date Collected			2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.	-	-	-	-	-
Aluminum	mg/L	0.01	0.06	0.08	0.06	0.06	0.04
Hardness (as CaCO ₃)	mg/L	0.02	370	341	309	314	224
Aluminum (Total)	mg/L	0.01	0.09	0.04	0.06	0.07	0.10
Barium (Total)	mg/L	0.001	0.100	0.058	0.043	0.043	0.070
Boron (Total)	mg/L	0.005	0.018	0.016	0.014	0.029	0.071
Calcium (Total)	mg/L	0.02	128	119	111	111	70.6
Iron (Total)	mg/L	0.005	0.186	0.100	0.056	0.114	0.830
Magnesium (Total)	mg/L	0.02	11.9	10.4	7.48	8.53	11.5
Manganese (Total)	mg/L	0.001	0.040	0.033	0.020	0.071	0.080
Phosphorus (Total)	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium (Total)	mg/L	0.1	2.8	2.1	1.8	4.2	6.4
Sodium (Total)	mg/L	0.2	66.6	45.6	21.8	40.8	124
Strontium (Total)	mg/L	0.001	0.387	0.328	0.294	0.313	0.361
Tin (Total)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc (Total)	mg/L	0.005	0.046	0.018	0.022	0.022	0.022
Antimony (Total)	mg/L	0.0001	0.0004	0.0003	0.0003	0.0003	0.0004
Arsenic (Total)	mg/L	0.0001	0.0002	0.0002	0.0002	0.0003	0.0010
Beryllium (Total)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium (Total)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001



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REPORT No: 25-011235 - Rev. 0

Client I.D.			SW-2	SW-3	SW-4	SW-14	SW-15
Sample I.D.			25-011235-6	25-011235-7	25-011235-8	25-011235-9	25-011235-10
Date Collected			2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.	-	-	-	-	-
Cobalt (Total)	mg/L	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003
Copper (Total)	mg/L	0.0001	0.0012	0.0039	0.0007	0.0006	0.0011
Lead (Total)	mg/L	0.00002	0.00010	<0.00002	0.00004	0.00003	0.00030
Molybdenum (Total)	mg/L	0.0001	0.0002	0.0002	0.0001	0.0002	0.0007
Nickel (Total)	mg/L	0.0002	0.0007	0.0004	0.0004	0.0005	0.0017
Selenium (Total)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005	0.00113	0.00152	0.00054	0.00048	0.00130
Vanadium (Total)	mg/L	0.0001	0.0002	0.0001	0.0004	0.0003	0.0005
Chromium (VI)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	10.3	8.78	7.27	7.55	9.45
Cation Sum	meq/L	-	10.4	8.86	7.17	8.16	10.1
% Difference	%	-	0.252	0.473	0.679	3.91	3.12
Ion Ratio	-	-	0.995	0.991	1.01	0.925	0.939
Sodium Adsorption Ratio	-	-	1.51	1.08	0.539	1.00	3.59
TDS (Ion Sum Calc)	mg/L	1	548	461	375	408	536
TDS(calc.)/EC(actual)	-	-	0.548	0.556	0.560	0.569	0.545
Conductivity Calc	µmho/cm	-	991	840	683	758	1010
Conductivity Calc / Conductivity	-	-	0.991	1.02	1.02	1.06	1.03



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REPORT No: 25-011235 - Rev. 0

			Client I.D.	SW-2	SW-3	SW-4	SW-14	SW-15
			Sample I.D.	25-011235-6	25-011235-7	25-011235-8	25-011235-9	25-011235-10
			Date Collected	2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.		-	-	-	-	-
Langelier Index(25°C)	-	-		1.20	1.43	1.36	1.24	0.743
Saturation pH (25°C)	-	-		6.85	6.90	6.95	6.99	7.40
pH (Client Data)	pH units	-		7.53	7.64	8.28	8.03	8.06
Temperature (Client Data)	°C	-		6.5	6.2	16.3	15.4	20.4



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Parameter	Client I.D.		SW-18	WPCP Effluent	DUP	DUP-1
	Sample I.D.		25-011235-11	25-011235-12	25-011235-13	25-011235-14
	Date Collected		2025-04-28	2025-04-28	2025-04-28	2025-04-28
	Units	R.L.	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	218	196	196	174
Conductivity @25°C	uS/cm	1	844	1540	1540	485
pH @25°C	pH units	-	8.19	7.97	7.94	8.14
Colour	TCU	2	25	8	9	13
Turbidity	NTU	0.1	1.5	3.4	2.9	6.6
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	131	361	355	42.7
Nitrate (N)	mg/L	0.05	0.07	9.00	8.91	0.93
Nitrite (N)	mg/L	0.05	<0.05	0.06	0.09	<0.05
Sulphate	mg/L	1	14	54	54	11
BOD5	mg/L	3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	20	12	9	11
Phosphorus (Total)	mg/L	0.01	0.04	0.08	0.08	0.03
Total Kjeldahl Nitrogen	mg/L	0.1	1.0	1.3	1.3	0.9
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.11	0.15	0.16	0.22
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	13.2	6.7	6.8	11.9
Tannin & Lignin	mg/L	0.5	0.8			
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	35	32	31	23



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			Client I.D.	SW-18	WPCP Effluent	DUP	DUP-1
			Sample I.D.	25-011235-11	25-011235-12	25-011235-13	25-011235-14
			Date Collected	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.		-	-	-	-
Aluminum	mg/L	0.01		0.04	0.09	0.11	0.04
Hardness (as CaCO3)	mg/L	0.02		247	340	317	207
Aluminum (Total)	mg/L	0.01		0.03	1.47	1.36	0.07
Barium (Total)	mg/L	0.001		0.043	0.055	0.051	0.036
Boron (Total)	mg/L	0.005		0.076	0.094	0.087	0.011
Calcium (Total)	mg/L	0.02		84.4	112	105	68.0
Iron (Total)	mg/L	0.005		0.154	0.046	0.039	0.114
Magnesium (Total)	mg/L	0.02		8.80	14.5	13.4	9.02
Manganese (Total)	mg/L	0.001		0.080	0.010	0.009	0.052
Phosphorus (Total)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1
Potassium (Total)	mg/L	0.1		8.8	12.2	11.2	2.2
Sodium (Total)	mg/L	0.2		75.1	188	174	21.8
Strontium (Total)	mg/L	0.001		0.297	0.368	0.341	0.191
Tin (Total)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005		<0.005	<0.005	<0.005	<0.005
Zinc (Total)	mg/L	0.005		0.010	0.050	0.049	0.008
Antimony (Total)	mg/L	0.0001		0.0004	0.0005	0.0005	0.0002
Arsenic (Total)	mg/L	0.0001		0.0004	0.0002	0.0002	0.0002
Beryllium (Total)	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015		<0.000015	0.000027	0.000025	<0.000015
Chromium (Total)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001



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Client I.D.			SW-18	WPCP Effluent	DUP	DUP-1
Sample I.D.			25-011235-11	25-011235-12	25-011235-13	25-011235-14
Date Collected			2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.	-	-	-	-
Cobalt (Total)	mg/L	0.0001	0.0003	0.0003	0.0003	0.0002
Copper (Total)	mg/L	0.0001	0.0003	0.0069	0.0067	0.0005
Lead (Total)	mg/L	0.00002	0.00003	0.00035	0.00036	0.00033
Molybdenum (Total)	mg/L	0.0001	0.0003	0.0016	0.0015	0.0002
Nickel (Total)	mg/L	0.0002	0.0008	0.0009	0.0009	0.0005
Selenium (Total)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005	0.00050	0.00024	0.00023	0.00052
Vanadium (Total)	mg/L	0.0001	0.0002	0.0002	0.0002	0.0004
Chromium (VI)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	8.35	15.9	15.7	4.98
Cation Sum	meq/L	-	8.45	15.3	14.2	5.15
% Difference	%	-	0.540	1.81	4.84	1.73
Ion Ratio	-	-	0.989	1.04	1.10	0.966
Sodium Adsorption Ratio	-	-	2.08	4.45	4.26	0.658
TDS (Ion Sum Calc)	mg/L	1	454	900	869	264
TDS(calc.)/EC(actual)	-	-	0.538	0.583	0.563	0.544
Conductivity Calc	µmho/cm	-	851	1620	1560	502
Conductivity Calc / Conductivity	-	-	1.01	1.05	1.01	1.04



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			Client I.D.	SW-18	WPCP Effluent	DUP	DUP-1
			Sample I.D.	25-011235-11	25-011235-12	25-011235-13	25-011235-14
			Date Collected	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.		-	-	-	-
Langelier Index(25°C)	-	-		0.992	0.819	0.760	0.780
Saturation pH (25°C)	-	-		7.20	7.15	7.18	7.36
pH (Client Data)	pH units	-		8.02	8.28	8.28	8.04
Temperature (Client Data)	°C	-		16.2	12.3	12.3	11.3



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Client I.D.			SCG-Upstream	SCG-Downstream	SW-3	SW-14	SW-18
Sample I.D.			25-011235-1	25-011235-2	25-011235-7	25-011235-9	25-011235-11
Date Collected			2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.	-	-	-	-	-
Acetone	µg/L	30	<30	<30	<30	<30	<30
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	2	<2	<2	<2	<2	<2
Bromoform	µg/L	5	<5	<5	<5	<5	<5
Bromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	µg/L	1	<1	<1	<1	<1	<1
Chloromethane (Methyl Chloride)	µg/L	2	<2	<2	<2	<2	<2
Dibromochloromethane	µg/L	2	<2	<2	<2	<2	<2
Ethylene Dibromide	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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Client I.D.			SCG-Upstream	SCG-Downstream	SW-3	SW-14	SW-18
Sample I.D.			25-011235-1	25-011235-2	25-011235-7	25-011235-9	25-011235-11
Date Collected			2025-04-28	2025-04-28	2025-04-28	2025-04-28	2025-04-28
Parameter	Units	R.L.	-	-	-	-	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene Chloride)	µg/L	5	<5	<5	<5	<5	<5
Methyl Ethyl Ketone	µg/L	2	<2	<2	<2	<2	<2
Methyl Isobutyl Ketone	µg/L	20	<20	<20	<20	<20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2	<2	<2	<2	<2
Styrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	0.6	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5	<5	<5	<5	<5	<5
Vinyl Chloride	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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			Client I.D.	WPCP Effluent	DUP
			Sample I.D.	25-011235-12	25-011235-13
			Date Collected	2025-04-28	2025-04-28
Parameter	Units	R.L.		-	-
Acetone	µg/L	30		<30	<30
Benzene	µg/L	0.5		<0.5	<0.5
Bromodichloromethane	µg/L	2		<2	<2
Bromoform	µg/L	5		<5	<5
Bromomethane	µg/L	0.5		<0.5	<0.5
Carbon Tetrachloride	µg/L	0.2		<0.2	<0.2
Chlorobenzene	µg/L	0.5		<0.5	<0.5
Chloroform	µg/L	1		2	1
Chloromethane (Methyl Chloride)	µg/L	2		<2	<2
Dibromochloromethane	µg/L	2		<2	<2
Ethylene Dibromide	µg/L	0.2		<0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5		<0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5		<0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5		<0.5	<0.5
Dichloroethane,1,1-	µg/L	0.5		<0.5	<0.5
Dichloroethane,1,2-	µg/L	0.5		<0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5		<0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5		<0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5		<0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5		<0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5		<0.5	<0.5



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Parameter	Client I.D.		WPCP Effluent	DUP
	Sample I.D.		25-011235-12	25-011235-13
	Date Collected		2025-04-28	2025-04-28
	Units	R.L.	-	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5
Dichloromethane (Methylene Chloride)	µg/L	5	<5	<5
Methyl Ethyl Ketone	µg/L	2	<2	<2
Methyl Isobutyl Ketone	µg/L	20	<20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2	<2
Styrene	µg/L	0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5	<0.5
Tetrachloroethylene	µg/L	0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5	<0.5
Trichloroethane, 1,1,1,-	µg/L	0.5	<0.5	<0.5
Trichloroethane, 1,1,2,-	µg/L	0.5	<0.5	<0.5
Trichloroethylene	µg/L	0.5	<0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5	<5	<5
Vinyl Chloride	µg/L	0.2	<0.2	<0.2
Xylene, m,p-	µg/L	1	<1	<1
Xylene, o-	µg/L	0.5	<0.5	<0.5



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C.O.C.: -

REPORT No: 25-012703 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
Unit #14
Richmond Hill, ON L4B 1J9

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-May-08
DATE REPORTED: 2025-Jun-02
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: Lindsay OPS GW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	24	OTTAWA	PCURIEL	2025-May-13	A-IC-01	SM 4110B
BOD5 (Liquid)	24	KINGSTON	DCASSIDY	2025-May-26	BOD-001	SM 5210B
COD (Liquid)	24	KINGSTON	MCLOSS	2025-May-23	COD-001	SM 5220D
Colour (Liquid)	24	OTTAWA	LMACGREGOR	2025-May-20	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	24	OTTAWA	SBOUDREAU	2025-May-13	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	24	KINGSTON	EHINCH	2025-May-12	CN-001	SM 4500-CN-E
DOC (Liquid)	24	OTTAWA	LMACGREGOR	2025-May-28	C-OC-01	EPA 415.2
Ion Balance (Calc.)	24	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	24	OTTAWA	STAILLON	2025-May-14	D-CRVI-01	MECP E3056
ICP/MS (Liquid)	24	OTTAWA	AOZKAYMAK	2025-May-23	D-ICPMS-01	EPA 200.8
ICP/OES (Liquid)	24	OTTAWA	SGORMAN	2025-May-21	D-ICP-01	SM 3120B
Mercury (Liquid)	24	OTTAWA	TBENNETT	2025-May-14	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	24	KINGSTON	VHAMMOND	2025-May-26	NH3-001	SM 4500NH3
Phenols (Liquid)	24	KINGSTON	EHINCH	2025-May-22	PHEN-01	MECP E3179
TP & TKN (Liquid)	24	KINGSTON	DCASSIDY	2025-May-29	TPTKN-001	MECP E3516.2
TSS (Liquid)	24	KINGSTON	KYUILL	2025-May-14	TSS-001	SM 2540D
Turbidity (Liquid)	24	OTTAWA	MMIRELLA	2025-May-14	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



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Data Specialist

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Client I.D.			11-90	32-93-I	32-93-II	43-93-I	43-93-II
Sample I.D.			25-012703-1	25-012703-2	25-012703-3	25-012703-4	25-012703-5
Date Collected			2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	407	278	272	286	494
TDS (Calc. from Cond.)	mg/L	3	593	494	481	466	543
Conductivity @25°C	uS/cm	1	1100	930	908	880	1020
pH @25°C	pH units	-	7.74	7.84	7.96	7.95	7.74
Colour	TCU	2	<2	<2	<2	<2	<2
Turbidity	NTU	0.1	35.6	264	15.6	243	147
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	105	112	109	89.7	24.0
Nitrate (N)	mg/L	0.05	<0.05	<0.05	0.06	0.05	0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	37	45	45	53	40
BOD5	mg/L	3	4	<3	9	20	3
Total Suspended Solids	mg/L	3	6	834	34	242	114
Phosphorus (Total)	mg/L	0.01	0.01	0.12	0.02	0.09	0.08
Total Kjeldahl Nitrogen	mg/L	0.1	0.8	0.3	1.0	0.5	9.9
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.42	0.15	0.89	0.41	8.11
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	0.01	<0.01	0.02
Dissolved Organic Carbon	mg/L	0.8	5.9	3.1	3.2	3.1	4.6
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	16	13	9	7	18



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Client I.D.			11-90	32-93-I	32-93-II	43-93-I	43-93-II
Sample I.D.			25-012703-1	25-012703-2	25-012703-3	25-012703-4	25-012703-5
Date Collected			2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Hardness (as CaCO ₃)	mg/L	0.02	485	428	415	429	556
Aluminum	mg/L	0.01	0.07	0.07	0.07	0.07	0.10
Barium	mg/L	0.001	0.299	0.143	0.080	0.070	0.127
Boron	mg/L	0.005	0.108	0.048	0.039	0.063	0.008
Calcium	mg/L	0.02	126	114	113	101	201
Iron	mg/L	0.005	2.82	0.424	0.015	0.248	0.199
Magnesium	mg/L	0.02	41.4	34.9	32.3	43.0	13.1
Manganese	mg/L	0.001	0.087	0.008	0.042	0.010	0.012
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	4.0	2.5	2.2	3.0	0.5
Sodium	mg/L	0.2	30.4	18.3	17.3	9.5	20.6
Strontium	mg/L	0.001	1.29	0.853	0.788	1.17	0.446
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0002	<0.0001	0.0002	<0.0001	0.0002
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0002	0.0002	0.0007	0.0002	0.0006



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Client I.D.			11-90	32-93-I	32-93-II	43-93-I	43-93-II
Sample I.D.			25-012703-1	25-012703-2	25-012703-3	25-012703-4	25-012703-5
Date Collected			2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0003
Lead	mg/L	0.00002	<0.00002	0.00006	0.00008	0.00003	0.00003
Molybdenum	mg/L	0.0001	0.0005	0.0002	0.0004	<0.0001	0.0002
Nickel	mg/L	0.0002	0.0010	<0.0002	0.0006	<0.0002	0.0009
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	0.00014	<0.00005	0.00022	<0.00005	0.00069
Vanadium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002
Chromium (VI)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	11.9	9.64	9.45	9.35	11.4
Cation Sum	meq/L	-	11.3	9.46	9.12	9.11	12.0
% Difference	%	-	2.38	0.940	1.73	1.29	2.74
Ion Ratio	-	-	1.05	1.02	1.04	1.03	0.947
Sodium Adsorption Ratio	-	-	0.601	0.385	0.369	0.200	0.380
TDS (Ion Sum Calc)	mg/L	1	591	494	482	471	597
TDS(calc.)/EC(actual)	-	-	0.534	0.531	0.531	0.535	0.587
Conductivity Calc	µmho/cm	-	1060	922	901	877	1030
Conductivity Calc / Conductivity	-	-	0.957	0.992	0.992	0.997	1.01
Langelier Index(25°C)	-	-	0.977	0.878	0.985	0.947	1.26



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			Client I.D.	11-90	32-93-I	32-93-II	43-93-I	43-93-II
			Sample I.D.	25-012703-1	25-012703-2	25-012703-3	25-012703-4	25-012703-5
			Date Collected	2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		6.76	6.96	6.98	7.00	6.48
pH (Client Data)	pH units	-		7.29	7.48	7.74	7.49	7.12
Temperature (Client Data)	°C	-		11.0	9.4	12.1	10.6	10.8



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Client I.D.			44-93-I	44-93-II	45-93	53-98	55-98-I
Sample I.D.			25-012703-6	25-012703-7	25-012703-8	25-012703-9	25-012703-10
Date Collected			2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	255	378	412	376	243
TDS (Calc. from Cond.)	mg/L	3	484	790	708	1320	490
Conductivity @25°C	uS/cm	1	912	1450	1310	2380	923
pH @25°C	pH units	-	7.84	7.79	7.89	7.68	7.95
Colour	TCU	2	<2	<2	<2	<2	<2
Turbidity	NTU	0.1	9.5	857	1910	25.4	131
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	115	236	172	543	131
Nitrate (N)	mg/L	0.05	<0.05	0.90	0.13	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	50	23	21	27	39
BOD5	mg/L	3	7	12	11	<3	<3
Total Suspended Solids	mg/L	3	12	687	1030	30	119
Phosphorus (Total)	mg/L	0.01	0.02	0.25	1.19	0.01	0.09
Total Kjeldahl Nitrogen	mg/L	0.1	0.4	0.4	0.5	1.9	1.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.25	0.07	0.11	1.47	1.04
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	0.02
Dissolved Organic Carbon	mg/L	0.8	2.9	2.9	3.1	2.7	2.7
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	<5	15	32	56	74



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REPORT No: 25-012703 - Rev. 0

Client I.D.			44-93-I	44-93-II	45-93	53-98	55-98-I
Sample I.D.			25-012703-6	25-012703-7	25-012703-8	25-012703-9	25-012703-10
Date Collected			2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02	423	448	365	845	373
Aluminum	mg/L	0.01	0.08	0.10	0.07	0.12	0.04
Barium	mg/L	0.001	0.186	0.103	0.073	1.11	0.188
Boron	mg/L	0.005	0.061	0.017	0.010	0.067	0.129
Calcium	mg/L	0.02	105	150	130	262	74.9
Iron	mg/L	0.005	0.639	<0.005	0.017	1.64	0.385
Magnesium	mg/L	0.02	39.0	17.7	9.81	46.2	45.3
Manganese	mg/L	0.001	0.009	<0.001	<0.001	0.111	0.007
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	2.7	1.2	1.0	3.4	4.2
Sodium	mg/L	0.2	15.3	103	131	134	24.3
Strontium	mg/L	0.001	0.964	0.531	0.314	1.87	1.91
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Arsenic	mg/L	0.0001	<0.0001	0.0001	0.0001	<0.0001	0.0003
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0002	0.0003	0.0002	0.0004	0.0001



**Michelle Dubien
Data Specialist**

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REPORT No: 25-012703 - Rev. 0

Client I.D.			44-93-I	44-93-II	45-93	53-98	55-98-I
Sample I.D.			25-012703-6	25-012703-7	25-012703-8	25-012703-9	25-012703-10
Date Collected			2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0002	0.0007	0.0004	<0.0001	<0.0001
Lead	mg/L	0.00002	<0.00002	0.00003	0.00005	<0.00002	<0.00002
Molybdenum	mg/L	0.0001	0.0002	0.0004	0.0004	<0.0001	0.0002
Nickel	mg/L	0.0002	<0.0002	0.0004	0.0005	<0.0002	<0.0002
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005	0.00047	0.00042	<0.00005	<0.00005
Vanadium	mg/L	0.0001	<0.0001	<0.0001	0.0002	0.0001	<0.0001
Chromium (VI)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	9.37	14.8	13.5	23.4	9.35
Cation Sum	meq/L	-	9.24	13.5	13.0	22.9	8.69
% Difference	%	-	0.723	4.60	1.87	0.966	3.65
Ion Ratio	-	-	1.01	1.10	1.04	1.02	1.08
Sodium Adsorption Ratio	-	-	0.324	2.12	2.98	2.01	0.547
TDS (Ion Sum Calc)	mg/L	1	481	762	712	1240	465
TDS(calc.)/EC(actual)	-	-	0.527	0.525	0.544	0.522	0.503
Conductivity Calc	µmho/cm	-	905	1370	1260	2250	886
Conductivity Calc / Conductivity	-	-	0.992	0.943	0.962	0.945	0.960
Langelier Index(25°C)	-	-	0.805	1.06	1.14	1.16	0.748



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Final Report

REPORT No: 25-012703 - Rev. 0

			Client I.D.	44-93-I	44-93-II	45-93	53-98	55-98-I
			Sample I.D.	25-012703-6	25-012703-7	25-012703-8	25-012703-9	25-012703-10
			Date Collected	2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		7.04	6.73	6.75	6.52	7.20
pH (Client Data)	pH units	-		7.52	7.42	7.38	7.25	8.03
Temperature (Client Data)	°C	-		9.1	9.6	8.1	10.6	8.7



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REPORT No: 25-012703 - Rev. 0

Client I.D.			55-98-II	56-02-I	57-02-II	58-I	61-10-I
Sample I.D.			25-012703-11	25-012703-12	25-012703-13	25-012703-14	25-012703-15
Date Collected			2025-05-07	2025-05-06	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	243	264	290	535	443
TDS (Calc. from Cond.)	mg/L	3	449	554	881	976	823
Conductivity @25°C	uS/cm	1	851	1040	1610	1780	1510
pH @25°C	pH units	-	8.06	7.69	7.81	7.62	7.71
Colour	TCU	2	<2	<2	<2	<2	2
Turbidity	NTU	0.1	16.0	152	33.2	83.4	5.3
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	110	154	298	251	199
Nitrate (N)	mg/L	0.05	<0.05	<0.05	0.24	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	39	42	75	70	71
BOD5	mg/L	3	<3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	9	644	57	57	7
Phosphorus (Total)	mg/L	0.01	0.02	0.05	0.04	0.08	0.03
Total Kjeldahl Nitrogen	mg/L	0.1	0.9	0.6	0.6	0.6	1.0
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.82	0.48	0.23	0.16	0.38
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	2.9	2.9	2.9	6.1	10.0
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	0.002
COD	mg/L	5	<5	11	11	13	24



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			Client I.D.	55-98-II	56-02-I	57-02-II	58-I	61-10-I
			Sample I.D.	25-012703-11	25-012703-12	25-012703-13	25-012703-14	25-012703-15
			Date Collected	2025-05-07	2025-05-06	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02		403	457	444	780	662
Aluminum	mg/L	0.01		0.04	0.06	0.08	0.14	0.09
Barium	mg/L	0.001		0.246	0.186	0.137	0.167	0.451
Boron	mg/L	0.005		0.091	0.095	0.058	0.182	0.153
Calcium	mg/L	0.02		82.6	103	157	262	167
Iron	mg/L	0.005		0.895	0.757	<0.005	0.130	1.31
Magnesium	mg/L	0.02		47.8	48.6	12.6	30.5	59.5
Manganese	mg/L	0.001		0.011	0.012	0.058	0.025	0.030
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		2.9	4.1	3.2	2.1	4.4
Sodium	mg/L	0.2		10.8	18.5	98.1	60.0	77.6
Strontium	mg/L	0.001		1.43	1.80	0.561	0.966	1.62
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001		0.0001	<0.0001	<0.0001	0.0003	0.0001
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0002	0.0016	0.0003	0.0009	0.0004



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Final Report

REPORT No: 25-012703 - Rev. 0

Client I.D.			55-98-II	56-02-I	57-02-II	58-I	61-10-I
Sample I.D.			25-012703-11	25-012703-12	25-012703-13	25-012703-14	25-012703-15
Date Collected			2025-05-07	2025-05-06	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0002	0.0002	0.0008	0.0006	0.0002
Lead	mg/L	0.00002	<0.00002	0.00002	<0.00002	0.00003	0.00002
Molybdenum	mg/L	0.0001	0.0003	<0.0001	0.0001	0.0002	<0.0001
Nickel	mg/L	0.0002	<0.0002	<0.0002	0.0006	0.0019	0.0065
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005	<0.00005	0.00082	0.00090	<0.00005
Vanadium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005
Chromium (VI)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	8.75	10.5	15.8	19.2	15.9
Cation Sum	meq/L	-	8.68	10.1	13.2	18.3	16.8
% Difference	%	-	0.422	1.79	8.78	2.54	2.70
Ion Ratio	-	-	1.01	1.04	1.19	1.05	0.947
Sodium Adsorption Ratio	-	-	0.234	0.376	2.03	0.935	1.31
TDS (Ion Sum Calc)	mg/L	1	439	529	819	997	846
TDS(calc.)/EC(actual)	-	-	0.516	0.511	0.508	0.560	0.560
Conductivity Calc	µmho/cm	-	846	1010	1460	1710	1490
Conductivity Calc / Conductivity	-	-	0.994	0.973	0.904	0.963	0.991
Langelier Index(25°C)	-	-	0.900	0.662	0.976	1.26	1.09



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REPORT No: 25-012703 - Rev. 0

			Client I.D.	55-98-II	56-02-I	57-02-II	58-I	61-10-I
			Sample I.D.	25-012703-11	25-012703-12	25-012703-13	25-012703-14	25-012703-15
			Date Collected	2025-05-07	2025-05-06	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		7.16	7.03	6.83	6.36	6.62
pH (Client Data)	pH units	-		7.78	7.48	7.51	7.08	7.06
Temperature (Client Data)	°C	-		8.9	9.1	8.5	10.3	11.3



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			Client I.D.	61-10-II	61-17-I	62-17-I	62-17-II	62-17-III
			Sample I.D.	25-012703-16	25-012703-17	25-012703-18	25-012703-19	25-012703-20
			Date Collected	2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5		416	494	485	400	419
TDS (Calc. from Cond.)	mg/L	3		735	905	711	570	514
Conductivity @25°C	uS/cm	1		1350	1650	1310	1060	965
pH @25°C	pH units	-		7.78	7.75	8.00	7.88	7.95
Colour	TCU	2		<2	3	4	<2	<2
Turbidity	NTU	0.1		714	299	3260	74.4	13200
Fluoride	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5		146	223	127	77.8	35.6
Nitrate (N)	mg/L	0.05		<0.05	<0.05	0.08	<0.05	0.10
Nitrite (N)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1		104	75	34	70	70
BOD5	mg/L	3		<3	<3	7	<3	4
Total Suspended Solids	mg/L	3		1150	91	2410	175	2640
Phosphorus (Total)	mg/L	0.01		0.33	0.18	0.86	0.05	2.70
Total Kjeldahl Nitrogen	mg/L	0.1		0.3	1.4	2.3	0.8	1.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.06	0.48	0.98	0.44	0.23
Ammonia (N)-unionized	mg/L	0.01		<0.01	<0.01	0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8		4.9	11.2	13.1	8.8	4.9
Cyanide (WAD)	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001		0.001	0.002	0.002	0.001	<0.001
COD	mg/L	5		31	46	120	12	179



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			Client I.D.	61-10-II	61-17-I	62-17-I	62-17-II	62-17-III
			Sample I.D.	25-012703-16	25-012703-17	25-012703-18	25-012703-19	25-012703-20
			Date Collected	2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02		590	652	375	500	410
Aluminum	mg/L	0.01		0.10	0.10	0.08	0.07	0.06
Barium	mg/L	0.001		0.155	0.531	0.268	0.233	0.199
Boron	mg/L	0.005		0.023	0.162	0.100	0.076	0.027
Calcium	mg/L	0.02		177	161	124	135	109
Iron	mg/L	0.005		0.260	1.05	0.030	0.385	0.006
Magnesium	mg/L	0.02		35.8	60.8	15.8	39.5	33.4
Manganese	mg/L	0.001		0.061	0.027	<0.001	0.021	<0.001
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		2.0	4.7	2.5	3.1	3.6
Sodium	mg/L	0.2		50.2	79.2	68.4	35.9	52.4
Strontium	mg/L	0.001		0.691	1.72	1.63	0.991	0.671
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001		<0.0001	<0.0001	0.0002	<0.0001	0.0002
Arsenic	mg/L	0.0001		0.0001	<0.0001	0.0003	<0.0001	0.0002
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0019	0.0003	0.0002	0.0002	0.0002



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REPORT No: 25-012703 - Rev. 0

			Client I.D.	61-10-II	61-17-I	62-17-I	62-17-II	62-17-III
			Sample I.D.	25-012703-16	25-012703-17	25-012703-18	25-012703-19	25-012703-20
			Date Collected	2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-	-	-
Copper	mg/L	0.0001		0.0004	<0.0001	0.0009	<0.0001	0.0007
Lead	mg/L	0.00002		<0.00002	<0.00002	0.00003	0.00003	0.00004
Molybdenum	mg/L	0.0001		0.0006	<0.0001	0.0006	<0.0001	0.0021
Nickel	mg/L	0.0002		0.0009	0.0057	0.0025	0.0020	0.0011
Selenium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00070	<0.00005	0.00157	<0.00005	0.00059
Vanadium	mg/L	0.0001		<0.0001	0.0005	0.0003	0.0002	0.0002
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		14.6	17.7	14.0	11.6	10.8
Cation Sum	meq/L	-		14.0	16.7	10.6	11.7	10.6
% Difference	%	-		1.92	3.03	14.0	0.112	1.17
Ion Ratio	-	-		1.04	1.06	1.32	0.998	1.02
Sodium Adsorption Ratio	-	-		0.900	1.35	1.54	0.699	1.13
TDS (Ion Sum Calc)	mg/L	1		765	902	663	602	555
TDS(calc.)/EC(actual)	-	-		0.565	0.545	0.506	0.566	0.575
Conductivity Calc	µmho/cm	-		1320	1570	1130	1060	951
Conductivity Calc / Conductivity	-	-		0.972	0.947	0.861	0.994	0.985
Langelier Index(25°C)	-	-		1.16	1.15	1.31	1.14	1.14



Michelle Dubien
Data Specialist

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Final Report

REPORT No: 25-012703 - Rev. 0

			Client I.D.	61-10-II	61-17-I	62-17-I	62-17-II	62-17-III
			Sample I.D.	25-012703-16	25-012703-17	25-012703-18	25-012703-19	25-012703-20
			Date Collected	2025-05-07	2025-05-07	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		6.62	6.60	6.69	6.74	6.81
pH (Client Data)	pH units	-		7.29	7.14	7.76	7.35	7.43
Temperature (Client Data)	°C	-		12.6	11.5	12.9	11.4	12.4



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Client I.D.			DUP-2	DUP-3	DUP-4	DUP-6
Sample I.D.			25-012703-21	25-012703-22	25-012703-23	25-012703-24
Date Collected			2025-05-07	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	243	494	428	262
TDS (Calc. from Cond.)	mg/L	3	447	912	506	548
Conductivity @25°C	uS/cm	1	848	1660	952	1020
pH @25°C	pH units	-	8.02	7.65	7.94	7.84
Colour	TCU	2	<2	3	<2	<2
Turbidity	NTU	0.1	15.3	727	3190	132
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	110	228	31.6	154
Nitrate (N)	mg/L	0.05	<0.05	<0.05	0.07	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	39	70	63	42
BOD5	mg/L	3	<3	<3	3	<3
Total Suspended Solids	mg/L	3	9	91	700	48
Phosphorus (Total)	mg/L	0.01	0.02	0.17	2.79	0.06
Total Kjeldahl Nitrogen	mg/L	0.1	0.5	1.4	1.4	0.6
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.33	0.50	0.12	0.46
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	2.9	11.3	5.3	3.1
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	0.002	0.001	<0.001	<0.001
COD	mg/L	5	<5	55	72	7



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REPORT No: 25-012703 - Rev. 0

			Client I.D.	DUP-2	DUP-3	DUP-4	DUP-6
			Sample I.D.	25-012703-21	25-012703-22	25-012703-23	25-012703-24
			Date Collected	2025-05-07	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.		-	-	-	-
Hardness (as CaCO ₃)	mg/L	0.02		405	676	418	461
Aluminum	mg/L	0.01		0.04	0.09	0.06	0.06
Barium	mg/L	0.001		0.248	0.560	0.205	0.186
Boron	mg/L	0.005		0.091	0.166	0.028	0.094
Calcium	mg/L	0.02		83.4	170	112	104
Iron	mg/L	0.005		0.899	1.13	0.013	0.762
Magnesium	mg/L	0.02		47.7	61.0	33.6	48.9
Manganese	mg/L	0.001		0.012	0.028	0.001	0.012
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		3.0	4.7	3.6	4.1
Sodium	mg/L	0.2		10.8	79.5	52.4	18.6
Strontium	mg/L	0.001		1.42	1.72	0.669	1.80
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001		0.0001	<0.0001	0.0001	<0.0001
Arsenic	mg/L	0.0001		0.0001	<0.0001	0.0002	<0.0001
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0002	0.0003	0.0002	0.0016



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Client I.D.			DUP-2	DUP-3	DUP-4	DUP-6
Sample I.D.			25-012703-21	25-012703-22	25-012703-23	25-012703-24
Date Collected			2025-05-07	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.	-	-	-	-
Copper	mg/L	0.0001	0.0002	<0.0001	0.0006	0.0001
Lead	mg/L	0.00002	<0.00002	<0.00002	0.00004	0.00002
Molybdenum	mg/L	0.0001	0.0002	<0.0001	0.0021	<0.0001
Nickel	mg/L	0.0002	<0.0002	0.0056	0.0010	<0.0002
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005	<0.00005	0.00058	<0.00005
Vanadium	mg/L	0.0001	<0.0001	0.0005	0.0002	<0.0001
Chromium (VI)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	8.75	17.8	10.8	10.5
Cation Sum	meq/L	-	8.71	17.2	10.7	10.2
% Difference	%	-	0.204	1.74	0.0763	1.21
Ion Ratio	-	-	1.00	1.04	1.00	1.02
Sodium Adsorption Ratio	-	-	0.234	1.33	1.12	0.377
TDS (Ion Sum Calc)	mg/L	1	440	912	553	530
TDS(calc.)/EC(actual)	-	-	0.519	0.548	0.581	0.517
Conductivity Calc	µmho/cm	-	848	1590	950	1010
Conductivity Calc / Conductivity	-	-	1.00	0.955	0.998	0.985
Langelier Index(25°C)	-	-	0.863	1.07	1.15	0.813



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			Client I.D.	DUP-2	DUP-3	DUP-4	DUP-6
			Sample I.D.	25-012703-21	25-012703-22	25-012703-23	25-012703-24
			Date Collected	2025-05-07	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.		-	-	-	-
Saturation pH (25°C)	-	-		7.16	6.58	6.79	7.03
pH (Client Data)	pH units	-		7.78	7.14	7.43	7.48
Temperature (Client Data)	°C	-		8.9	11.5	12.4	9.1



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-012777 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
 Unit #14
 Richmond Hill, ON L4B 1J9

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-May-09
 DATE REPORTED: 2025-Jun-02
 SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: Lindsay OPS GW
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	50	OTTAWA	PCURIEL	2025-May-15	A-IC-01	SM 4110B
COD (Liquid)	50	KINGSTON	MCLOSS	2025-May-26	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	50	OTTAWA	SBOUDREAU	2025-May-14	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC (Liquid)	50	OTTAWA	SLOZO	2025-May-30	C-OC-01	EPA 415.2
Ion Balance (Calc.)	50	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	50	OTTAWA	STAILLON	2025-May-14	D-CRVI-01	MECP E3056
ICP/MS (Liquid)	50	OTTAWA	AOZKAYMAK	2025-May-21	D-ICPMS-01	EPA 200.8
ICP/OES (Liquid)	50	OTTAWA	SGORMAN	2025-May-21	D-ICP-01	SM 3120B
Mercury (Liquid)	50	OTTAWA	TBENNETT	2025-May-15	D-HG-02	SM 3112B
Ammonia (Liquid)	50	KINGSTON	VHAMMOND	2025-May-26	NH3-001	SM 4500NH3
Phenols (Liquid)	50	KINGSTON	EHINCH	2025-May-23	PHEN-01	MECP E3179
TP & TKN (Liquid)	50	KINGSTON	DCASSIDY	2025-May-29	TPTKN-001	MECP E3516.2

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



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Final Report

REPORT No: 25-012777 - Rev. 0

Client I.D.			12-91-I	12-91-II	13-91-I	13-91-II	14-'07
Sample I.D.			25-012777-1	25-012777-2	25-012777-3	25-012777-4	25-012777-5
Date Collected			2025-05-07	2025-05-07	2025-05-06	2025-05-06	2025-05-06
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	253	296	186	261	288
TDS (Calc. from Cond.)	mg/L	3	346	314	380	360	292
Conductivity @25°C	uS/cm	1	666	605	729	694	563
pH @25°C	pH units	-	7.66	7.37	7.63	7.55	7.54
Fluoride	mg/L	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Chloride	mg/L	0.5	35.4	1.5	103	58.8	2.2
Nitrate (N)	mg/L	0.05	0.08	<0.05	<0.05	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	44	19	20	11	5
Phosphorus (Total)	mg/L	0.01	0.65	0.10	0.04	0.55	1.28
Total Kjeldahl Nitrogen	mg/L	0.1	0.6	0.9	0.6	1.2	0.5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.12	0.10	0.48	0.20	0.11
Dissolved Organic Carbon	mg/L	0.8	2.5	7.1	1.1	2.2	1.5
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	39	32	13	53	44
Hardness (as CaCO3)	mg/L	0.02	320	311	318	266	283
Aluminum	mg/L	0.01	0.04	0.10	0.04	0.06	0.06
Barium	mg/L	0.001	0.120	0.034	0.115	0.032	0.038
Boron	mg/L	0.005	0.050	0.016	0.100	0.005	0.007
Calcium	mg/L	0.02	77.2	114	58.1	99.1	106
Iron	mg/L	0.005	<0.005	2.74	0.328	<0.005	<0.005



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Client I.D.			12-91-I	12-91-II	13-91-I	13-91-II	14-'07
Sample I.D.			25-012777-1	25-012777-2	25-012777-3	25-012777-4	25-012777-5
Date Collected			2025-05-07	2025-05-07	2025-05-06	2025-05-06	2025-05-06
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	30.9	6.31	42.1	4.51	4.30
Manganese	mg/L	0.001	<0.001	0.865	0.003	<0.001	<0.001
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	2.0	0.3	3.7	<0.1	0.3
Sodium	mg/L	0.2	9.7	2.3	11.7	25.8	2.4
Strontium	mg/L	0.001	0.775	0.250	1.62	0.215	0.185
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0004	0.0010	<0.0001	<0.0001	<0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0002	0.0008	0.0001	0.0002	0.0002
Copper	mg/L	0.0001	0.0009	0.0004	0.0004	0.0009	0.0004
Lead	mg/L	0.00002	0.00004	0.00071	0.00003	0.00002	0.00002
Molybdenum	mg/L	0.0001	0.0004	0.0002	<0.0001	0.0001	0.0001
Nickel	mg/L	0.0002	0.0004	0.0013	<0.0002	0.0003	<0.0002
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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Final Report

REPORT No: 25-012777 - Rev. 0

			Client I.D.	12-91-I	12-91-II	13-91-I	13-91-II	14-'07
			Sample I.D.	25-012777-1	25-012777-2	25-012777-3	25-012777-4	25-012777-5
			Date Collected	2025-05-07	2025-05-07	2025-05-06	2025-05-06	2025-05-06
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00088	0.00563	<0.00005	0.00038	0.00059
Vanadium	mg/L	0.0001		<0.0001	0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		6.99	6.36	7.05	7.09	5.93
Cation Sum	meq/L	-		6.88	6.50	7.02	6.45	5.76
% Difference	%	-		0.742	1.13	0.184	4.75	1.47
Ion Ratio	-	-		1.01	0.978	1.00	1.10	1.03
Sodium Adsorption Ratio	-	-		0.236	0.0568	0.285	0.688	0.0624
TDS (Ion Sum Calc)	mg/L	1		352	325	351	355	293
TDS(calc.)/EC(actual)	-	-		0.528	0.537	0.481	0.512	0.521
Conductivity Calc	µmho/cm	-		652	578	704	654	534
Conductivity Calc / Conductivity	-	-		0.979	0.955	0.965	0.942	0.948
Langelier Index(25°C)	-	-		0.498	0.455	0.210	0.509	0.582
Saturation pH (25°C)	-	-		7.16	6.91	7.42	7.04	6.96



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Client I.D.			15-91-I	15-91-II	16-91-1	16-91-II	17-91-I
Sample I.D.			25-012777-6	25-012777-7	25-012777-8	25-012777-9	25-012777-10
Date Collected			2025-05-06	2025-05-06	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	499	559	375	614	293
TDS (Calc. from Cond.)	mg/L	3	591	547	938	1130	370
Conductivity @25°C	uS/cm	1	1100	1020	1710	2040	712
pH @25°C	pH units	-	7.55	6.99	7.61	7.18	7.59
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	30.1	1.9	319	291	24.3
Nitrate (N)	mg/L	0.05	0.45	<0.05	<0.05	<0.05	<0.05
Nitrite (N)	mg/L	0.05	0.16	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	60	<1	2	2	44
Phosphorus (Total)	mg/L	0.01	0.93	0.75	0.91	0.07	0.17
Total Kjeldahl Nitrogen	mg/L	0.1	3.0	1.1	3.4	6.7	0.8
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	1.13	0.41	0.69	4.28	0.65
Dissolved Organic Carbon	mg/L	0.8	4.4	7.2	7.3	10.6	2.3
Phenolics	mg/L	0.001	<0.001	<0.001	0.004	0.005	0.001
COD	mg/L	5	90	59	165	133	28
Hardness (as CaCO3)	mg/L	0.02	544	567	539	641	321
Aluminum	mg/L	0.01	0.11	0.10	0.10	0.11	0.06
Barium	mg/L	0.001	0.153	0.062	0.522	0.306	0.058
Boron	mg/L	0.005	0.078	0.064	0.278	0.640	0.016
Calcium	mg/L	0.02	174	203	159	204	108
Iron	mg/L	0.005	3.98	61.0	0.834	28.1	0.364



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Final Report

REPORT No: 25-012777 - Rev. 0

Client I.D.			15-91-I	15-91-II	16-91-1	16-91-II	17-91-I
Sample I.D.			25-012777-6	25-012777-7	25-012777-8	25-012777-9	25-012777-10
Date Collected			2025-05-06	2025-05-06	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	26.5	14.5	34.4	31.8	12.3
Manganese	mg/L	0.001	0.039	0.294	0.018	0.136	0.015
Phosphorus	mg/L	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	2.4	0.4	4.5	7.5	0.7
Sodium	mg/L	0.2	24.1	6.1	124	138	18.0
Strontium	mg/L	0.001	0.427	0.486	0.632	0.644	0.248
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	0.0002	0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0004	0.0046	0.0002	0.0027	0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0004	0.0006	0.0004	0.0008	0.0002
Copper	mg/L	0.0001	0.0005	0.0003	0.0002	0.0002	0.0004
Lead	mg/L	0.00002	<0.00002	0.00003	0.00007	0.00002	<0.00002
Molybdenum	mg/L	0.0001	0.0013	0.0004	0.0005	0.0001	0.0005
Nickel	mg/L	0.0002	0.0019	0.0007	0.0115	0.0211	<0.0002
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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REPORT No: 25-012777 - Rev. 0

			Client I.D.	15-91-I	15-91-II	16-91-1	16-91-II	17-91-I
			Sample I.D.	25-012777-6	25-012777-7	25-012777-8	25-012777-9	25-012777-10
			Date Collected	2025-05-06	2025-05-06	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00020	<0.00005	<0.00005	<0.00005	0.00043
Vanadium	mg/L	0.0001		0.0001	0.0008	0.0002	0.0010	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		12.1	11.2	16.5	20.5	7.45
Cation Sum	meq/L	-		12.2	14.8	16.3	20.5	7.23
% Difference	%	-		0.380	13.8	0.539	0.0445	1.54
Ion Ratio	-	-		0.992	0.757	1.01	0.999	1.03
Sodium Adsorption Ratio	-	-		0.450	0.111	2.32	2.37	0.438
TDS (Ion Sum Calc)	mg/L	1		623	622	868	1070	383
TDS(calc.)/EC(actual)	-	-		0.565	0.608	0.507	0.525	0.539
Conductivity Calc	µmho/cm	-		1050	951	1600	1800	681
Conductivity Calc / Conductivity	-	-		0.954	0.930	0.937	0.881	0.957
Langelier Index(25°C)	-	-		1.02	0.572	0.892	0.765	0.637
Saturation pH (25°C)	-	-		6.53	6.42	6.72	6.41	6.95



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Client I.D.			17-91-II	18-91	19-91	20-91-I	20-91-II
Sample I.D.			25-012777-11	25-012777-12	25-012777-13	25-012777-14	25-012777-15
Date Collected			2025-05-06	2025-05-06	2025-05-06	2025-05-06	2025-05-06
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	368	292	336	246	349
TDS (Calc. from Cond.)	mg/L	3	383	374	432	367	459
Conductivity @25°C	uS/cm	1	734	718	821	707	869
pH @25°C	pH units	-	7.47	7.62	7.68	7.76	7.76
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	0.5	0.3
Chloride	mg/L	0.5	1.6	36.9	38.8	75.2	71.7
Nitrate (N)	mg/L	0.05	0.38	<0.05	<0.05	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	26	27	45	4	<1
Phosphorus (Total)	mg/L	0.01	0.56	1.18	0.21	0.12	0.11
Total Kjeldahl Nitrogen	mg/L	0.1	0.4	0.7	0.5	1.6	1.5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.40	0.48	0.31	1.42	0.56
Dissolved Organic Carbon	mg/L	0.8	1.5	1.4	1.9	1.6	4.7
Phenolics	mg/L	0.001	<0.001	0.001	0.001	0.002	0.001
COD	mg/L	5	48	70	27	26	37
Hardness (as CaCO3)	mg/L	0.02	378	325	380	258	367
Aluminum	mg/L	0.01	0.08	0.07	0.07	0.04	0.04
Barium	mg/L	0.001	0.039	0.097	0.112	0.191	1.50
Boron	mg/L	0.005	0.013	0.011	0.014	0.201	0.160
Calcium	mg/L	0.02	141	109	126	49.0	77.1
Iron	mg/L	0.005	<0.005	0.012	0.345	0.170	0.046



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Client I.D.			17-91-II	18-91	19-91	20-91-I	20-91-II
Sample I.D.			25-012777-11	25-012777-12	25-012777-13	25-012777-14	25-012777-15
Date Collected			2025-05-06	2025-05-06	2025-05-06	2025-05-06	2025-05-06
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	6.30	12.8	15.7	33.0	42.4
Manganese	mg/L	0.001	<0.001	0.001	0.028	0.012	0.006
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	0.3	1.0	1.5	5.6	3.8
Sodium	mg/L	0.2	4.4	15.6	18.4	29.4	31.0
Strontium	mg/L	0.001	0.238	0.239	0.289	2.38	2.17
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0003	0.0003	0.0008	0.0001	0.0002
Copper	mg/L	0.0001	0.0004	0.0006	0.0004	0.0005	0.0007
Lead	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.0001	0.0001	0.0003	0.0003	<0.0001	<0.0001
Nickel	mg/L	0.0002	0.0004	0.0002	0.0004	<0.0002	0.0023
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	17-91-II	18-91	19-91	20-91-I	20-91-II
			Sample I.D.	25-012777-11	25-012777-12	25-012777-13	25-012777-14	25-012777-15
			Date Collected	2025-05-06	2025-05-06	2025-05-06	2025-05-06	2025-05-06
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00038	0.00059	0.00068	<0.00005	<0.00005
Vanadium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		7.96	7.45	8.75	7.14	9.03
Cation Sum	meq/L	-		7.76	7.20	8.44	6.65	8.83
% Difference	%	-		1.29	1.66	1.78	3.58	1.13
Ion Ratio	-	-		1.03	1.03	1.04	1.07	1.02
Sodium Adsorption Ratio	-	-		0.0985	0.377	0.411	0.796	0.704
TDS (Ion Sum Calc)	mg/L	1		402	378	448	344	437
TDS(calc.)/EC(actual)	-	-		0.548	0.526	0.545	0.487	0.503
Conductivity Calc	µmho/cm	-		706	687	793	661	822
Conductivity Calc / Conductivity	-	-		0.961	0.956	0.966	0.935	0.946
Langelier Index(25°C)	-	-		0.722	0.670	0.844	0.388	0.728
Saturation pH (25°C)	-	-		6.75	6.95	6.84	7.37	7.03



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Client I.D.			20-91-III	21-91-I	21-91-II	21-91-III	23-'07
Sample I.D.			25-012777-16	25-012777-17	25-012777-18	25-012777-19	25-012777-20
Date Collected			2025-05-06	2025-05-07	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	345	530	425	483	247
TDS (Calc. from Cond.)	mg/L	3	439	1410	823	1100	301
Conductivity @25°C	uS/cm	1	833	2540	1510	2000	580
pH @25°C	pH units	-	7.57	7.46	7.82	7.36	7.71
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	54.8	497	238	364	17.3
Nitrate (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	21	<1	<1	<1	32
Phosphorus (Total)	mg/L	0.01	0.03	0.10	0.04	0.04	0.42
Total Kjeldahl Nitrogen	mg/L	0.1	1.1	3.7	2.5	2.9	0.3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.68	2.40	1.72	1.08	<0.05
Dissolved Organic Carbon	mg/L	0.8	3.8	5.4	4.2	8.8	2.2
Phenolics	mg/L	0.001	0.002	0.003	0.002	0.005	0.003
COD	mg/L	5	20	90	45	103	44
Hardness (as CaCO3)	mg/L	0.02	367	866	470	681	294
Aluminum	mg/L	0.01	0.06	0.09	0.05	0.10	0.06
Barium	mg/L	0.001	0.202	0.892	4.06	0.811	0.079
Boron	mg/L	0.005	0.058	0.561	0.570	0.267	0.012
Calcium	mg/L	0.02	110	169	86.9	186	99.6
Iron	mg/L	0.005	1.15	0.624	1.25	9.37	0.013



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			Client I.D.	20-91-III	21-91-I	21-91-II	21-91-III	23-'07
			Sample I.D.	25-012777-16	25-012777-17	25-012777-18	25-012777-19	25-012777-20
			Date Collected	2025-05-06	2025-05-07	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.		-	-	-	-	-
Magnesium	mg/L	0.02		22.3	108	61.6	52.6	11.0
Manganese	mg/L	0.001		0.048	0.005	0.007	0.035	<0.001
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		2.0	10.9	8.1	5.6	1.4
Sodium	mg/L	0.2		24.2	145	133	132	7.6
Strontium	mg/L	0.001		0.456	10.8	6.71	1.41	0.249
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001		<0.0001	<0.0001	0.0002	0.0001	0.0002
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0003	0.0004	0.0002	0.0004	0.0003
Copper	mg/L	0.0001		0.0005	0.0002	0.0001	<0.0001	0.0005
Lead	mg/L	0.00002		<0.00002	0.00002	<0.00002	0.00009	<0.00002
Molybdenum	mg/L	0.0001		<0.0001	<0.0001	0.0001	<0.0001	0.0009
Nickel	mg/L	0.0002		0.0019	0.0076	0.0038	0.0141	0.0008
Selenium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	20-91-III	21-91-I	21-91-II	21-91-III	23-'07
			Sample I.D.	25-012777-16	25-012777-17	25-012777-18	25-012777-19	25-012777-20
			Date Collected	2025-05-06	2025-05-07	2025-05-07	2025-05-07	2025-05-06
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	0.00018
Vanadium	mg/L	0.0001		<0.0001	0.0002	0.0001	0.0003	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		8.87	24.6	15.2	19.9	6.09
Cation Sum	meq/L	-		8.50	24.2	15.6	20.0	6.25
% Difference	%	-		2.12	0.907	1.23	0.197	1.26
Ion Ratio	-	-		1.04	1.02	0.976	0.996	0.975
Sodium Adsorption Ratio	-	-		0.550	2.14	2.67	2.20	0.194
TDS (Ion Sum Calc)	mg/L	1		442	1250	785	1040	317
TDS(calc.)/EC(actual)	-	-		0.531	0.492	0.520	0.520	0.547
Conductivity Calc	µmho/cm	-		801	2260	1440	1860	581
Conductivity Calc / Conductivity	-	-		0.961	0.891	0.957	0.932	1.00
Langelier Index(25°C)	-	-		0.686	0.900	0.905	0.801	0.659
Saturation pH (25°C)	-	-		6.88	6.56	6.91	6.56	7.05



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Client I.D.			25-91	25-96	27-93	28-93	30-93
Sample I.D.			25-012777-21	25-012777-22	25-012777-23	25-012777-24	25-012777-25
Date Collected			2025-05-06	2025-05-06	2025-05-06	2025-05-06	2025-05-08
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	398	445	219	312	449
TDS (Calc. from Cond.)	mg/L	3	610	754	261	778	768
Conductivity @25°C	uS/cm	1	1140	1390	505	1430	1410
pH @25°C	pH units	-	7.61	8.10	7.70	8.01	7.54
Fluoride	mg/L	0.1	<0.1	2.1	0.1	0.6	0.3
Chloride	mg/L	0.5	129	180	9.6	262	177
Nitrate (N)	mg/L	0.05	<0.05	<0.05	<0.05	0.17	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	0.13	<0.05
Sulphate	mg/L	1	10	<1	37	<1	13
Phosphorus (Total)	mg/L	0.01	0.04	0.06	0.02	0.02	0.10
Total Kjeldahl Nitrogen	mg/L	0.1	0.9	4.0	0.5	2.4	8.9
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.19	3.24	0.39	1.74	6.82
Dissolved Organic Carbon	mg/L	0.8	2.0	<0.8	1.5	<0.8	2.6
Phenolics	mg/L	0.001	0.001	0.002	0.001	0.002	<0.001
COD	mg/L	5	28	24	5	29	37
Hardness (as CaCO3)	mg/L	0.02	398	156	247	156	464
Aluminum	mg/L	0.01	0.08	0.01	0.04	0.01	0.06
Barium	mg/L	0.001	0.084	0.226	0.082	0.302	0.390
Boron	mg/L	0.005	0.023	1.40	0.042	0.426	0.095
Calcium	mg/L	0.02	144	25.6	66.3	26.8	132
Iron	mg/L	0.005	0.354	0.149	0.498	0.766	8.46



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Client I.D.			25-91	25-96	27-93	28-93	30-93
Sample I.D.			25-012777-21	25-012777-22	25-012777-23	25-012777-24	25-012777-25
Date Collected			2025-05-06	2025-05-06	2025-05-06	2025-05-06	2025-05-08
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	9.29	22.5	19.8	21.6	32.6
Manganese	mg/L	0.001	0.037	<0.001	0.004	0.017	0.223
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	2.1	11.0	2.0	9.6	3.2
Sodium	mg/L	0.2	78.0	220	4.9	205	92.9
Strontium	mg/L	0.001	0.380	3.27	0.492	3.30	0.503
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0004	0.0001	<0.0001	0.0003	0.0049
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0006	<0.0001	0.0001	<0.0001	0.0029
Copper	mg/L	0.0001	0.0002	0.0002	0.0004	0.0002	0.0001
Lead	mg/L	0.00002	0.00003	0.00003	<0.00002	<0.00002	0.00002
Molybdenum	mg/L	0.0001	0.0003	0.0002	0.0002	0.0020	0.0005
Nickel	mg/L	0.0002	0.0006	<0.0002	<0.0002	<0.0002	0.0062
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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REPORT No: 25-012777 - Rev. 0

			Client I.D.	25-91	25-96	27-93	28-93	30-93
			Sample I.D.	25-012777-21	25-012777-22	25-012777-23	25-012777-24	25-012777-25
			Date Collected	2025-05-06	2025-05-06	2025-05-06	2025-05-06	2025-05-08
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00039	<0.00005	<0.00005	<0.00005	0.00016
Vanadium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		11.8	14.1	5.42	13.7	14.2
Cation Sum	meq/L	-		11.4	13.1	5.24	12.4	13.9
% Difference	%	-		1.64	3.74	1.69	4.89	1.32
Ion Ratio	-	-		1.03	1.08	1.03	1.10	1.03
Sodium Adsorption Ratio	-	-		1.70	7.65	0.135	7.14	1.88
TDS (Ion Sum Calc)	mg/L	1		612	728	271	714	729
TDS(calc.)/EC(actual)	-	-		0.539	0.524	0.537	0.499	0.516
Conductivity Calc	µmho/cm	-		1100	1280	498	1310	1290
Conductivity Calc / Conductivity	-	-		0.965	0.919	0.985	0.913	0.911
Langelier Index(25°C)	-	-		0.896	0.674	0.420	0.449	0.830
Saturation pH (25°C)	-	-		6.71	7.43	7.28	7.56	6.71



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Client I.D.			31-93	35-93-I	35-93-II	36-93	37-93-I
Sample I.D.			25-012777-26	25-012777-27	25-012777-28	25-012777-29	25-012777-30
Date Collected			2025-05-08	2025-05-06	2025-05-06	2025-05-06	2025-05-06
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	438	192	306	269	250
TDS (Calc. from Cond.)	mg/L	3	753	254	655	428	660
Conductivity @25°C	uS/cm	1	1390	491	1210	813	1220
pH @25°C	pH units	-	7.56	7.88	7.60	7.74	7.67
Fluoride	mg/L	0.1	0.2	0.2	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	178	28.9	202	73.0	218
Nitrate (N)	mg/L	0.05	0.10	0.06	0.10	0.10	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	13	25	21	49	55
Phosphorus (Total)	mg/L	0.01	0.25	0.04	0.74	0.18	0.02
Total Kjeldahl Nitrogen	mg/L	0.1	8.9	0.3	0.6	0.5	0.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	6.33	0.06	0.09	0.28	0.28
Dissolved Organic Carbon	mg/L	0.8	2.3	1.7	1.2	1.8	<0.8
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	40	12	43	34	19
Hardness (as CaCO3)	mg/L	0.02	401	234	363	360	482
Aluminum	mg/L	0.01	0.08	0.04	0.06	0.06	0.06
Barium	mg/L	0.001	0.358	0.153	0.118	0.289	0.276
Boron	mg/L	0.005	0.072	0.142	0.017	0.045	0.048
Calcium	mg/L	0.02	115	44.8	121	96.3	116
Iron	mg/L	0.005	7.61	0.009	<0.005	1.19	1.16



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Client I.D.			31-93	35-93-I	35-93-II	36-93	37-93-I
Sample I.D.			25-012777-26	25-012777-27	25-012777-28	25-012777-29	25-012777-30
Date Collected			2025-05-08	2025-05-06	2025-05-06	2025-05-06	2025-05-06
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	27.5	29.7	14.6	29.0	46.6
Manganese	mg/L	0.001	0.266	<0.001	<0.001	0.028	0.018
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	2.7	3.5	1.5	1.8	2.9
Sodium	mg/L	0.2	74.3	6.9	92.4	18.5	48.1
Strontium	mg/L	0.001	0.418	1.02	0.453	0.875	1.34
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0022	0.0003	<0.0001	<0.0001	0.0002
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0015	0.0001	0.0003	0.0002	0.0002
Copper	mg/L	0.0001	0.0002	0.0003	0.0006	0.0005	0.0009
Lead	mg/L	0.00002	0.00012	<0.00002	0.00002	0.00003	<0.00002
Molybdenum	mg/L	0.0001	0.0003	0.0002	0.0003	0.0002	0.0002
Nickel	mg/L	0.0002	0.0039	0.0002	0.0003	<0.0002	<0.0002
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	31-93	35-93-I	35-93-II	36-93	37-93-I
			Sample I.D.	25-012777-26	25-012777-27	25-012777-28	25-012777-29	25-012777-30
			Date Collected	2025-05-08	2025-05-06	2025-05-06	2025-05-06	2025-05-06
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00009	0.00011	0.00040	<0.00005	<0.00005
Vanadium	mg/L	0.0001		<0.0001	0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		14.1	5.20	12.3	8.47	12.3
Cation Sum	meq/L	-		11.7	5.09	11.3	8.13	11.9
% Difference	%	-		9.05	1.04	4.04	2.09	1.72
Ion Ratio	-	-		1.20	1.02	1.08	1.04	1.04
Sodium Adsorption Ratio	-	-		1.62	0.195	2.11	0.424	0.954
TDS (Ion Sum Calc)	mg/L	1		682	255	637	431	638
TDS(calc.)/EC(actual)	-	-		0.492	0.519	0.524	0.530	0.522
Conductivity Calc	µmho/cm	-		1190	491	1170	790	1200
Conductivity Calc / Conductivity	-	-		0.862	0.999	0.961	0.972	0.979
Langelier Index(25°C)	-	-		0.780	0.383	0.695	0.691	0.660
Saturation pH (25°C)	-	-		6.78	7.50	6.90	7.05	7.01



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Client I.D.			37-93-II	38-93	39-93-I	39-93-II	45-95-I
Sample I.D.			25-012777-31	25-012777-32	25-012777-33	25-012777-34	25-012777-35
Date Collected			2025-05-06	2025-05-06	2025-05-06	2025-05-06	2025-05-08
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	338	300	265	345	328
TDS (Calc. from Cond.)	mg/L	3	828	341	566	633	609
Conductivity @25°C	uS/cm	1	1520	657	1060	1180	1130
pH @25°C	pH units	-	7.61	7.79	7.75	7.72	7.60
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	0.6	0.7
Chloride	mg/L	0.5	269	12.8	161	158	113
Nitrate (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	47	34	39	19	100
Phosphorus (Total)	mg/L	0.01	1.90	0.95	<0.01	0.21	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	1.1	0.6	0.2	0.5	1.2
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.25	0.31	0.33	<0.05	0.82
Dissolved Organic Carbon	mg/L	0.8	1.1	2.2	1.0	1.8	3.2
Phenolics	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001
COD	mg/L	5	108	57	9	31	23
Hardness (as CaCO3)	mg/L	0.02	499	341	445	291	429
Aluminum	mg/L	0.01	0.10	0.07	0.06	0.04	0.07
Barium	mg/L	0.001	0.312	0.131	0.257	0.069	0.043
Boron	mg/L	0.005	0.033	0.024	0.071	0.024	0.111
Calcium	mg/L	0.02	159	109	95.4	104	128
Iron	mg/L	0.005	3.17	0.102	1.30	0.091	2.22



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			Client I.D.	37-93-II	38-93	39-93-I	39-93-II	45-95-I
			Sample I.D.	25-012777-31	25-012777-32	25-012777-33	25-012777-34	25-012777-35
			Date Collected	2025-05-06	2025-05-06	2025-05-06	2025-05-06	2025-05-08
Parameter	Units	R.L.		-	-	-	-	-
Magnesium	mg/L	0.02		24.6	16.6	50.2	7.58	26.6
Manganese	mg/L	0.001		0.192	0.048	0.017	0.016	0.039
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		1.9	0.8	2.7	4.0	2.4
Sodium	mg/L	0.2		100	7.0	28.8	110	63.6
Strontium	mg/L	0.001		0.674	0.419	1.42	0.290	0.404
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001		0.0007	0.0002	<0.0001	0.0001	0.0002
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0010	0.0004	0.0004	0.0004	0.0004
Copper	mg/L	0.0001		0.0002	0.0007	0.0005	0.0002	0.0002
Lead	mg/L	0.00002		0.00003	0.00008	<0.00002	0.00002	0.00008
Molybdenum	mg/L	0.0001		0.0003	0.0002	0.0002	0.0001	0.0001
Nickel	mg/L	0.0002		0.0006	0.0003	<0.0002	0.0003	0.0016
Selenium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	37-93-II	38-93	39-93-I	39-93-II	45-95-I
			Sample I.D.	25-012777-31	25-012777-32	25-012777-33	25-012777-34	25-012777-35
			Date Collected	2025-05-06	2025-05-06	2025-05-06	2025-05-06	2025-05-08
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00022	0.00015	<0.00005	0.00041	0.00006
Vanadium	mg/L	0.0001		0.0001	<0.0001	<0.0001	0.0002	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		15.3	7.06	10.6	11.8	11.9
Cation Sum	meq/L	-		14.5	7.15	10.3	10.7	11.5
% Difference	%	-		2.56	0.632	1.55	4.80	1.43
Ion Ratio	-	-		1.05	0.987	1.03	1.10	1.03
Sodium Adsorption Ratio	-	-		1.95	0.165	0.594	2.81	1.34
TDS (Ion Sum Calc)	mg/L	1		807	360	537	611	634
TDS(calc.)/EC(actual)	-	-		0.532	0.548	0.508	0.520	0.560
Conductivity Calc	µmho/cm	-		1450	651	1020	1090	1090
Conductivity Calc / Conductivity	-	-		0.954	0.991	0.967	0.928	0.966
Langelier Index(25°C)	-	-		0.847	0.851	0.680	0.803	0.750
Saturation pH (25°C)	-	-		6.76	6.94	7.07	6.92	6.85



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Client I.D.			45-95-II	46-95-I	46-95-II	47-96-I	47-96-II
Sample I.D.			25-012777-36	25-012777-37	25-012777-38	25-012777-39	25-012777-40
Date Collected			2025-05-08	2025-05-08	2025-05-08	2025-05-08	2025-05-08
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	272	560	623	381	422
TDS (Calc. from Cond.)	mg/L	3	357	1020	1020	595	894
Conductivity @25°C	uS/cm	1	687	1860	1860	1110	1630
pH @25°C	pH units	-	7.75	7.46	7.39	7.67	7.71
Fluoride	mg/L	0.1	<0.1	<0.1	0.4	<0.1	0.5
Chloride	mg/L	0.5	49.1	229	230	119	255
Nitrate (N)	mg/L	0.05	0.99	0.08	<0.05	<0.05	<0.05
Nitrite (N)	mg/L	0.05	0.15	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	5	<1	<1	26	1
Phosphorus (Total)	mg/L	0.01	0.22	0.03	0.10	0.02	2.76
Total Kjeldahl Nitrogen	mg/L	0.1	1.7	51.0	40.2	1.3	39.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	1.20	38.2	31.0	0.87	31.4
Dissolved Organic Carbon	mg/L	0.8	3.8	3.9	3.5	2.9	2.6
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	42	56	45	18	92
Hardness (as CaCO3)	mg/L	0.02	274	562	545	427	367
Aluminum	mg/L	0.01	0.05	0.08	0.08	0.06	0.07
Barium	mg/L	0.001	0.026	1.06	0.989	0.439	0.121
Boron	mg/L	0.005	0.033	0.107	0.097	0.091	0.102
Calcium	mg/L	0.02	96.6	164	157	113	111
Iron	mg/L	0.005	0.020	14.1	12.7	1.60	13.0



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Client I.D.			45-95-II	46-95-I	46-95-II	47-96-I	47-96-II
Sample I.D.			25-012777-36	25-012777-37	25-012777-38	25-012777-39	25-012777-40
Date Collected			2025-05-08	2025-05-08	2025-05-08	2025-05-08	2025-05-08
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	7.99	37.0	37.0	35.1	21.8
Manganese	mg/L	0.001	0.075	0.078	0.076	0.057	0.227
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	3.1	8.6	8.6	2.4	10.3
Sodium	mg/L	0.2	29.6	117	113	59.0	133
Strontium	mg/L	0.001	0.253	0.707	0.689	0.670	0.391
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	<0.0001	0.0043
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0004	0.0010	0.0009	0.0003	0.0008
Copper	mg/L	0.0001	0.0008	<0.0001	<0.0001	0.0001	0.0002
Lead	mg/L	0.00002	0.00004	0.00004	0.00003	<0.00002	<0.00002
Molybdenum	mg/L	0.0001	0.0002	<0.0001	0.0001	<0.0001	0.0008
Nickel	mg/L	0.0002	0.0006	0.0023	0.0021	0.0020	0.0022
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



**Michelle Dubien
Data Specialist**

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REPORT No: 25-012777 - Rev. 0

			Client I.D.	45-95-II	46-95-I	46-95-II	47-96-I	47-96-II
			Sample I.D.	25-012777-36	25-012777-37	25-012777-38	25-012777-39	25-012777-40
			Date Collected	2025-05-08	2025-05-08	2025-05-08	2025-05-08	2025-05-08
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00023	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	0.0001		<0.0001	0.0004	0.0003	<0.0001	0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		7.00	17.7	19.0	11.5	15.7
Cation Sum	meq/L	-		6.85	17.3	16.7	11.3	14.1
% Difference	%	-		1.04	0.973	6.34	1.10	5.31
Ion Ratio	-	-		1.02	1.02	1.14	1.02	1.11
Sodium Adsorption Ratio	-	-		0.778	2.15	2.11	1.24	3.02
TDS (Ion Sum Calc)	mg/L	1		359	906	934	585	799
TDS(calc.)/EC(actual)	-	-		0.523	0.488	0.501	0.527	0.489
Conductivity Calc	µmho/cm	-		660	1570	1590	1060	1400
Conductivity Calc / Conductivity	-	-		0.961	0.844	0.851	0.954	0.859
Langelier Index(25°C)	-	-		0.716	0.921	0.878	0.831	0.898
Saturation pH (25°C)	-	-		7.03	6.54	6.51	6.84	6.81



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REPORT No: 25-012777 - Rev. 0

Client I.D.			48-96-I	48-96-II	49-96-I	49-96-II	49-96-III
Sample I.D.			25-012777-41	25-012777-42	25-012777-43	25-012777-44	25-012777-45
Date Collected			2025-05-08	2025-05-08	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	288	518	274	264	346
TDS (Calc. from Cond.)	mg/L	3	389	749	509	541	608
Conductivity @25°C	uS/cm	1	745	1380	956	1010	1130
pH @25°C	pH units	-	7.97	7.45	8.07	7.91	7.70
Fluoride	mg/L	0.1	0.3	<0.1	0.8	<0.1	<0.1
Chloride	mg/L	0.5	61.4	146	118	134	146
Nitrate (N)	mg/L	0.05	0.18	<0.05	0.74	<0.05	0.06
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	15	2	32	66	36
Phosphorus (Total)	mg/L	0.01	0.02	2.13	0.03	0.02	0.14
Total Kjeldahl Nitrogen	mg/L	0.1	0.5	1.1	2.1	0.2	0.5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.11	0.46	1.96	<0.05	0.23
Dissolved Organic Carbon	mg/L	0.8	1.9	3.0	0.9	1.1	1.3
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	28	104	7	8	20
Hardness (as CaCO3)	mg/L	0.02	320	587	158	406	460
Aluminum	mg/L	0.01	0.04	0.09	0.02	0.06	0.10
Barium	mg/L	0.001	0.963	0.846	0.024	0.105	0.088
Boron	mg/L	0.005	0.127	0.071	0.467	0.692	0.073
Calcium	mg/L	0.02	68.2	165	31.1	105	159
Iron	mg/L	0.005	<0.005	4.33	<0.005	0.012	<0.005



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Client I.D.			48-96-I	48-96-II	49-96-I	49-96-II	49-96-III
Sample I.D.			25-012777-41	25-012777-42	25-012777-43	25-012777-44	25-012777-45
Date Collected			2025-05-08	2025-05-08	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	36.3	42.4	19.5	35.0	15.3
Manganese	mg/L	0.001	<0.001	0.065	<0.001	<0.001	<0.001
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	3.0	2.9	7.6	2.3	1.0
Sodium	mg/L	0.2	28.4	58.7	127	37.5	46.5
Strontium	mg/L	0.001	1.15	0.959	1.83	0.770	0.507
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0002	<0.0001	<0.0001	0.0001	<0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0002	0.0004	<0.0001	0.0002	0.0004
Copper	mg/L	0.0001	0.0008	0.0001	0.0004	0.0009	0.0006
Lead	mg/L	0.00002	0.00003	0.00003	<0.00002	<0.00002	0.00002
Molybdenum	mg/L	0.0001	0.0002	<0.0001	<0.0001	0.0010	0.0003
Nickel	mg/L	0.0002	0.0012	0.0023	<0.0002	<0.0002	0.0004
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	48-96-I	48-96-II	49-96-I	49-96-II	49-96-III
			Sample I.D.	25-012777-41	25-012777-42	25-012777-43	25-012777-44	25-012777-45
			Date Collected	2025-05-08	2025-05-08	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00010	<0.00005	0.00006	0.00013	0.00058
Vanadium	mg/L	0.0001		0.0003	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		7.83	14.5	9.55	10.4	11.8
Cation Sum	meq/L	-		7.73	14.6	8.92	9.83	11.3
% Difference	%	-		0.672	0.281	3.43	2.94	2.34
Ion Ratio	-	-		1.01	0.994	1.07	1.06	1.05
Sodium Adsorption Ratio	-	-		0.691	1.05	4.40	0.809	0.943
TDS (Ion Sum Calc)	mg/L	1		387	733	503	538	612
TDS(calc.)/EC(actual)	-	-		0.519	0.531	0.526	0.531	0.541
Conductivity Calc	µmho/cm	-		728	1310	898	987	1110
Conductivity Calc / Conductivity	-	-		0.977	0.950	0.939	0.974	0.979
Langelier Index(25°C)	-	-		0.810	0.899	0.537	0.881	0.968
Saturation pH (25°C)	-	-		7.16	6.55	7.53	7.03	6.73



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Client I.D.			59-05	60-05	DUP	DUP-1	DUP-5
Sample I.D.			25-012777-46	25-012777-47	25-012777-48	25-012777-49	25-012777-50
Date Collected			2025-05-08	2025-05-08	2025-05-06	2025-05-06	2025-05-08
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	611	284	241	247	512
TDS (Calc. from Cond.)	mg/L	3	972	509	291	368	745
Conductivity @25°C	uS/cm	1	1770	956	562	708	1370
pH @25°C	pH units	-	7.50	7.73	7.74	8.09	7.55
Fluoride	mg/L	0.1	0.5	<0.1	<0.1	0.3	0.5
Chloride	mg/L	0.5	215	129	17.1	74.0	145
Nitrate (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	<1	19	31	4	2
Phosphorus (Total)	mg/L	0.01	0.05	0.82	0.48	0.12	2.40
Total Kjeldahl Nitrogen	mg/L	0.1	28.9	0.6	0.3	1.5	1.1
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	23.4	0.13	0.05	1.34	0.39
Dissolved Organic Carbon	mg/L	0.8	3.6	1.3	1.5	1.6	3.0
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	35	49	27	22	62
Hardness (as CaCO3)	mg/L	0.02	571	417	293	267	584
Aluminum	mg/L	0.01	0.08	0.07	0.07	0.04	0.08
Barium	mg/L	0.001	1.21	0.193	0.078	0.199	0.841
Boron	mg/L	0.005	0.100	0.022	0.011	0.208	0.074
Calcium	mg/L	0.02	167	105	98.9	51.0	163
Iron	mg/L	0.005	13.2	0.241	0.006	0.176	4.33



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Client I.D.			59-'05	60-'05	DUP	DUP-1	DUP-5
Sample I.D.			25-012777-46	25-012777-47	25-012777-48	25-012777-49	25-012777-50
Date Collected			2025-05-08	2025-05-08	2025-05-06	2025-05-06	2025-05-08
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	37.4	37.6	11.1	33.9	42.9
Manganese	mg/L	0.001	0.071	0.021	<0.001	0.013	0.065
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	8.0	2.6	1.3	5.8	2.9
Sodium	mg/L	0.2	109	38.4	7.8	30.4	60.1
Strontium	mg/L	0.001	0.726	0.519	0.250	2.45	0.966
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0001	<0.0001	0.0001	<0.0001	0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0009	0.0008	0.0003	0.0001	0.0004
Copper	mg/L	0.0001	<0.0001	0.0004	0.0005	0.0005	0.0010
Lead	mg/L	0.00002	0.00003	0.00012	<0.00002	<0.00002	0.00002
Molybdenum	mg/L	0.0001	<0.0001	<0.0001	0.0009	<0.0001	<0.0001
Nickel	mg/L	0.0002	0.0024	0.0011	0.0007	<0.0002	0.0021
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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Final Report

REPORT No: 25-012777 - Rev. 0

			Client I.D.	59-'05	60-'05	DUP	DUP-1	DUP-5
			Sample I.D.	25-012777-46	25-012777-47	25-012777-48	25-012777-49	25-012777-50
			Date Collected	2025-05-08	2025-05-08	2025-05-06	2025-05-06	2025-05-08
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		<0.00005	0.00009	0.00017	<0.00005	<0.00005
Vanadium	mg/L	0.0001		0.0005	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		18.3	9.74	5.95	7.13	14.4
Cation Sum	meq/L	-		17.1	10.1	6.23	6.87	14.6
% Difference	%	-		3.48	1.80	2.22	1.82	0.720
Ion Ratio	-	-		1.07	0.965	0.957	1.04	0.986
Sodium Adsorption Ratio	-	-		1.98	0.818	0.197	0.810	1.08
TDS (Ion Sum Calc)	mg/L	1		917	503	312	348	729
TDS(calc.)/EC(actual)	-	-		0.518	0.526	0.555	0.492	0.531
Conductivity Calc	µmho/cm	-		1570	960	574	670	1300
Conductivity Calc / Conductivity	-	-		0.884	1.00	1.02	0.946	0.950
Langelier Index(25°C)	-	-		1.01	0.743	767	0.738	0.989
Saturation pH (25°C)	-	-		6.49	6.99	7.06	7.35	6.56



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C.O.C.: -

REPORT No: 25-012747 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
Unit #14
Richmond Hill, ON L4B 1J9

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-May-08
DATE REPORTED: 2025-May-30
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS GW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	3	OTTAWA	LMACGREGOR	2025-May-13	A-IC-01	SM 4110B
BOD5 (Liquid)	3	KINGSTON	JWOLFE2	2025-May-22	BOD-001	SM 5210B
COD (Liquid)	3	KINGSTON	MCLOSS	2025-May-23	COD-001	SM 5220D
Colour (Liquid)	3	OTTAWA	LMACGREGOR	2025-May-20	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	3	OTTAWA	SBOUDREAU	2025-May-12	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	3	KINGSTON	EHINCH	2025-May-12	CN-001	SM 4500-CN-E
DOC (Liquid)	3	OTTAWA	LMACGREGOR	2025-May-28	C-OC-01	EPA 415.2
Ion Balance (Calc.)	3	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	3	OTTAWA	STAILLON	2025-May-14	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	3	OTTAWA	AOZKAYMAK	2025-May-20	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	3	OTTAWA	GFENTON	2025-May-22	D-ICP-01	SM 3120B
Mercury (Liquid)	3	OTTAWA	TBENNETT	2025-May-14	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	3	KINGSTON	VHAMMOND	2025-May-23	NH3-001	SM 4500NH3
Phenols (Liquid)	3	KINGSTON	EHINCH	2025-May-21	PHEN-01	MECP E3179
TP & TKN (Liquid)	3	KINGSTON	DCASSIDY	2025-May-29	TPTKN-001	MECP E3516.2
TSS (Liquid)	3	KINGSTON	KYUILL	2025-May-14	TSS-001	SM 2540D
Turbidity (Liquid)	3	OTTAWA	MMIRELLA	2025-May-20	A-TURB-01	SM 2130B
VOC-Volatiles Full (Water)	3	RICHMOND_HILL	FLENA	2025-May-23	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-012747 - Rev. 0

			Client I.D.	6-90-II	7-90	7-90-II
			Sample I.D.	25-012747-1	25-012747-2	25-012747-3
			Date Collected	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5		3450	6510	6880
TDS (Calc. from Cond.)	mg/L	3		5200	7340	10000
Conductivity @25°C	uS/cm	1		9060	12600	17100
pH @25°C	pH units	-		7.31	7.60	7.41
Colour	TCU	2		216	440	764
Turbidity	NTU	0.1		387	802	107
Fluoride	mg/L	0.1		<3.5	<7.0	<70.0
Chloride	mg/L	0.5		1000	1060	1600
Nitrate (N)	mg/L	0.05		<2.00	<4.00	<40.0
Nitrite (N)	mg/L	0.05		<2.00	<4.00	<40.0
Sulphate	mg/L	1		<8	<15	<150
BOD5	mg/L	3		19	37	40
Total Suspended Solids	mg/L	3		960	1620	270
Phosphorus (Total)	mg/L	0.01		1.59	3.83	3.67
Total Kjeldahl Nitrogen	mg/L	0.1		686	608	1480
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		466	449	1540
Ammonia (N)-unionized	mg/L	0.01		0.87	2.09	2.16
Dissolved Organic Carbon	mg/L	0.8		176	235	553
Cyanide (WAD)	mg/L	0.005		<0.009 (3.)	<0.009 (3.)	<0.009 (3.)
Phenolics	mg/L	0.001		0.011	0.043	0.121
COD	mg/L	5		855	1010	2260



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-012747 - Rev. 0

			Client I.D.	6-90-II	7-90	7-90-II
			Sample I.D.	25-012747-1	25-012747-2	25-012747-3
			Date Collected	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-
Hardness (as CaCO ₃)	mg/L	0.02		1840	1540	1270
Aluminum (Total)	mg/L	0.01		2.82	2.52	0.78
Barium (Total)	mg/L	0.001		3.44	0.678	0.366
Beryllium (Total)	mg/L	0.001		<0.001	<0.001	<0.001
Boron (Total)	mg/L	0.005		7.72	4.03	22.8
Cadmium (Total)	mg/L	0.005		<0.005	<0.005	<0.005
Calcium (Total)	mg/L	0.02		292	233	112
Chromium (Total)	mg/L	0.002		0.030	0.047	0.061
Cobalt (Total)	mg/L	0.005		0.029	0.022	0.035
Copper (Total)	mg/L	0.002		0.018	0.012	0.002
Iron (Total)	mg/L	0.005		35.8	14.9	6.90
Lead (Total)	mg/L	0.02		0.06	0.05	<0.02
Magnesium (Total)	mg/L	0.02		269	233	241
Manganese (Total)	mg/L	0.001		0.420	0.379	0.267
Molybdenum (Total)	mg/L	0.01		<0.01	<0.01	<0.01
Nickel (Total)	mg/L	0.01		0.06	0.07	0.14
Phosphorus (Total)	mg/L	0.1		2.0	3.3	4.1
Potassium (Total)	mg/L	0.1		328	320	611
Silver (Total)	mg/L	0.005		<0.005	<0.005	<0.005
Sodium (Total)	mg/L	0.2		942	2250	1880
Strontium (Total)	mg/L	0.001		1.85	0.956	1.51



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Final Report
REPORT No: 25-012747 - Rev. 0

			Client I.D.	6-90-II	7-90	7-90-II
			Sample I.D.	25-012747-1	25-012747-2	25-012747-3
			Date Collected	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-
Tin (Total)	mg/L	0.05		<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005		0.139	0.168	0.083
Vanadium (Total)	mg/L	0.005		0.006	0.010	0.011
Zinc (Total)	mg/L	0.005		0.169	0.146	0.058
Antimony (Total)	mg/L	0.0005		0.0016	0.0023	0.0056
Arsenic (Total)	mg/L	0.0005		0.0068	0.0078	0.0252
Selenium (Total)	mg/L	0.005		<0.005	<0.005	<0.005
Thallium (Total)	mg/L	0.0003		<0.0003	<0.0003	<0.0003
Uranium (Total)	mg/L	0.0003		0.0004	0.0004	<0.0003
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01
Mercury	mg/L	0.00002		<0.00002	0.00003	<0.00002
Anion Sum	meq/L	-		97.2	160	183
Cation Sum	meq/L	-		88.8	139	231
% Difference	%	-		4.51	7.17	11.7
Ion Ratio	-	-		1.09	1.15	0.790
Sodium Adsorption Ratio	-	-		9.56	25.0	23.0
TDS (Ion Sum Calc)	mg/L	1		4950	8030	10600
TDS(calc.)/EC(actual)	-	-		0.547	0.635	0.619
Conductivity Calc	µmho/cm	-		6280	8940	14600
Conductivity Calc / Conductivity	-	-		0.694	0.706	0.853
Langelier Index(25°C)	-	-		1.76	2.23	1.74



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			Client I.D.	6-90-II	7-90	7-90-II
			Sample I.D.	25-012747-1	25-012747-2	25-012747-3
			Date Collected	2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.		-	-	-
Saturation pH (25°C)	-	-		5.55	5.37	5.67
pH (Client Data)	pH units	-		7.19	7.32	7.44
Temperature (Client Data)	°C	-		14.6	12.4	15.2



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Final Report
REPORT No: 25-012747 - Rev. 0

Client I.D.			6-90-II	7-90	7-90-II
Sample I.D.			25-012747-1	25-012747-2	25-012747-3
Date Collected			2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-
Acetone	µg/L	30	<30	<30	<30
Benzene	µg/L	0.5	4.2	3.6	2.8
Bromodichloromethane	µg/L	2	<2	<2	<2
Bromoform	µg/L	5	<5	<5	<5
Bromomethane	µg/L	0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.5	1.1	3.7	4.3
Chloroform	µg/L	1	<1	<1	<1
Chloromethane (Methyl Chloride)	µg/L	2	<2	<2	<2
Dibromochloromethane	µg/L	2	<2	<2	<2
Ethylene Dibromide	µg/L	0.2	<0.2	<0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5	1.4	4.8	4.4
Dichloroethane,1,1-	µg/L	0.5	<0.5	<0.5	0.7
Dichloroethane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5	<0.5	<0.5



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Client I.D.			6-90-II	7-90	7-90-II
Sample I.D.			25-012747-1	25-012747-2	25-012747-3
Date Collected			2025-05-07	2025-05-07	2025-05-07
Parameter	Units	R.L.	-	-	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	5.0	2.1	28.2
Dichloromethane (Methylene Chloride)	µg/L	5	<5	<5	<5
Methyl Ethyl Ketone	µg/L	2	<2	<2	<2
Methyl Isobutyl Ketone	µg/L	20	<20	<20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2	<2	<2
Styrene	µg/L	0.5	0.5	<0.5	3.1
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	0.7	3.2
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1,-	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2,-	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethylene	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5	<5	<5	<5
Vinyl Chloride	µg/L	0.2	<0.2	<0.2	<0.2
Xylene, m,p-	µg/L	1	23	19	65
Xylene, o-	µg/L	0.5	5.1	27.2	42.9

Comments:

3. Elevated RL due to sample matrix interferences/dilution

TKN and ammonia are within acceptable analytical limits



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Data Specialist

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C.O.C.: -

REPORT No: 25-012671 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-May-08
DATE REPORTED: 2025-May-21
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	FLENA	2025-May-15	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

		Client I.D.	LPC 1
		Sample I.D.	25-012671-1
		Date Collected	2025-05-07
Parameter	Units	R.L.	-
pH (Client Data)	pH units	-	6.89
Temperature (Client Data)	°C	-	11.5

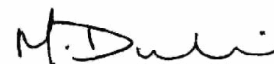


Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-012671 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-012671-1
		Date Collected	2025-05-07
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	1.2
Ethylbenzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	1
Xylene, m,p,o-	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5



Michelle Dubien
Data Specialist

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C.O.C.: -

REPORT No: 25-012673 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
 Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-May-08
 DATE REPORTED: 2025-May-20
 SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS SW
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
PCB's (Liquid)	1	KINGSTON	CSUMMERHAYS	2025-May-20	PCB-001	EPA 8081

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

			Client I.D.	SW-3
			Sample I.D.	25-012673-1
			Date Collected	2025-05-08
Parameter	Units	R.L.		
pH (Client Data)	pH units	-	8.36	
Temperature (Client Data)	°C	-	9.3	

			Client I.D.	SW-3
			Sample I.D.	25-012673-1
			Date Collected	2025-05-08
Parameter	Units	R.L.		
Poly-Chlorinated Biphenyls (PCB's)	µg/L	0.05	<0.05	
Identification Comment	-	-	-	



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-013270 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
Unit #14
Richmond Hill, ON L4B 1J9

Attention: Bonnie Ferguson

DATE RECEIVED: 2025-May-16
DATE REPORTED: 2025-Jun-02
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	LMACGREGOR	2025-May-22	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-May-26	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	MWILSON	2025-May-28	COD-001	SM 5220D
Colour (Liquid)	1	OTTAWA	STAILLON	2025-May-23	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-May-20	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	1	KINGSTON	EHINCH	2025-May-21	CN-001	SM 4500-CN-E
DOC (Liquid)	1	OTTAWA	SLOZO	2025-May-30	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-May-21	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	AOZKAYMAK	2025-May-26	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	GFENTON	2025-May-27	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-May-21	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	VHAMMOND	2025-Jun-02	NH3-001	SM 4500NH3
NTA Liquid (Subcontract)	1	SGS_LAKEFIELD	CBURKE	2025-May-29		Subcontracted
OC Pesticides (Liquid)	1	KINGSTON	CSUMMERHAYS	2025-May-22	PESTCL-001	EPA 8081
PCB's (Liquid)	1	KINGSTON	CSUMMERHAYS	2025-May-22	PCB-001	EPA 8081
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-May-27	PHEN-01	MECP E3179
Radionuc. Liquid (Subcontract)	1	BUREAU_VERITAS	CBURKE	2025-May-28		Subcontracted
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-May-23	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	KYUILL	2025-May-21	TSS-001	SM 2540D
Turbidity (Liquid)	1	OTTAWA	MMIRELLA	2025-May-23	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



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Final Report
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		Client I.D.	LPC
		Sample I.D.	25-013270-1
		Date Collected	2025-05-15
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	628
TDS (Calc. from Cond.)	mg/L	3	911
Conductivity @25°C	uS/cm	1	1660
pH @25°C	pH units	-	6.96
Colour	TCU	2	8
Turbidity	NTU	0.1	133
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	153
Nitrate (N)	mg/L	0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	40
BOD5	mg/L	3	<3
Total Suspended Solids	mg/L	3	32
Phosphorus (Total)	mg/L	0.01	0.03
Total Kjeldahl Nitrogen	mg/L	0.1	17.6
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	15.8
Ammonia (N)-unionized	mg/L	0.01	0.02
Dissolved Organic Carbon	mg/L	0.8	7.5
Cyanide (WAD)	mg/L	0.005	<0.005
Phenolics	mg/L	0.001	0.001
COD	mg/L	5	50



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Final Report
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		Client I.D.	LPC
		Sample I.D.	25-013270-1
		Date Collected	2025-05-15
Parameter	Units	R.L.	-
Hardness (as CaCO ₃)	mg/L	0.02	592
Aluminum (Total)	mg/L	0.01	0.07
Barium (Total)	mg/L	0.001	0.251
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.331
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	184
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	<0.005
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	13.5
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	32.0
Manganese (Total)	mg/L	0.001	0.561
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	<0.01
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	16.1
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	106
Strontium (Total)	mg/L	0.001	0.666



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Final Report
REPORT No: 25-013270 - Rev. 0

		Client I.D.	LPC
		Sample I.D.	25-013270-1
		Date Collected	2025-05-15
Parameter	Units	R.L.	-
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	0.016
Antimony (Total)	mg/L	0.0005	0.0005
Arsenic (Total)	mg/L	0.0005	0.0010
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum	meq/L	-	17.7
Cation Sum	meq/L	-	17.6
% Difference	%	-	0.222
Ion Ratio	-	-	1.00
Sodium Adsorption Ratio	-	-	1.89
TDS (Ion Sum Calc)	mg/L	1	921
TDS(calc.)/EC(actual)	-	-	0.554
Conductivity Calc	µmho/cm	-	1520
Conductivity Calc / Conductivity	-	-	0.915
Langelier Index(25°C)	-	-	0.521



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		Client I.D.	LPC
		Sample I.D.	25-013270-1
		Date Collected	2025-05-15
Parameter	Units	R.L.	-
Saturation pH (25°C)	-	-	6.44
pH (Client Data)	pH units	-	6.81
Temperature (Client Data)	°C	-	12.1



Michelle Dubien
Data Specialist

Parameter	Client I.D.		LPC
	Sample I.D.		25-013270-1
	Date Collected		2025-05-15
	Units	R.L.	-
Poly-Chlorinated Biphenyls (PCB's)	µg/L	0.05	<0.05
Identification Comment	-	-	-
BHC (alpha)	µg/L	0.4	<0.4
Aldrin	µg/L	0.01	<0.01
BHC (beta)	µg/L	0.4	<0.4
Chlordane (alpha)	µg/L	0.05	<0.05
Chlordane (gamma)	µg/L	0.05	<0.05
Chlordane (Alpha + Gamma)	µg/L	0.05	<0.05
BHC (delta)	µg/L	0.01	<0.01
p,p'-DDD	µg/L	0.05	<0.05
p,p'-DDE	µg/L	0.01	<0.01
o,p'-DDT	µg/L	0.05	<0.05
p,p'-DDT	µg/L	0.05	<0.05
Dieldrin	µg/L	0.01	<0.01
Endosulfan I	µg/L	0.05	<0.05
Endosulfan II	µg/L	0.05	<0.05
Endosulfan (Total)	µg/L	0.05	<0.05
Endosulfan Sulfate	µg/L	0.05	<0.05
Endrin	µg/L	0.05	<0.05
Heptachlor	µg/L	0.01	<0.01
Heptachlor Epoxide	µg/L	0.01	<0.01



Michelle Dubien
Data Specialist

		Client I.D.	LPC
		Sample I.D.	25-013270-1
		Date Collected	2025-05-15
Parameter	Units	R.L.	-
Hexachlorobenzene	µg/L	0.01	<0.01
Lindane (Hexachlorocyclohexane, Gamma)	µg/L	0.01	<0.01
Methoxychlor	µg/L	0.05	<0.05
Mirex	µg/L	1	<1

Subcontracted Analyses

		Client I.D.	LPC
		Sample I.D.	25-013270-1
		Date Collected	2025-05-15
Parameter	Units	R.L.	-
Nitritotriacetic acid (NTA)	mg/L	-	<0.03
Gross Alpha	Bq/L	-	<0.10
Gross Beta	Bq/L	-	0.54
Tritium	Bq/L	-	<15



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-014325 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
 Unit #14
 Richmond Hill, ON L4B 1J9

Attention: Bonnie Ferguson

DATE RECEIVED: 2025-May-23
 DATE REPORTED: 2025-May-27
 SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Cond/pH/Alk Auto (Liquid)	3	OTTAWA	SBOUDREAU	2025-May-26	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Ammonia (Liquid)	3	KINGSTON	VHAMMOND	2025-May-26	NH3-001	SM 4500NH3

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

			Client I.D.	SW14	SW15	SW18
			Sample I.D.	25-014325-1	25-014325-2	25-014325-3
			Date Collected	2025-05-22	2025-05-22	2025-05-22
Parameter	Units	R.L.		-	-	-
pH @25°C	pH units	-		7.75	8.15	8.10
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.15	0.05	<0.05



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-017552 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Jun-18
DATE REPORTED: 2025-Jun-25
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS SW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-Jun-20	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
ICP/OES Total (Liquid)	2	OTTAWA	SGORMAN	2025-Jun-19	D-ICP-01	SM 3120B
ICP/OES (Liquid)	2	OTTAWA	SGORMAN	2025-Jun-24	D-ICP-01	SM 3120B
Ammonia (Liquid)	2	KINGSTON	VHAMMOND	2025-Jun-24	NH3-001	SM 4500NH3
TSS (Liquid)	2	KINGSTON	KYUILL	2025-Jun-23	TSS-001	SM 2540D
Turbidity (Liquid)	2	OTTAWA	ECARTER	2025-Jun-20	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

			Client I.D.	Nearshore 1	Nearshore 2
			Sample I.D.	25-017552-1	25-017552-2
			Date Collected	2025-06-17	2025-06-17
Parameter	Units	R.L.		-	-
pH @25°C	pH units	-		8.77	9.44
Turbidity	NTU	0.1		1.7	0.8
Total Suspended Solids	mg/L	3		<3	<3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.07	<0.05
Iron	mg/L	0.005		0.007	0.034
Iron (Total)	mg/L	0.005		0.164	0.060
pH (Client Data)	pH units	-		8.23	8.25
Temperature (Client Data)	°C	-		24.5	24.4



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-017560 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Jun-18
DATE REPORTED: 2025-Jul-03
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS SW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	5	OTTAWA	PCURIEL	2025-Jun-19	A-IC-01	SM 4110B
BOD5 (Liquid)	5	KINGSTON	JWOLFE2	2025-Jun-20	BOD-001	SM 5210B
COD (Liquid)	5	KINGSTON	MWILSON	2025-Jun-20	COD-001	SM 5220D
Colour (Liquid)	5	OTTAWA	STAILLON	2025-Jun-20	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	5	OTTAWA	SBOUDREAU	2025-Jun-20	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	5	KINGSTON	EHINCH	2025-Jun-19	CN-001	SM 4500-CN-E
DOC (Liquid)	5	OTTAWA	SLOZO	2025-Jun-20	C-OC-01	EPA 415.2
Ion Balance (Calc.)	5	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	5	OTTAWA	STAILLON	2025-Jun-23	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	5	OTTAWA	AOZKAYMAK	2025-Jun-20	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	5	OTTAWA	SGORMAN	2025-Jun-19	D-ICP-01	SM 3120B
ICP/OES (Liquid)	5	OTTAWA	SGORMAN	2025-Jun-24	D-ICP-01	SM 3120B
Mercury (Liquid)	5	OTTAWA	AANTONY	2025-Jun-20	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	5	KINGSTON	VHAMMOND	2025-Jun-24	NH3-001	SM 4500NH3
Phenols (Liquid)	5	KINGSTON	EHINCH	2025-Jun-23	PHEN-01	MECP E3179
TP & TKN (Liquid)	5	KINGSTON	YLIEN	2025-Jul-03	TPTKN-001	MECP E3516.2
TSS (Liquid)	5	KINGSTON	KYUILL	2025-Jun-24	TSS-001	SM 2540D
Turbidity (Liquid)	5	OTTAWA	LMACGREGOR	2025-Jun-19	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



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Data Specialist

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REPORT No: 25-017560 - Rev. 0

Client I.D.			SCG-Upstream	SCG-Downstream	Embay A	Embay B	Embay C
Sample I.D.			25-017560-1	25-017560-2	25-017560-3	25-017560-4	25-017560-5
Date Collected			2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	173	147	159	143	136
Conductivity @25°C	uS/cm	1	461	504	1410	396	536
pH @25°C	pH units	-	7.86	7.64	8.05	7.52	7.29
Colour	TCU	2	25	19	14	22	29
Turbidity	NTU	0.1	5.7	3.9	4.3	1.4	6.3
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	36.9	60.0	341	38.6	75.8
Nitrate (N)	mg/L	0.05	0.27	0.54	6.06	0.14	0.59
Nitrite (N)	mg/L	0.05	<0.05	<0.05	0.08	<0.05	<0.05
Sulphate	mg/L	1	9	12	51	8	14
BOD5	mg/L	3	<3	<3	5	<3	<3
Total Suspended Solids	mg/L	3	7	6	<3	<3	7
Phosphorus (Total)	mg/L	0.01	0.04	0.04	0.04	0.02	0.05
Total Kjeldahl Nitrogen	mg/L	0.1	0.9	1.0	1.5	0.7	1.2
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.05	0.06	0.08	<0.05	0.16
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	9.1	7.6	2.7	9.0	7.6
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	0.005	<0.001	<0.001
COD	mg/L	5	30	30	43	30	36
Aluminum	mg/L	0.01	0.01	0.04	0.54	<0.01	0.08



Michelle Dubien
Data Specialist

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Final Report

REPORT No: 25-017560 - Rev. 0

			Client I.D.	SCG-Upstream	SCG-Downstream	Embay A	Embay B	Embay C
			Sample I.D.	25-017560-1	25-017560-2	25-017560-3	25-017560-4	25-017560-5
			Date Collected	2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.		-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02		194	178	261	127	172
Aluminum (Total)	mg/L	0.01		0.05	0.07	0.60	0.01	0.13
Barium (Total)	mg/L	0.001		0.039	0.032	0.017	0.023	0.060
Boron (Total)	mg/L	0.005		0.012	0.018	0.092	0.009	0.023
Calcium (Total)	mg/L	0.02		61.7	55.2	82.1	37.8	52.5
Iron (Total)	mg/L	0.005		0.195	0.090	0.040	0.056	0.087
Magnesium (Total)	mg/L	0.02		9.64	9.70	13.6	7.91	9.94
Manganese (Total)	mg/L	0.001		0.050	0.038	0.008	0.011	0.059
Phosphorus (Total)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium (Total)	mg/L	0.1		0.7	1.8	13.2	0.4	2.8
Sodium (Total)	mg/L	0.2		19.9	33.6	172	18.7	44.3
Strontium (Total)	mg/L	0.001		0.213	0.201	0.302	0.150	0.197
Tin (Total)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc (Total)	mg/L	0.005		0.008	0.008	0.024	0.007	0.009
Antimony (Total)	mg/L	0.0001		0.0005	0.0006	0.0007	0.0004	0.0003
Arsenic (Total)	mg/L	0.0001		0.0004	0.0003	0.0003	0.0003	0.0003
Beryllium (Total)	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015		<0.000015	<0.000015	0.000015	<0.000015	<0.000015
Chromium (Total)	mg/L	0.001		<0.001	0.001	0.002	<0.001	<0.001
Cobalt (Total)	mg/L	0.0001		0.0003	0.0002	0.0004	0.0002	0.0002



Michelle Dubien
Data Specialist

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Final Report

REPORT No: 25-017560 - Rev. 0

Client I.D.			SCG-Upstream	SCG-Downstream	Embay A	Embay B	Embay C
Sample I.D.			25-017560-1	25-017560-2	25-017560-3	25-017560-4	25-017560-5
Date Collected			2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.	-	-	-	-	-
Copper (Total)	mg/L	0.0001	0.0004	0.0007	0.0033	0.0003	0.0020
Lead (Total)	mg/L	0.00002	0.00016	0.00020	0.00048	0.00003	0.00017
Molybdenum (Total)	mg/L	0.0001	0.0002	0.0003	0.0029	0.0002	0.0005
Nickel (Total)	mg/L	0.0002	0.0006	0.0007	0.0018	0.0006	0.0007
Selenium (Total)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005	0.00044	0.00040	0.00025	0.00037	0.00039
Vanadium (Total)	mg/L	0.0001	0.0005	0.0005	0.0005	0.0003	0.0006
Chromium (VI)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	4.70	4.92	14.3	4.14	5.20
Cation Sum	meq/L	-	4.78	5.07	13.0	3.37	5.45
% Difference	%	-	0.789	1.48	4.52	10.2	2.33
Ion Ratio	-	-	0.984	0.971	1.09	1.23	0.954
Sodium Adsorption Ratio	-	-	0.622	1.10	4.63	0.723	1.47
TDS (Ion Sum Calc)	mg/L	1	243	263	794	199	284
TDS(calc.)/EC(actual)	-	-	0.527	0.522	0.563	0.501	0.530
Conductivity Calc	µmho/cm	-	465	507	1450	376	549
Conductivity Calc / Conductivity	-	-	1.01	1.01	1.03	0.949	1.02
Langelier Index(25°C)	-	-	0.456	0.116	0.682	-0.169	-0.297



Michelle Dubien
Data Specialist

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			Client I.D.	SCG-Upstream	SCG-Downstream	Embay A	Embay B	Embay C
			Sample I.D.	25-017560-1	25-017560-2	25-017560-3	25-017560-4	25-017560-5
			Date Collected	2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		7.40	7.52	7.37	7.69	7.59
pH (Client Data)	pH units	-		7.98	7.62	7.6	7.92	7.63
Temperature (Client Data)	°C	-		24.1	23.2	22.8	24.3	23.2



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-017548 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
 Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Jun-18
 DATE REPORTED: 2025-Jul-03
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	LMACGREGOR	2025-Jun-20	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Jun-20	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	MWILSON	2025-Jun-20	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Jun-20	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC (Liquid)	1	OTTAWA	SLOZO	2025-Jun-23	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-Jun-23	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	AOZKAYMAK	2025-Jun-24	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	SGORMAN	2025-Jun-19	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	AANTONY	2025-Jun-20	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	VHAMMOND	2025-Jun-24	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-Jun-24	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Jul-03	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	FLENA	2025-Jun-28	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-017548 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-017548-1
		Date Collected	2025-06-17
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	659
TDS (Calc. from Cond.)	mg/L	3	967
Conductivity @25°C	uS/cm	1	1760
pH @25°C	pH units	-	7.20
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	166
Nitrate (N)	mg/L	0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	37
BOD5	mg/L	3	5
Phosphorus (Total)	mg/L	0.01	0.02
Total Kjeldahl Nitrogen	mg/L	0.1	21.5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	17.0
Dissolved Organic Carbon	mg/L	0.8	9.8
Phenolics	mg/L	0.001	<0.001
COD	mg/L	5	55
Hardness (as CaCO3)	mg/L	0.02	581
Aluminum (Total)	mg/L	0.01	0.06
Barium (Total)	mg/L	0.001	0.305
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.369



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-017548 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-017548-1
		Date Collected	2025-06-17
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	176
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	<0.005
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	14.5
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	34.5
Manganese (Total)	mg/L	0.001	0.444
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	<0.01
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	18.3
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	113
Strontium (Total)	mg/L	0.001	0.678
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	0.007
Antimony (Total)	mg/L	0.0005	0.0007



Michelle Dubien
Data Specialist

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		Client I.D.	LPC 1
		Sample I.D.	25-017548-1
		Date Collected	2025-06-17
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0010
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum	meq/L	-	18.6
Cation Sum	meq/L	-	17.8
% Difference	%	-	2.23
Ion Ratio	-	-	1.05
Sodium Adsorption Ratio	-	-	2.03
TDS (Ion Sum Calc)	mg/L	1	954
TDS(calc.)/EC(actual)	-	-	0.542
Conductivity Calc	µmho/cm	-	1570
Conductivity Calc / Conductivity	-	-	0.889
Langelier Index(25°C)	-	-	0.761
Saturation pH (25°C)	-	-	6.44
pH (Client Data)	pH units	-	6.71
Temperature (Client Data)	°C	-	14.4



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-017548 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-017548-1
		Date Collected	2025-06-17
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	2.4
Bromodichloromethane	µg/L	2	<2
Bromoform	µg/L	5	<5
Chloroform	µg/L	1	<1
Dibromochloromethane	µg/L	2	<2
Ethylbenzene	µg/L	0.5	<0.5
Total Trihalomethanes	µg/L	6	<6
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	<1
Xylene, m,p,o-	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5



Michelle Dubien
Data Specialist

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C.O.C.: -

REPORT No: 25-017569 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Jun-18
DATE REPORTED: 2025-Jul-04
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS SW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	10	OTTAWA	PCURIEL	2025-Jun-19	A-IC-01	SM 4110B
BOD5 (Liquid)	10	KINGSTON	JWOLFE2	2025-Jun-20	BOD-001	SM 5210B
COD (Liquid)	10	KINGSTON	MWILSON	2025-Jun-20	COD-001	SM 5220D
Colour (Liquid)	10	OTTAWA	STAILLON	2025-Jun-20	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	10	OTTAWA	SBOUDREAU	2025-Jun-20	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	10	KINGSTON	EHINCH	2025-Jun-19	CN-001	SM 4500-CN-E
DOC (Liquid)	10	OTTAWA	SLOZO	2025-Jun-24	C-OC-01	EPA 415.2
Ion Balance (Calc.)	10	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	10	OTTAWA	STAILLON	2025-Jun-23	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	10	OTTAWA	AOZKAYMAK	2025-Jun-20	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	10	OTTAWA	SGORMAN	2025-Jun-19	D-ICP-01	SM 3120B
ICP/OES (Liquid)	10	OTTAWA	SGORMAN	2025-Jun-24	D-ICP-01	SM 3120B
Mercury (Liquid)	10	OTTAWA	AANTONY	2025-Jun-23	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	10	KINGSTON	VHAMMOND	2025-Jun-24	NH3-001	SM 4500NH3
PCB's (Liquid)	1	KINGSTON	CSUMMERHAYS	2025-Jun-23	PCB-001	EPA 8081
Phenols (Liquid)	10	KINGSTON	EHINCH	2025-Jun-23	PHEN-01	MECP E3179
Tannins (Liquid)	4	KINGSTON	MWILSON	2025-Jun-19	TAN-001	SM 5550
TP & TKN (Liquid)	10	KINGSTON	YLIEN	2025-Jul-03	TPTKN-001	MECP E3516.2
TSS (Liquid)	10	KINGSTON	KYUILL	2025-Jun-24	TSS-001	SM 2540D
Turbidity (Liquid)	10	OTTAWA	ECARTER	2025-Jun-20	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

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REPORT No: 25-017569 - Rev. 0

Client I.D.			SW-2	SW-3	SW-4	SW-14	SW-15
Sample I.D.			25-017569-1	25-017569-2	25-017569-3	25-017569-4	25-017569-5
Date Collected			2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	388	322	292	242	86
Conductivity @25°C	uS/cm	1	1130	974	775	767	807
pH @25°C	pH units	-	7.99	8.10	8.15	8.05	8.59
Colour	TCU	2	6	10	17	27	53
Turbidity	NTU	0.1	27.2	6.1	2.2	22.2	12.3
Fluoride	mg/L	0.1	0.6	<0.1	<0.1	0.7	0.4
Chloride	mg/L	0.5	89.0	117	63.3	93.4	190
Nitrate (N)	mg/L	0.05	<0.05	0.05	1.27	0.11	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	89	2	15	5	6
BOD5	mg/L	3	<3	<3	<3	<3	3
Total Suspended Solids	mg/L	3	25	19	<3	23	8
Phosphorus (Total)	mg/L	0.01	0.04	0.02	0.03	0.11	0.05
Total Kjeldahl Nitrogen	mg/L	0.1	0.9	0.5	0.6	1.4	1.2
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.24	0.10	0.06	0.29	0.06
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	2.3	2.8	5.0	8.0	7.9
Tannin & Lignin	mg/L	0.5				0.9	
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	0.002	0.002
COD	mg/L	5	23	21	27	45	56



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REPORT No: 25-017569 - Rev. 0

			Client I.D.	SW-2	SW-3	SW-4	SW-14	SW-15
			Sample I.D.	25-017569-1	25-017569-2	25-017569-3	25-017569-4	25-017569-5
			Date Collected	2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.		-	-	-	-	-
Aluminum	mg/L	0.01		0.06	0.05	0.03	0.03	0.06
Hardness (as CaCO3)	mg/L	0.02		493	359	314	270	86.1
Aluminum (Total)	mg/L	0.01		0.10	0.07	0.07	0.38	0.19
Barium (Total)	mg/L	0.001		0.105	0.062	0.038	0.040	0.021
Boron (Total)	mg/L	0.005		0.034	0.019	0.014	0.036	0.088
Calcium (Total)	mg/L	0.02		172	125	112	92.3	20.0
Iron (Total)	mg/L	0.005		2.88	0.330	0.151	1.06	1.29
Magnesium (Total)	mg/L	0.02		15.5	11.2	8.15	9.59	8.77
Manganese (Total)	mg/L	0.001		0.848	0.088	0.066	0.865	0.051
Phosphorus (Total)	mg/L	0.1		<0.1	<0.1	<0.1	0.1	<0.1
Potassium (Total)	mg/L	0.1		1.8	1.8	0.7	2.1	5.6
Sodium (Total)	mg/L	0.2		65.6	59.8	33.8	59.4	132
Strontium (Total)	mg/L	0.001		0.499	0.364	0.326	0.309	0.163
Tin (Total)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005		<0.005	<0.005	<0.005	0.019	0.008
Zinc (Total)	mg/L	0.005		0.136	0.006	0.007	0.006	<0.005
Antimony (Total)	mg/L	0.0001		0.0005	0.0004	0.0005	0.0002	0.0008
Arsenic (Total)	mg/L	0.0001		0.0004	0.0003	0.0004	0.0007	0.0030
Beryllium (Total)	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium (Total)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	0.001



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Data Specialist**

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Final Report

REPORT No: 25-017569 - Rev. 0

Client I.D.			SW-2	SW-3	SW-4	SW-14	SW-15
Sample I.D.			25-017569-1	25-017569-2	25-017569-3	25-017569-4	25-017569-5
Date Collected			2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.	-	-	-	-	-
Cobalt (Total)	mg/L	0.0001	0.0008	0.0004	0.0004	0.0006	0.0005
Copper (Total)	mg/L	0.0001	0.0005	0.0003	0.0006	0.0013	0.0009
Lead (Total)	mg/L	0.00002	0.00018	0.00016	0.00005	0.00030	0.00049
Molybdenum (Total)	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0008
Nickel (Total)	mg/L	0.0002	0.0016	0.0006	0.0005	0.0010	0.0016
Selenium (Total)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005	0.00046	0.00065	0.00038	0.00020	0.00074
Vanadium (Total)	mg/L	0.0001	0.0002	0.0002	0.0004	0.0010	0.0007
Chromium (VI)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	12.1	9.79	8.02	7.62	7.21
Cation Sum	meq/L	-	13.0	9.85	7.78	8.12	7.70
% Difference	%	-	3.22	0.317	1.51	3.17	3.32
Ion Ratio	-	-	0.938	0.994	1.03	0.939	0.936
Sodium Adsorption Ratio	-	-	1.29	1.37	0.831	1.57	6.21
TDS (Ion Sum Calc)	mg/L	1	670	511	414	410	416
TDS(calc.)/EC(actual)	-	-	0.591	0.525	0.534	0.535	0.515
Conductivity Calc	µmho/cm	-	1140	947	753	768	814
Conductivity Calc / Conductivity	-	-	1.01	0.972	0.972	1.00	1.01



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			Client I.D.	SW-2	SW-3	SW-4	SW-14	SW-15
			Sample I.D.	25-017569-1	25-017569-2	25-017569-3	25-017569-4	25-017569-5
			Date Collected	2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.		-	-	-	-	-
Langelier Index(25°C)	-	-		1.33	1.24	1.20	0.936	0.362
Saturation pH (25°C)	-	-		6.66	6.86	6.95	7.11	8.23
pH (Client Data)	pH units	-		7.37	6.97	8.1	7.81	7.82
Temperature (Client Data)	°C	-		17.5	16.7	21.6	24.3	22.6



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REPORT No: 25-017569 - Rev. 0

Client I.D.			SW-18	WPCP Effluent	CP-1	CP-2	Dup
Sample I.D.			25-017569-6	25-017569-7	25-017569-8	25-017569-9	25-017569-10
Date Collected			2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	168	177	71	316	394
Conductivity @25°C	uS/cm	1	747	1440	731	843	1140
pH @25°C	pH units	-	7.79	7.92	9.38	8.25	7.92
Colour	TCU	2	40	13	48	17	6
Turbidity	NTU	0.1	10.2	3.0	2.8	4.4	2.6
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	128	314	163	83.4	91.7
Nitrate (N)	mg/L	0.05	<0.05	7.59	<0.05	0.27	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	5	52	11	9	92
BOD5	mg/L	3	<3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	32	16	<3	<3	13
Phosphorus (Total)	mg/L	0.01	0.13	0.09	0.05	0.05	0.03
Total Kjeldahl Nitrogen	mg/L	0.1	1.5	1.4	1.5	0.8	0.9
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.17	0.16	0.06	0.09	0.34
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	0.02	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	9.5	2.5	10.3	4.8	3.7
Tannin & Lignin	mg/L	0.5	1.3		0.9	<0.5	
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	0.002	0.001	0.002	<0.001	<0.001
COD	mg/L	5	63	35	64	31	21



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Final Report

REPORT No: 25-017569 - Rev. 0

Client I.D.			SW-18	WPCP Effluent	CP-1	CP-2	Dup
Sample I.D.			25-017569-6	25-017569-7	25-017569-8	25-017569-9	25-017569-10
Date Collected			2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.	-	-	-	-	-
Aluminum	mg/L	0.01	0.02	0.12	0.02	0.04	0.05
Hardness (as CaCO3)	mg/L	0.02	182	286	70.0	365	499
Aluminum (Total)	mg/L	0.01	0.05	1.56	0.03	0.13	0.10
Barium (Total)	mg/L	0.001	0.051	0.054	0.018	0.045	0.107
Boron (Total)	mg/L	0.005	0.064	0.090	0.078	0.021	0.036
Calcium (Total)	mg/L	0.02	58.2	91.2	17.4	130	174
Iron (Total)	mg/L	0.005	0.978	0.054	0.157	0.312	3.30
Magnesium (Total)	mg/L	0.02	8.81	14.0	6.42	10.1	15.6
Manganese (Total)	mg/L	0.001	0.445	0.007	0.042	0.265	0.856
Phosphorus (Total)	mg/L	0.1	0.1	0.1	<0.1	<0.1	<0.1
Potassium (Total)	mg/L	0.1	3.4	14.8	42.6	0.8	1.7
Sodium (Total)	mg/L	0.2	81.8	171	94.3	46.7	65.1
Strontium (Total)	mg/L	0.001	0.238	0.330	0.157	0.384	0.505
Tin (Total)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005	<0.005	<0.005	0.006	<0.005
Zinc (Total)	mg/L	0.005	<0.005	0.037	<0.005	<0.005	0.124
Antimony (Total)	mg/L	0.0001	0.0006	0.0006	0.0005	0.0004	0.0006
Arsenic (Total)	mg/L	0.0001	0.0006	0.0002	0.0008	0.0005	0.0004
Beryllium (Total)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015	<0.000015	0.000029	<0.000015	<0.000015	<0.000015
Chromium (Total)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001



**Michelle Dubien
Data Specialist**

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REPORT No: 25-017569 - Rev. 0

Client I.D.			SW-18	WPCP Effluent	CP-1	CP-2	Dup
Sample I.D.			25-017569-6	25-017569-7	25-017569-8	25-017569-9	25-017569-10
Date Collected			2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.	-	-	-	-	-
Cobalt (Total)	mg/L	0.0001	0.0003	0.0003	0.0003	0.0005	0.0008
Copper (Total)	mg/L	0.0001	0.0002	0.0064	0.0006	0.0005	0.0004
Lead (Total)	mg/L	0.00002	0.00006	0.00054	0.00007	0.00011	0.00014
Molybdenum (Total)	mg/L	0.0001	<0.0001	0.0052	0.0008	0.0002	0.0001
Nickel (Total)	mg/L	0.0002	0.0008	0.0009	0.0018	0.0006	0.0018
Selenium (Total)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005	0.00006	0.00021	0.00015	0.00030	0.00044
Vanadium (Total)	mg/L	0.0001	0.0003	0.0003	0.0005	0.0004	0.0002
Chromium (VI)	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	7.07	15.4	6.25	8.88	12.4
Cation Sum	meq/L	-	7.35	13.5	6.60	9.38	13.1
% Difference	%	-	1.93	6.31	2.76	2.77	2.74
Ion Ratio	-	-	0.962	1.13	0.946	0.946	0.947
Sodium Adsorption Ratio	-	-	2.64	4.41	4.91	1.06	1.27
TDS (Ion Sum Calc)	mg/L	1	387	845	378	471	681
TDS(calc.)/EC(actual)	-	-	0.518	0.589	0.517	0.559	0.595
Conductivity Calc	µmho/cm	-	742	1530	734	868	1160
Conductivity Calc / Conductivity	-	-	0.993	1.07	1.00	1.03	1.01



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Data Specialist**

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			Client I.D.	SW-18	WPCP Effluent	CP-1	CP-2	Dup
			Sample I.D.	25-017569-6	25-017569-7	25-017569-8	25-017569-9	25-017569-10
			Date Collected	2025-06-17	2025-06-17	2025-06-17	2025-06-17	2025-06-17
Parameter	Units	R.L.		-	-	-	-	-
Langelier Index(25°C)	-	-		0.327	0.636	1.02	1.40	1.27
Saturation pH (25°C)	-	-		7.46	7.28	8.36	6.85	6.65
pH (Client Data)	pH units	-		8.03	7.55	8.84	8.11	7.37
Temperature (Client Data)	°C	-		25.2	22.8	28.2	24.1	17.5

			Client I.D.	SW-3
			Sample I.D.	25-017569-2
			Date Collected	2025-06-17
Parameter	Units	R.L.		-
Poly-Chlorinated Biphenyls (PCB's)	µg/L	0.05		<0.05
Identification Comment	-	-		-



Michelle Dubien
Data Specialist

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C.O.C.: -

REPORT No: 25-022072 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Jul-25
DATE REPORTED: 2025-Aug-07
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: Lindsay OPS GW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	21	OTTAWA	PCURIEL	2025-Jul-30	A-IC-01	SM 4110B
BOD5 (Liquid)	21	KINGSTON	JWOLFE2	2025-Jul-30	BOD-001	SM 5210B
COD (Liquid)	21	KINGSTON	MWILSON	2025-Aug-01	COD-001	SM 5220D
Colour (Liquid)	21	OTTAWA	STAILLON	2025-Jul-30	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	21	OTTAWA	SBOUDREAU	2025-Jul-30	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	21	KINGSTON	MCLOSS	2025-Jul-29	CN-001	SM 4500-CN-E
DOC (Liquid)	21	OTTAWA	SLOZO	2025-Jul-31	C-OC-01	EPA 415.2
Ion Balance (Calc.)	21	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	21	OTTAWA	STAILLON	2025-Aug-01	D-CRVI-01	MECP E3056
ICP/MS (Liquid)	21	OTTAWA	AOZKAYMAK	2025-Jul-31	D-ICPMS-01	EPA 200.8
ICP/OES (Liquid)	21	OTTAWA	GFENTON	2025-Jul-30	D-ICP-01	SM 3120B
Mercury (Liquid)	21	OTTAWA	TBENNETT	2025-Jul-30	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	21	KINGSTON	DCASSIDY	2025-Aug-06	NH3-001	SM 4500NH3
PCB's (Liquid)	21	KINGSTON	CSUMMERHAYS	2025-Jul-30	PCB-001	EPA 8081
Phenols (Liquid)	21	KINGSTON	MCLOSS	2025-Jul-30	PHEN-01	MECP E3179
TP & TKN (Liquid)	21	KINGSTON	YLIEN	2025-Aug-05	TPTKN-001	MECP E3516.2
TSS (Liquid)	21	KINGSTON	KYUILL	2025-Aug-05	TSS-001	SM 2540D
Turbidity (Liquid)	21	OTTAWA	MMIRELLA	2025-Jul-30	A-TURB-01	SM 2130B
VOC-Volatiles Full (Water)	21	RICHMOND_HILL	FLENA	2025-Jul-31	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



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Client I.D.			11-90	32-93-I	43-93-I	43-93-II	44-93-I
Sample I.D.			25-022072-1	25-022072-2	25-022072-3	25-022072-4	25-022072-5
Date Collected			2025-07-24	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	374	272	303	568	256
TDS (Calc. from Cond.)	mg/L	3	551	512	496	632	487
Conductivity @25°C	uS/cm	1	1030	962	934	1170	917
pH @25°C	pH units	-	7.87	7.90	7.94	7.71	7.94
Colour	TCU	2	<2	<2	<2	<2	<2
Turbidity	NTU	0.1	47.1	1760	233	694	5.5
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	91.8	108	83.5	26.1	108
Nitrate (N)	mg/L	0.05	0.06	0.12	0.13	0.09	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	3	44	48	44	45
BOD5	mg/L	3	<3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	13	11700	285	1900	8
Phosphorus (Total)	mg/L	0.01	0.05	1.61	0.12	0.22	0.02
Total Kjeldahl Nitrogen	mg/L	0.1	0.7	1.6	0.6	0.9	0.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.32	0.25	0.30	0.08	0.27
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	3.3	1.8	1.8	4.4	1.6
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	20	88	18	49	19



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Client I.D.			11-90	32-93-I	43-93-I	43-93-II	44-93-I
Sample I.D.			25-022072-1	25-022072-2	25-022072-3	25-022072-4	25-022072-5
Date Collected			2025-07-24	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02	466	421	443	578	413
Aluminum	mg/L	0.01	0.04	0.05	0.04	0.07	0.04
Barium	mg/L	0.001	0.257	0.155	0.075	0.158	0.185
Boron	mg/L	0.005	0.112	0.047	0.067	0.014	0.060
Calcium	mg/L	0.02	128	108	99.5	205	99.1
Iron	mg/L	0.005	5.01	0.401	0.411	0.035	0.607
Magnesium	mg/L	0.02	35.9	36.5	47.3	15.6	40.3
Manganese	mg/L	0.001	0.084	0.012	0.011	0.020	0.012
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	3.9	3.0	3.5	1.1	3.1
Sodium	mg/L	0.2	33.3	20.5	10.7	26.5	17.0
Strontium	mg/L	0.001	1.21	0.906	1.30	0.495	1.01
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0003	0.0001	<0.0001	0.0003	<0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0002	0.0002	0.0002	0.0006	0.0001



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Client I.D.			11-90	32-93-I	43-93-I	43-93-II	44-93-I
Sample I.D.			25-022072-1	25-022072-2	25-022072-3	25-022072-4	25-022072-5
Date Collected			2025-07-24	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0004	0.0007	0.0005	0.0006	0.0003
Lead	mg/L	0.00002	<0.00002	0.00013	0.00003	<0.00004	<0.00002
Molybdenum	mg/L	0.0001	0.0001	0.0002	<0.0001	0.0001	0.0002
Nickel	mg/L	0.0002	0.0010	<0.0002	<0.0002	0.0009	<0.0002
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	0.00011	<0.00005	<0.00005	0.00065	<0.00005
Vanadium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001
Chromium (VI)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	10.1	9.40	9.41	13.0	9.11
Cation Sum	meq/L	-	11.2	9.43	9.46	12.7	9.14
% Difference	%	-	4.89	0.142	0.272	1.02	0.156
Ion Ratio	-	-	0.907	0.997	0.995	1.02	0.997
Sodium Adsorption Ratio	-	-	0.672	0.435	0.220	0.479	0.364
TDS (Ion Sum Calc)	mg/L	1	525	484	475	659	467
TDS(calc.)/EC(actual)	-	-	0.509	0.503	0.509	0.562	0.509
Conductivity Calc	µmho/cm	-	975	908	886	1110	883
Conductivity Calc / Conductivity	-	-	0.945	0.944	0.949	0.948	0.963
Langelier Index(25°C)	-	-	1.09	0.908	0.957	1.30	0.882



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			Client I.D.	11-90	32-93-I	43-93-I	43-93-II	44-93-I
			Sample I.D.	25-022072-1	25-022072-2	25-022072-3	25-022072-4	25-022072-5
			Date Collected	2025-07-24	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		6.78	6.99	6.98	6.41	7.06
pH (Client Data)	pH units	-		6.69	6.86	6.88	6.63	6.95
Temperature (Client Data)	°C	-		13.5	12.4	14.6	13.8	12.9



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Client I.D.			44-93-II	45-93	53-98	55-98-I	55-98-II
Sample I.D.			25-022072-6	25-022072-7	25-022072-8	25-022072-9	25-022072-10
Date Collected			2025-07-23	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	405	412	372	253	243
TDS (Calc. from Cond.)	mg/L	3	1020	678	1740	500	457
Conductivity @25°C	uS/cm	1	1860	1250	3120	940	965
pH @25°C	pH units	-	7.84	7.90	7.69	8.04	8.02
Colour	TCU	2	<2	<2	<2	<2	<2
Turbidity	NTU	0.1	233	1420	16.1	11.1	4.4
Fluoride	mg/L	0.1	<0.7	<0.1	<0.7	<0.1	<0.1
Chloride	mg/L	0.5	288	138	749	122	103
Nitrate (N)	mg/L	0.05	2.84	0.25	<0.40	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.40	<0.05	<0.40	<0.05	<0.05
Sulphate	mg/L	1	47	18	51	30	35
BOD5	mg/L	3	<3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	318	3620	12	38	6
Phosphorus (Total)	mg/L	0.01	0.17	1.22	0.02	0.04	0.03
Total Kjeldahl Nitrogen	mg/L	0.1	0.5	1.6	0.9	1.5	0.8
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.09	0.17	0.32	0.97	0.27
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	1.3	1.4	0.9	1.4	1.5
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	37	64	48	24	14



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Client I.D.			44-93-II	45-93	53-98	55-98-I	55-98-II
Sample I.D.			25-022072-6	25-022072-7	25-022072-8	25-022072-9	25-022072-10
Date Collected			2025-07-23	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02	487	337	953	353	394
Aluminum	mg/L	0.01	0.05	0.08	0.08	0.02	0.03
Barium	mg/L	0.001	0.120	0.072	1.31	0.186	0.250
Boron	mg/L	0.005	0.017	0.009	0.059	0.200	0.095
Calcium	mg/L	0.02	168	119	293	67.5	75.9
Iron	mg/L	0.005	<0.005	0.042	1.82	0.142	0.797
Magnesium	mg/L	0.02	16.1	9.60	53.6	44.9	49.7
Manganese	mg/L	0.001	<0.001	0.002	0.141	0.011	0.015
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	1.7	1.3	4.5	6.1	3.3
Sodium	mg/L	0.2	169	141	203	46.5	12.2
Strontium	mg/L	0.001	0.584	0.314	2.17	2.07	1.51
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0002	0.0001	<0.0001	<0.0001	<0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0003	0.0002	0.0004	0.0001	0.0002



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Client I.D.			44-93-II	45-93	53-98	55-98-I	55-98-II
Sample I.D.			25-022072-6	25-022072-7	25-022072-8	25-022072-9	25-022072-10
Date Collected			2025-07-23	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0017	0.0015	0.0013	0.0009	0.0004
Lead	mg/L	0.00002	0.00002	0.00008	<0.00004	<0.00002	<0.00002
Molybdenum	mg/L	0.0001	0.0003	0.0003	<0.0001	0.0001	0.0002
Nickel	mg/L	0.0002	0.0004	0.0006	0.0003	0.0002	<0.0002
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	0.00052	0.00043	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	0.0001	<0.0001	0.0002	0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	17.4	12.5	29.6	9.13	8.50
Cation Sum	meq/L	-	17.2	12.9	28.1	9.29	8.57
% Difference	%	-	0.649	1.48	2.60	0.902	0.437
Ion Ratio	-	-	1.01	0.971	1.05	0.982	0.991
Sodium Adsorption Ratio	-	-	3.34	3.34	2.86	1.08	0.268
TDS (Ion Sum Calc)	mg/L	1	946	675	1580	469	426
TDS(calc.)/EC(actual)	-	-	0.508	0.538	0.506	0.499	0.441
Conductivity Calc	µmho/cm	-	1660	1190	2780	894	825
Conductivity Calc / Conductivity	-	-	0.889	0.948	0.891	0.951	0.855
Langelier Index(25°C)	-	-	1.17	1.11	1.22	0.810	0.824



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			Client I.D.	44-93-II	45-93	53-98	55-98-I	55-98-II
			Sample I.D.	25-022072-6	25-022072-7	25-022072-8	25-022072-9	25-022072-10
			Date Collected	2025-07-23	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		6.67	6.79	6.47	7.23	7.20
pH (Client Data)	pH units	-		6.72	6.88	6.52	6.99	7.05
Temperature (Client Data)	°C	-		13.6	12.7	14.8	13.9	13.4



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			Client I.D.	56-02-I	57-02-II	58-I	61-10-I	61-10-II
			Sample I.D.	25-022072-11	25-022072-12	25-022072-13	25-022072-14	25-022072-15
			Date Collected	2025-07-23	2025-07-24	2025-07-24	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5		261	533	305	423	400
TDS (Calc. from Cond.)	mg/L	3		536	853	722	784	744
Conductivity @25°C	uS/cm	1		1000	1560	1330	1440	1370
pH @25°C	pH units	-		8.01	7.79	7.97	7.78	7.84
Colour	TCU	2		<2	<2	<2	2	<2
Turbidity	NTU	0.1		71.3	27.7	65.6	15.5	853
Fluoride	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5		139	154	196	172	146
Nitrate (N)	mg/L	0.05		<0.05	<0.05	0.34	<0.05	<0.05
Nitrite (N)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1		37	70	63	79	99
BOD5	mg/L	3		<3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3		168	46	63	10	2510
Phosphorus (Total)	mg/L	0.01		0.06	0.04	0.06	0.03	0.66
Total Kjeldahl Nitrogen	mg/L	0.1		0.7	0.5	0.4	1.3	0.6
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.45	0.08	0.07	0.50	0.12
Ammonia (N)-unionized	mg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8		1.4	2.8	1.4	5.8	2.1
Cyanide (WAD)	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5		17	21	24	44	73



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			Client I.D.	56-02-I	57-02-II	58-I	61-10-I	61-10-II
			Sample I.D.	25-022072-11	25-022072-12	25-022072-13	25-022072-14	25-022072-15
			Date Collected	2025-07-23	2025-07-24	2025-07-24	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02		441	668	398	674	569
Aluminum	mg/L	0.01		0.04	0.08	0.05	0.05	0.05
Barium	mg/L	0.001		0.176	0.147	0.152	0.477	0.170
Boron	mg/L	0.005		0.096	0.186	0.081	0.169	0.035
Calcium	mg/L	0.02		94.3	206	138	159	162
Iron	mg/L	0.005		0.738	0.609	0.011	1.18	0.393
Magnesium	mg/L	0.02		50.0	37.1	13.0	67.1	39.7
Manganese	mg/L	0.001		0.015	0.047	<0.001	0.034	0.061
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		4.6	3.2	1.8	5.3	2.9
Sodium	mg/L	0.2		21.1	63.5	120	77.4	56.6
Strontium	mg/L	0.001		1.89	0.995	0.529	1.90	0.823
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001		<0.0001	0.0006	<0.0001	<0.0001	0.0002
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0013	0.0010	0.0002	0.0003	0.0014



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Client I.D.			56-02-I	57-02-II	58-I	61-10-I	61-10-II
Sample I.D.			25-022072-11	25-022072-12	25-022072-13	25-022072-14	25-022072-15
Date Collected			2025-07-23	2025-07-24	2025-07-24	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0004	0.0008	0.0014	0.0005	0.0008
Lead	mg/L	0.00002	<0.00002	0.00006	0.00003	<0.00002	<0.00002
Molybdenum	mg/L	0.0001	<0.0001	0.0002	0.0002	<0.0001	0.0006
Nickel	mg/L	0.0002	<0.0002	0.0023	0.0006	0.0056	0.0015
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005	0.00133	0.00066	<0.00005	0.00090
Vanadium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0001
Chromium (VI)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	9.90	16.5	12.9	14.9	14.2
Cation Sum	meq/L	-	9.94	16.2	13.2	17.1	13.9
% Difference	%	-	0.201	0.634	1.17	6.68	0.835
Ion Ratio	-	-	0.996	1.01	0.977	0.875	1.02
Sodium Adsorption Ratio	-	-	0.437	1.07	2.63	1.30	1.03
TDS (Ion Sum Calc)	mg/L	1	503	854	716	814	747
TDS(calc.)/EC(actual)	-	-	0.501	0.547	0.537	0.565	0.545
Conductivity Calc	µmho/cm	-	965	1460	1270	1450	1300
Conductivity Calc / Conductivity	-	-	0.960	0.937	0.957	1.01	0.945
Langelier Index(25°C)	-	-	0.939	1.34	1.11	1.12	1.17



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			Client I.D.	56-02-I	57-02-II	58-I	61-10-I	61-10-II
			Sample I.D.	25-022072-11	25-022072-12	25-022072-13	25-022072-14	25-022072-15
			Date Collected	2025-07-23	2025-07-24	2025-07-24	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		7.07	6.45	6.86	6.66	6.67
pH (Client Data)	pH units	-		6.91	6.65	6.82	6.67	6.70
Temperature (Client Data)	°C	-		12.3	14.1	14.3	19.3	23



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Client I.D.			61-17-I	62-17-I	62-17-II	62-17-III	DUP
Sample I.D.			25-022072-16	25-022072-17	25-022072-18	25-022072-19	25-022072-20
Date Collected			2025-07-23	2025-07-23	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	496	497	512	441	302
TDS (Calc. from Cond.)	mg/L	3	902	797	927	521	489
Conductivity @25°C	uS/cm	1	1650	1460	1690	978	921
pH @25°C	pH units	-	7.82	7.92	7.77	7.97	7.95
Colour	TCU	2	4	6	6	<2	<2
Turbidity	NTU	0.1	22.4	94.3	32.3	164	163
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	197	158	221	28.5	83.8
Nitrate (N)	mg/L	0.05	<0.05	<0.05	<0.05	0.12	0.09
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	81	31	33	53	48
BOD5	mg/L	3	<3	4	<3	<3	<3
Total Suspended Solids	mg/L	3	552	418	78	77	261
Phosphorus (Total)	mg/L	0.01	0.06	0.10	0.04	0.41	0.11
Total Kjeldahl Nitrogen	mg/L	0.1	1.7	1.9	2.2	0.8	0.6
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.58	0.82	0.72	0.18	0.30
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	6.2	7.0	7.1	2.6	1.7
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	49	67	58	43	23



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Client I.D.			61-17-I	62-17-I	62-17-II	62-17-III	DUP
Sample I.D.			25-022072-16	25-022072-17	25-022072-18	25-022072-19	25-022072-20
Date Collected			2025-07-23	2025-07-23	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02	668	473	635	409	440
Aluminum	mg/L	0.01	0.06	0.04	0.06	0.04	0.04
Barium	mg/L	0.001	0.561	0.721	0.558	0.199	0.074
Boron	mg/L	0.005	0.177	0.182	0.182	0.026	0.067
Calcium	mg/L	0.02	155	121	158	107	98.9
Iron	mg/L	0.005	0.899	0.258	0.450	<0.005	0.412
Magnesium	mg/L	0.02	68.1	41.4	58.7	34.6	46.9
Manganese	mg/L	0.001	0.030	0.096	0.026	0.004	0.011
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	5.6	5.7	5.4	3.8	3.5
Sodium	mg/L	0.2	82.9	126	110	50.7	10.5
Strontium	mg/L	0.001	1.97	4.09	1.75	0.655	1.28
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001
Arsenic	mg/L	0.0001	<0.0001	0.0006	<0.0001	0.0002	<0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0003	0.0005	0.0003	0.0002	0.0001



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Client I.D.			61-17-I	62-17-I	62-17-II	62-17-III	DUP
Sample I.D.			25-022072-16	25-022072-17	25-022072-18	25-022072-19	25-022072-20
Date Collected			2025-07-23	2025-07-23	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0005	0.0009	0.0007	0.0016	0.0005
Lead	mg/L	0.00002	<0.00002	0.00003	<0.00002	<0.00002	0.00003
Molybdenum	mg/L	0.0001	<0.0001	0.0002	<0.0001	0.0016	<0.0001
Nickel	mg/L	0.0002	0.0061	0.0062	0.0083	0.0016	0.0002
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005	0.00080	<0.00005	0.00061	<0.00005
Vanadium	mg/L	0.0001	0.0005	0.0010	0.0004	0.0002	<0.0001
Chromium (VI)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-	17.2	15.0	17.1	10.7	9.40
Cation Sum	meq/L	-	17.2	15.2	17.7	10.5	9.39
% Difference	%	-	0.0926	0.532	1.58	1.14	0.0609
Ion Ratio	-	-	0.998	0.989	0.969	1.02	1.00
Sodium Adsorption Ratio	-	-	1.40	2.52	1.90	1.09	0.218
TDS (Ion Sum Calc)	mg/L	1	889	782	893	543	474
TDS(calc.)/EC(actual)	-	-	0.539	0.534	0.528	0.555	0.514
Conductivity Calc	µmho/cm	-	1540	1370	1590	934	883
Conductivity Calc / Conductivity	-	-	0.937	0.935	0.937	0.955	0.959
Langelier Index(25°C)	-	-	1.21	1.22	1.18	1.17	0.963



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			Client I.D.	61-17-I	62-17-I	62-17-II	62-17-III	DUP
			Sample I.D.	25-022072-16	25-022072-17	25-022072-18	25-022072-19	25-022072-20
			Date Collected	2025-07-23	2025-07-23	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C)	-	-		6.61	6.70	6.59	6.80	6.99
pH (Client Data)	pH units	-		6.61	6.78	6.56	6.86	6.88
Temperature (Client Data)	°C	-		13.3	13.2	17	16.5	14.6



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		Client I.D.	DUP-1
		Sample I.D.	25-022072-21
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	516
TDS (Calc. from Cond.)	mg/L	3	909
Conductivity @25°C	uS/cm	1	1660
pH @25°C	pH units	-	7.76
Colour	TCU	2	5
Turbidity	NTU	0.1	23.9
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	219
Nitrate (N)	mg/L	0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	33
BOD5	mg/L	3	<3
Total Suspended Solids	mg/L	3	67
Phosphorus (Total)	mg/L	0.01	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	2.5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.73
Ammonia (N)-unionized	mg/L	0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	7.5
Cyanide (WAD)	mg/L	0.005	<0.005
Phenolics	mg/L	0.001	<0.001
COD	mg/L	5	87



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		Client I.D.	DUP-1
		Sample I.D.	25-022072-21
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Hardness (as CaCO3)	mg/L	0.02	640
Aluminum	mg/L	0.01	0.06
Barium	mg/L	0.001	0.562
Boron	mg/L	0.005	0.182
Calcium	mg/L	0.02	159
Iron	mg/L	0.005	0.450
Magnesium	mg/L	0.02	58.8
Manganese	mg/L	0.001	0.027
Phosphorus	mg/L	0.1	<0.1
Potassium	mg/L	0.1	5.4
Sodium	mg/L	0.2	110
Strontium	mg/L	0.001	1.75
Tin	mg/L	0.05	<0.05
Titanium	mg/L	0.005	<0.005
Zinc	mg/L	0.005	<0.005
Antimony	mg/L	0.0001	<0.0001
Arsenic	mg/L	0.0001	<0.0001
Beryllium	mg/L	0.0001	<0.0001
Cadmium	mg/L	0.00001 5	<0.000015
Chromium	mg/L	0.001	<0.001
Cobalt	mg/L	0.0001	0.0003



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		Client I.D.	DUP-1
		Sample I.D.	25-022072-21
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Copper	mg/L	0.0001	0.0007
Lead	mg/L	0.00002	<0.00002
Molybdenum	mg/L	0.0001	<0.0001
Nickel	mg/L	0.0002	0.0083
Selenium	mg/L	0.001	<0.001
Silver	mg/L	0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005
Vanadium	mg/L	0.0001	0.0004
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum	meq/L	-	17.2
Cation Sum	meq/L	-	17.8
% Difference	%	-	1.73
Ion Ratio	-	-	0.966
Sodium Adsorption Ratio	-	-	1.90
TDS (Ion Sum Calc)	mg/L	1	896
TDS(calc.)/EC(actual)	-	-	0.540
Conductivity Calc	µmho/cm	-	1590
Conductivity Calc / Conductivity	-	-	0.957
Langelier Index(25°C)	-	-	1.18



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		Client I.D.	DUP-1
		Sample I.D.	25-022072-21
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Saturation pH (25°C)	-	-	6.58
pH (Client Data)	pH units	-	6.56
Temperature (Client Data)	°C	-	17



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Client I.D.			11-90	32-93-I	43-93-I	43-93-II	44-93-I
Sample I.D.			25-022072-1	25-022072-2	25-022072-3	25-022072-4	25-022072-5
Date Collected			2025-07-24	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Acetone	µg/L	30	<30	<30	<30	<30	<30
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	2	<2	<2	<2	<2	<2
Bromoform	µg/L	5	<5	<5	<5	<5	<5
Bromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	µg/L	1	<1	<1	<1	<1	<1
Chloromethane (Methyl Chloride)	µg/L	2	<2	<2	<2	<2	<2
Dibromochloromethane	µg/L	2	<2	<2	<2	<2	<2
Ethylene Dibromide	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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			Client I.D.	11-90	32-93-I	43-93-I	43-93-II	44-93-I
			Sample I.D.	25-022072-1	25-022072-2	25-022072-3	25-022072-4	25-022072-5
			Date Collected	2025-07-24	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Dichloropropene, 1,3-trans-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene Chloride)	µg/L	5		<5	<5	<5	<5	<5
Methyl Ethyl Ketone	µg/L	2		<2	<2	<2	<2	<2
Methyl Isobutyl Ketone	µg/L	20		<20	<20	<20	<20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2		<2	<2	<2	<2	<2
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5		<5	<5	<5	<5	<5
Vinyl Chloride	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2
Xylene, m,p-	µg/L	1		<1	<1	<1	<1	<1
Xylene, o-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5



**Michelle Dubien
Data Specialist**

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Client I.D.			44-93-II	45-93	53-98	55-98-I	55-98-II
Sample I.D.			25-022072-6	25-022072-7	25-022072-8	25-022072-9	25-022072-10
Date Collected			2025-07-23	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Acetone	µg/L	30	<30	<30	<30	<30	<30
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	2	<2	<2	<2	<2	<2
Bromoform	µg/L	5	<5	<5	<5	<5	<5
Bromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	µg/L	1	<1	<1	<1	<1	<1
Chloromethane (Methyl Chloride)	µg/L	2	<2	<2	<2	<2	<2
Dibromochloromethane	µg/L	2	<2	<2	<2	<2	<2
Ethylene Dibromide	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



**Michelle Dubien
Data Specialist**

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Client I.D.			44-93-II	45-93	53-98	55-98-I	55-98-II
Sample I.D.			25-022072-6	25-022072-7	25-022072-8	25-022072-9	25-022072-10
Date Collected			2025-07-23	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene Chloride)	µg/L	5	<5	<5	<5	<5	<5
Methyl Ethyl Ketone	µg/L	2	<2	<2	<2	<2	<2
Methyl Isobutyl Ketone	µg/L	20	<20	<20	<20	<20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2	<2	<2	<2	<2
Styrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5	<5	<5	<5	<5	<5
Vinyl Chloride	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



**Michelle Dubien
Data Specialist**

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Client I.D.			56-02-I	57-02-II	58-I	61-10-I	61-10-II
Sample I.D.			25-022072-11	25-022072-12	25-022072-13	25-022072-14	25-022072-15
Date Collected			2025-07-23	2025-07-24	2025-07-24	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Acetone	µg/L	30	<30	<30	<30	<30	<30
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	2	<2	<2	<2	<2	<2
Bromoform	µg/L	5	<5	<5	<5	<5	<5
Bromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	µg/L	1	<1	<1	<1	<1	<1
Chloromethane (Methyl Chloride)	µg/L	2	<2	<2	<2	<2	<2
Dibromochloromethane	µg/L	2	<2	<2	<2	<2	<2
Ethylene Dibromide	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



Michelle Dubien
Data Specialist

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Client I.D.			56-02-I	57-02-II	58-I	61-10-I	61-10-II
Sample I.D.			25-022072-11	25-022072-12	25-022072-13	25-022072-14	25-022072-15
Date Collected			2025-07-23	2025-07-24	2025-07-24	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene Chloride)	µg/L	5	<5	<5	<5	<5	<5
Methyl Ethyl Ketone	µg/L	2	<2	<2	<2	<2	<2
Methyl Isobutyl Ketone	µg/L	20	<20	<20	<20	<20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2	<2	<2	<2	<2
Styrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1,-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2,-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5	<5	<5	<5	<5	<5
Vinyl Chloride	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



Michelle Dubien
Data Specialist

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Client I.D.			61-17-I	62-17-I	62-17-II	62-17-III	DUP
Sample I.D.			25-022072-16	25-022072-17	25-022072-18	25-022072-19	25-022072-20
Date Collected			2025-07-23	2025-07-23	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Acetone	µg/L	30	<30	<30	<30	<30	<30
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	2	<2	<2	<2	<2	<2
Bromoform	µg/L	5	<5	<5	<5	<5	<5
Bromomethane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	µg/L	1	<1	<1	<1	<1	<1
Chloromethane (Methyl Chloride)	µg/L	2	<2	<2	<2	<2	<2
Dibromochloromethane	µg/L	2	<2	<2	<2	<2	<2
Ethylene Dibromide	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



Michelle Dubien
Data Specialist

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Client I.D.			61-17-I	62-17-I	62-17-II	62-17-III	DUP
Sample I.D.			25-022072-16	25-022072-17	25-022072-18	25-022072-19	25-022072-20
Date Collected			2025-07-23	2025-07-23	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.	-	-	-	-	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene Chloride)	µg/L	5	<5	<5	<5	<5	<5
Methyl Ethyl Ketone	µg/L	2	<2	<2	<2	<2	<2
Methyl Isobutyl Ketone	µg/L	20	<20	<20	<20	<20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2	<2	<2	<2	<2
Styrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5	<5	<5	<5	<5	<5
Vinyl Chloride	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



**Michelle Dubien
Data Specialist**

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		Client I.D.	DUP-1
		Sample I.D.	25-022072-21
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Acetone	µg/L	30	<30
Benzene	µg/L	0.5	<0.5
Bromodichloromethane	µg/L	2	<2
Bromoform	µg/L	5	<5
Bromomethane	µg/L	0.5	<0.5
Carbon Tetrachloride	µg/L	0.2	<0.2
Chlorobenzene	µg/L	0.5	<0.5
Chloroform	µg/L	1	<1
Chloromethane (Methyl Chloride)	µg/L	2	<2
Dibromochloromethane	µg/L	2	<2
Ethylene Dibromide	µg/L	0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5	<0.5
Dichloroethane,1,1-	µg/L	0.5	<0.5
Dichloroethane,1,2-	µg/L	0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5



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		Client I.D.	DUP-1
		Sample I.D.	25-022072-21
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5
Dichloromethane (Methylene Chloride)	µg/L	5	<5
Methyl Ethyl Ketone	µg/L	2	<2
Methyl Isobutyl Ketone	µg/L	20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2
Styrene	µg/L	0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5
Tetrachloroethylene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5
Trichloroethane, 1,1,1,-	µg/L	0.5	<0.5
Trichloroethane, 1,1,2,-	µg/L	0.5	<0.5
Trichloroethylene	µg/L	0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5	<5
Vinyl Chloride	µg/L	0.2	<0.2
Xylene, m,p-	µg/L	1	<1
Xylene, o-	µg/L	0.5	<0.5



Michelle Dubien
Data Specialist

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Final Report

REPORT No: 25-022072 - Rev. 0

			Client I.D.	11-90	32-93-I	43-93-I	43-93-II	44-93-I
			Sample I.D.	25-022072-1	25-022072-2	25-022072-3	25-022072-4	25-022072-5
			Date Collected	2025-07-24	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Poly-Chlorinated Biphenyls (PCB's)	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Identification Comment	-	-		-	-	-	-	-
			Client I.D.	44-93-II	45-93	53-98	55-98-I	55-98-II
			Sample I.D.	25-022072-6	25-022072-7	25-022072-8	25-022072-9	25-022072-10
			Date Collected	2025-07-23	2025-07-24	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Poly-Chlorinated Biphenyls (PCB's)	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Identification Comment	-	-		-	-	-	-	-
			Client I.D.	56-02-I	57-02-II	58-I	61-10-I	61-10-II
			Sample I.D.	25-022072-11	25-022072-12	25-022072-13	25-022072-14	25-022072-15
			Date Collected	2025-07-23	2025-07-24	2025-07-24	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Poly-Chlorinated Biphenyls (PCB's)	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Identification Comment	-	-		-	-	-	-	-
			Client I.D.	61-17-I	62-17-I	62-17-II	62-17-III	DUP
			Sample I.D.	25-022072-16	25-022072-17	25-022072-18	25-022072-19	25-022072-20
			Date Collected	2025-07-23	2025-07-23	2025-07-23	2025-07-23	2025-07-23
Parameter	Units	R.L.		-	-	-	-	-
Poly-Chlorinated Biphenyls (PCB's)	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Identification Comment	-	-		-	-	-	-	-



**Michelle Dubien
Data Specialist**

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		Client I.D.	DUP-1
		Sample I.D.	25-022072-21
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Poly-Chlorinated Biphenyls (PCB's)	µg/L	0.05	<0.05
Identification Comment	-	-	-

Elevated RLs due to sample matrix interferences



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-022076 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
 Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Jul-25
 DATE REPORTED: 2025-Aug-07
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2025-Jul-29	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Jul-30	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	MWILSON	2025-Aug-01	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Jul-29	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC (Liquid)	1	OTTAWA	LMACGREGOR	2025-Jul-29	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-Aug-06	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	AOZKAYMAK	2025-Aug-05	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	SGORMAN	2025-Aug-01	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-Jul-30	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	DCASSIDY	2025-Aug-06	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	MCLOSS	2025-Jul-30	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Aug-05	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	JEVANS	2025-Jul-30	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-022076 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-022076-1
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	846
TDS (Calc. from Cond.)	mg/L	3	1240
Conductivity @25°C	uS/cm	1	2240
pH @25°C	pH units	-	7.52
Fluoride	mg/L	0.1	<0.7
Chloride	mg/L	0.5	229
Nitrate (N)	mg/L	0.05	<0.40
Nitrite (N)	mg/L	0.05	<0.40
Sulphate	mg/L	1	17
BOD5	mg/L	3	<3
Phosphorus (Total)	mg/L	0.01	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	47.9
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	35.5
Dissolved Organic Carbon	mg/L	0.8	20.3
Phenolics	mg/L	0.001	0.002
COD	mg/L	5	98
Hardness (as CaCO3)	mg/L	0.02	659
Aluminum (Total)	mg/L	0.01	0.11
Barium (Total)	mg/L	0.001	0.481
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.661



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-022076 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-022076-1
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	185
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	<0.005
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	16.3
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	47.9
Manganese (Total)	mg/L	0.001	0.348
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	0.02
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	32.8
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	162
Strontium (Total)	mg/L	0.001	0.828
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	<0.005
Antimony (Total)	mg/L	0.0005	<0.0005



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-022076 - Rev. 0

		Client I.D.	LPC 1
		Sample I.D.	25-022076-1
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0011
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum	meq/L	-	23.7
Cation Sum	meq/L	-	22.0
% Difference	%	-	3.89
Ion Ratio	-	-	1.08
Sodium Adsorption Ratio	-	-	2.75
TDS (Ion Sum Calc)	mg/L	1	1200
TDS(calc.)/EC(actual)	-	-	0.535
Conductivity Calc	µmho/cm	-	1930
Conductivity Calc / Conductivity	-	-	0.863
Langelier Index(25°C)	-	-	1.20
Saturation pH (25°C)	-	-	6.32
pH (Client Data)	pH units	-	6.42
Temperature (Client Data)	°C	-	16.3



Michelle Dubien
Data Specialist

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		Client I.D.	LPC 1
		Sample I.D.	25-022076-1
		Date Collected	2025-07-23
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	2.6
Ethylbenzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	<1
Xylene, m,p,o-	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5

Elevated RLs due to sample matrix interferences



Michelle Dubien
Data Specialist

C.O.C.: Lindsay OPS

REPORT No: 25-025504 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

285 Dalton Ave
 Kingston, ON K7K 6Z1

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Aug-22
 DATE REPORTED: 2025-Sep-03
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS Landfill
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2025-Aug-26	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Aug-22	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	MWILSON	2025-Aug-27	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Aug-26	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC (Liquid)	1	OTTAWA	LMACGREGOR	2025-Sep-03	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	TPRICE		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-Aug-27	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	GFENTON	2025-Aug-26	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	SGORMAN	2025-Aug-27	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-Aug-27	D-HG-02	SM 3112B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Sep-03	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-Aug-27	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Sep-03	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	FLENA	2025-Aug-26	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-025504 - Rev. 0

		Client I.D.	LPC1
		Sample I.D.	25-025504-1
		Date Collected	2025-08-21
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	893
TDS (Calc. from Cond.)	mg/L	3	1370
Conductivity @25°C	uS/cm	1	2460
pH @25°C	pH units	-	7.34
Fluoride	mg/L	0.1	<0.7
Chloride	mg/L	0.5	261
Nitrate (N)	mg/L	0.05	<0.40
Nitrite (N)	mg/L	0.05	<0.40
Sulphate	mg/L	1	17
BOD5	mg/L	3	8
Phosphorus (Total)	mg/L	0.01	0.09
Total Kjeldahl Nitrogen	mg/L	0.1	51.9
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	36.4
Dissolved Organic Carbon	mg/L	0.8	31.8
Phenolics	mg/L	0.001	0.002
COD	mg/L	5	127
Hardness (as CaCO3)	mg/L	0.02	727
Aluminum (Total)	mg/L	0.01	0.08
Barium (Total)	mg/L	0.001	0.590
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.790



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-025504 - Rev. 0

		Client I.D.	LPC1
		Sample I.D.	25-025504-1
		Date Collected	2025-08-21
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	194
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	<0.005
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	22.7
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	58.8
Manganese (Total)	mg/L	0.001	0.340
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	0.02
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	37.8
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	181
Strontium (Total)	mg/L	0.001	0.904
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	0.005
Antimony (Total)	mg/L	0.0005	0.0008



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-025504 - Rev. 0

		Client I.D.	LPC1
		Sample I.D.	25-025504-1
		Date Collected	2025-08-21
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0016
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum	meq/L	-	25.6
Cation Sum	meq/L	-	24.6
% Difference	%	-	1.93
Ion Ratio	-	-	1.04
Sodium Adsorption Ratio	-	-	2.92
TDS (Ion Sum Calc)	mg/L	1	1310
TDS(calc.)/EC(actual)	-	-	0.532
Conductivity Calc	µmho/cm	-	2100
Conductivity Calc / Conductivity	-	-	0.852
Langelier Index(25°C)	-	-	1.07
Saturation pH (25°C)	-	-	6.27
pH (Client Data)	pH units	-	6.85
Temperature (Client Data)	°C	-	15.5



Michelle Dubien
Data Specialist

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		Client I.D.	LPC1
		Sample I.D.	25-025504-1
		Date Collected	2025-08-21
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	2.2
Ethylbenzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	<1
Xylene, m,p,o-	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5

Elevated RLs due to sample matrix interferences



Michelle Dubien
Data Specialist

C.O.C.: Lindsay OPS

REPORT No: 25-025510 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Aug-22
DATE REPORTED: 2025-Sep-02
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS SW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-Aug-25	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
ICP/OES Total (Liquid)	2	OTTAWA	SGORMAN	2025-Aug-27	D-ICP-01	SM 3120B
ICP/OES (Liquid)	2	OTTAWA	SGORMAN	2025-Aug-27	D-ICP-01	SM 3120B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-Sep-02	NH3-001	SM 4500NH3
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Aug-26	TSS-001	SM 2540D
Turbidity (Liquid)	2	OTTAWA	LMACGREGOR	2025-Aug-25	A-TURB-01	SM 2130B

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *

Parameter	Units	R.L.	Client I.D.	
			NEARSHORE 1	NEARSHORE 2
			Sample I.D.	25-025510-1
			Date Collected	2025-08-21
pH @25°C	pH units	-	8.23	8.61
Turbidity	NTU	0.1	0.6	2.4
Total Suspended Solids	mg/L	3	3	5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	<0.05	<0.05
Iron	mg/L	0.005	0.007	0.011
Iron (Total)	mg/L	0.005	0.009	0.022
pH (Client Data)	pH units	-	8.15	8.38
Temperature (Client Data)	°C	-	20.9	20.0



Michelle Dubien
Data Specialist

C.O.C.: Lindsay OPS

REPORT No: 25-025516 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Aug-22
DATE REPORTED: 2025-Sep-04
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS SW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	8	OTTAWA	PCURIEL	2025-Aug-26	A-IC-01	SM 4110B
BOD5 (Liquid)	8	KINGSTON	JWOLFE2	2025-Aug-25	BOD-001	SM 5210B
COD (Liquid)	8	KINGSTON	MWILSON	2025-Aug-27	COD-001	SM 5220D
Colour (Liquid)	8	OTTAWA	AGRAF	2025-Aug-26	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	8	OTTAWA	SBOUDREAU	2025-Aug-26	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	8	KINGSTON	EHINCH	2025-Aug-28	CN-001	SM 4500-CN-E
DOC (Liquid)	8	OTTAWA	LMACGREGOR	2025-Aug-25	C-OC-01	EPA 415.2
Ion Balance (Calc.)	8	OTTAWA	TPRICE		CP-028	MECP E3196
Chromium VI (Liquid)	8	OTTAWA	STAILLON	2025-Aug-27	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	8	OTTAWA	GFENTON	2025-Aug-27	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	8	OTTAWA	SGORMAN	2025-Aug-27	D-ICP-01	SM 3120B
ICP/OES (Liquid)	8	OTTAWA	SGORMAN	2025-Aug-27	D-ICP-01	SM 3120B
Mercury (Liquid)	8	OTTAWA	TBENNETT	2025-Aug-27	D-HG-02	SM 3112B
Ammonia (Liquid)	8	KINGSTON	DCASSIDY	2025-Sep-03	NH3-001	SM 4500NH3
Phenols (Liquid)	8	KINGSTON	EHINCH	2025-Aug-27	PHEN-01	MECP E3179
TP & TKN (Liquid)	8	KINGSTON	YLIEN	2025-Sep-03	TPTKN-001	MECP E3516.2
TSS (Liquid)	8	KINGSTON	MCLOSS	2025-Aug-26	TSS-001	SM 2540D
Turbidity (Liquid)	8	OTTAWA	LMACGREGOR	2025-Aug-25	A-TURB-01	SM 2130B
VOC-Volatiles Full (Water)	3	RICHMOND_HILL	FLENA	2025-Aug-26	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report

REPORT No: 25-025516 - Rev. 0

Client I.D.			SCB-UPSTREAM	SCG-DOWNSTREAM	EMBAY A	EMBAY B	EMBAY C
Sample I.D.			25-025516-1	25-025516-2	25-025516-3	25-025516-4	25-025516-5
Date Collected			2025-08-21	2025-08-21	2025-08-21	2025-08-21	2025-08-21
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	100	111	160	126	119
TDS (Calc. from Cond.)	mg/L	3	179	251	598	220	247
Conductivity @25°C	uS/cm	1	348	485	1110	426	478
pH @25°C	pH units	-	8.06	8.05	8.06	7.98	8.07
Colour	TCU	2	14	14	16	17	15
Turbidity	NTU	0.1	3.3	1.6	3.7	1.6	2.2
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	40.7	73.2	207	49.4	67.9
Nitrate (N)	mg/L	0.05	0.10	<0.05	4.09	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	7	11	42	8	10
BOD5	mg/L	3	<3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	5	<3	10	3	5
Phosphorus (Total)	mg/L	0.01	0.04	0.03	0.07	0.03	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	0.7	0.9	2.6	1.1	1.3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	<0.05	0.07	1.01	<0.05	0.11
Ammonia (N)-unionized	mg/L	0.01	<0.01	<0.01	0.04	<0.01	0.02
Dissolved Organic Carbon	mg/L	0.8	13.4	16.5	12.8	16.5	20.6
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	25	33	28	29	36



Michelle Dubien
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			Client I.D.	SCB-UPSTREAM	SCG-DOWNSTREAM	EMBAY A	EMBAY B	EMBAY C
			Sample I.D.	25-025516-1	25-025516-2	25-025516-3	25-025516-4	25-025516-5
			Date Collected	2025-08-21	2025-08-21	2025-08-21	2025-08-21	2025-08-21
Parameter	Units	R.L.		-	-	-	-	-
Aluminum	mg/L	0.01		0.02	0.03	0.13	0.03	0.05
Hardness (as CaCO3)	mg/L	0.02		113	140	230	166	158
Aluminum (Total)	mg/L	0.01		0.09	0.03	0.45	0.03	0.06
Barium (Total)	mg/L	0.001		0.030	0.037	0.069	0.040	0.043
Boron (Total)	mg/L	0.005		0.012	0.024	0.099	0.017	0.025
Calcium (Total)	mg/L	0.02		33.8	38.4	69.2	47.8	44.1
Iron (Total)	mg/L	0.005		0.100	0.023	0.032	0.050	0.016
Magnesium (Total)	mg/L	0.02		6.91	10.6	13.8	11.2	11.6
Manganese (Total)	mg/L	0.001		0.018	0.023	0.022	0.027	0.023
Phosphorus (Total)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium (Total)	mg/L	0.1		0.9	2.6	17.0	0.8	2.9
Sodium (Total)	mg/L	0.2		19.5	34.3	108	24.2	34.4
Strontium (Total)	mg/L	0.001		0.130	0.165	0.238	0.188	0.185
Tin (Total)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc (Total)	mg/L	0.005		0.005	<0.005	0.008	<0.005	<0.005
Antimony (Total)	mg/L	0.0001		0.0009	0.0009	0.0009	0.0006	0.0009
Arsenic (Total)	mg/L	0.0001		0.0004	0.0004	0.0003	0.0004	0.0003
Beryllium (Total)	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015		<0.000015	<0.000015	0.000018	<0.000015	<0.000015
Chromium (Total)	mg/L	0.001		0.001	<0.001	<0.001	<0.001	<0.001



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Data Specialist**

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			Client I.D.	SCB-UPSTREAM	SCG-DOWNSTREAM	EMBAY A	EMBAY B	EMBAY C
			Sample I.D.	25-025516-1	25-025516-2	25-025516-3	25-025516-4	25-025516-5
			Date Collected	2025-08-21	2025-08-21	2025-08-21	2025-08-21	2025-08-21
Parameter	Units	R.L.		-	-	-	-	-
Cobalt (Total)	mg/L	0.0001		0.0001	<0.0001	0.0003	<0.0001	<0.0001
Copper (Total)	mg/L	0.0001		0.0014	0.0006	0.0044	0.0006	0.0006
Lead (Total)	mg/L	0.00002		0.00037	0.00008	0.00028	0.00026	0.00008
Molybdenum (Total)	mg/L	0.0001		0.0003	0.0004	0.0113	0.0001	0.0003
Nickel (Total)	mg/L	0.0002		0.0006	0.0006	0.0018	0.0005	0.0006
Selenium (Total)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005		0.00010	0.00015	0.00013	0.00015	0.00013
Vanadium (Total)	mg/L	0.0001		0.0007	0.0004	0.0004	0.0003	0.0003
Chromium (VI)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		3.30	4.50	10.2	4.08	4.51
Cation Sum	meq/L	-		3.13	4.35	9.73	4.39	4.73
% Difference	%	-		2.50	1.70	2.35	3.64	2.39
Ion Ratio	-	-		1.05	1.03	1.05	0.930	0.953
Sodium Adsorption Ratio	-	-		0.799	1.26	3.10	0.819	1.19
TDS (Ion Sum Calc)	mg/L	1		169	236	571	217	243
TDS(calc.)/EC(actual)	-	-		0.487	0.487	0.513	0.510	0.508
Conductivity Calc	µmho/cm	-		333	466	1050	431	480
Conductivity Calc / Conductivity	-	-		0.958	0.962	0.946	1.01	1.00



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			Client I.D.	SCB-UPSTREAM	SCG-DOWNSTREAM	EMBAY A	EMBAY B	EMBAY C
			Sample I.D.	25-025516-1	25-025516-2	25-025516-3	25-025516-4	25-025516-5
			Date Collected	2025-08-21	2025-08-21	2025-08-21	2025-08-21	2025-08-21
Parameter	Units	R.L.		-	-	-	-	-
Langelier Index(25°C)	-	-		0.174	0.247	0.632	0.328	0.358
Saturation pH (25°C)	-	-		7.89	7.80	7.43	7.65	7.71
pH (Client Data)	pH units	-		8.00	8.15	8.04	8.44	8.65
Temperature (Client Data)	°C	-		21.6	19.8	19.6	20.1	19.8



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			Client I.D.	SW-15	WPCP Effluent	DUP
			Sample I.D.	25-025516-6	25-025516-7	25-025516-8
			Date Collected	2025-08-21	2025-08-21	2025-08-21
Parameter	Units	R.L.		-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5		90	160	111
TDS (Calc. from Cond.)	mg/L	3		568	628	250
Conductivity @25°C	uS/cm	1		1060	1170	484
pH @25°C	pH units	-		7.71	7.96	8.07
Colour	TCU	2		32	15	16
Turbidity	NTU	0.1		7.8	1.5	2.6
Fluoride	mg/L	0.1		<0.1	<0.1	<0.1
Chloride	mg/L	0.5		166	215	73.9
Nitrate (N)	mg/L	0.05		0.72	7.94	<0.05
Nitrite (N)	mg/L	0.05		0.07	<0.05	<0.05
Sulphate	mg/L	1		167	48	11
BOD5	mg/L	3		7	<3	<3
Total Suspended Solids	mg/L	3		11	6	<3
Phosphorus (Total)	mg/L	0.01		0.20	0.06	0.02
Total Kjeldahl Nitrogen	mg/L	0.1		3.2	1.6	1.0
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.57	0.15	0.06
Ammonia (N)-unionized	mg/L	0.01		<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8		12.1	7.1	17.5
Cyanide (WAD)	mg/L	0.005		<0.005	<0.005	<0.005
Phenolics	mg/L	0.001		<0.001	<0.001	<0.001
COD	mg/L	5		54	30	36



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Client I.D.			SW-15	WPCP Effluent	DUP
Sample I.D.			25-025516-6	25-025516-7	25-025516-8
Date Collected			2025-08-21	2025-08-21	2025-08-21
Parameter	Units	R.L.	-	-	-
Aluminum	mg/L	0.01	0.06	0.51	0.03
Hardness (as CaCO3)	mg/L	0.02	291	241	134
Aluminum (Total)	mg/L	0.01	0.32	0.51	0.03
Barium (Total)	mg/L	0.001	0.098	0.038	0.036
Boron (Total)	mg/L	0.005	0.073	0.113	0.023
Calcium (Total)	mg/L	0.02	104	73.5	37.2
Iron (Total)	mg/L	0.005	0.258	0.043	0.023
Magnesium (Total)	mg/L	0.02	7.52	14.0	10.0
Manganese (Total)	mg/L	0.001	0.135	0.006	0.022
Phosphorus (Total)	mg/L	0.1	0.2	<0.1	<0.1
Potassium (Total)	mg/L	0.1	9.2	19.3	2.5
Sodium (Total)	mg/L	0.2	100	120	33.1
Strontium (Total)	mg/L	0.001	0.411	0.261	0.157
Tin (Total)	mg/L	0.05	<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005	0.013	<0.005	<0.005
Zinc (Total)	mg/L	0.005	0.006	0.014	<0.005
Antimony (Total)	mg/L	0.0001	0.0012	0.0017	0.0009
Arsenic (Total)	mg/L	0.0001	0.0017	0.0003	0.0004
Beryllium (Total)	mg/L	0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015	<0.000015	0.000030	<0.000015
Chromium (Total)	mg/L	0.001	<0.001	<0.001	<0.001



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			Client I.D.	SW-15	WPCP Effluent	DUP
			Sample I.D.	25-025516-6	25-025516-7	25-025516-8
			Date Collected	2025-08-21	2025-08-21	2025-08-21
Parameter	Units	R.L.		-	-	-
Cobalt (Total)	mg/L	0.0001		0.0005	0.0003	<0.0001
Copper (Total)	mg/L	0.0001		0.0063	0.0095	0.0005
Lead (Total)	mg/L	0.00002		0.00029	0.00021	0.00006
Molybdenum (Total)	mg/L	0.0001		0.0020	0.0134	0.0004
Nickel (Total)	mg/L	0.0002		0.0017	0.0020	0.0006
Selenium (Total)	mg/L	0.001		<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001		<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005		<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005		0.00049	0.00006	0.00016
Vanadium (Total)	mg/L	0.0001		0.0005	0.0004	0.0003
Chromium (VI)	mg/L	0.001		<0.001	<0.001	<0.001
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002
Anion Sum	meq/L	-		10.0	10.8	4.53
Cation Sum	meq/L	-		10.4	10.5	4.19
% Difference	%	-		2.08	1.32	3.91
Ion Ratio	-	-		0.959	1.03	1.08
Sodium Adsorption Ratio	-	-		2.55	3.36	1.24
TDS (Ion Sum Calc)	mg/L	1		611	621	234
TDS(calc.)/EC(actual)	-	-		0.576	0.532	0.484
Conductivity Calc	µmho/cm	-		1070	1130	460
Conductivity Calc / Conductivity	-	-		1.01	0.965	0.951



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			Client I.D.	SW-15	WPCP Effluent	DUP
			Sample I.D.	25-025516-6	25-025516-7	25-025516-8
			Date Collected	2025-08-21	2025-08-21	2025-08-21
Parameter	Units	R.L.		-	-	-
Langelier Index(25°C)	-	-		0.207	0.557	0.254
Saturation pH (25°C)	-	-		7.50	7.40	7.82
pH (Client Data)	pH units	-		7.11	7.58	8.15
Temperature (Client Data)	°C	-		27.9	21.9	19.8



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Parameter	Client I.D.		SCB-UPSTREAM	SCG-DOWNSTREAM	WPCP Effluent
	Sample I.D.		25-025516-1	25-025516-2	25-025516-7
	Date Collected		2025-08-21	2025-08-21	2025-08-21
	Units	R.L.	-	-	-
Acetone	µg/L	30	<30	<30	<30
Benzene	µg/L	0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	2	<2	<2	<2
Bromoform	µg/L	5	<5	<5	<5
Bromomethane	µg/L	0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.5	<0.5	<0.5	<0.5
Chloroform	µg/L	1	<1	<1	1
Chloromethane (Methyl Chloride)	µg/L	2	<2	<2	<2
Dibromochloromethane	µg/L	2	<2	<2	<2
Ethylene Dibromide	µg/L	0.2	<0.2	<0.2	<0.2
Dichlorobenzene,1,2-	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,3-	µg/L	0.5	<0.5	<0.5	<0.5
Dichlorobenzene,1,4-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloroethane,1,1-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloroethane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,1-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloropropane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5	<0.5	<0.5



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Parameter	Client I.D.		SCB-UPSTREAM	SCG-DOWNSTREAM	WPCP Effluent
	Sample I.D.		25-025516-1	25-025516-2	25-025516-7
	Date Collected		2025-08-21	2025-08-21	2025-08-21
	Units	R.L.	-	-	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5
Dichloromethane (Methylene Chloride)	µg/L	5	<5	<5	<5
Methyl Ethyl Ketone	µg/L	2	<2	<2	<2
Methyl Isobutyl Ketone	µg/L	20	<20	<20	<20
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2	<2	<2
Styrene	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	µg/L	0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1,-	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2,-	µg/L	0.5	<0.5	<0.5	<0.5
Trichloroethylene	µg/L	0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	5	<5	<5	<5
Vinyl Chloride	µg/L	0.2	<0.2	<0.2	<0.2
Xylene, m,p-	µg/L	1	<1	<1	<1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5



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C.O.C.: -

REPORT No: 25-027763 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
Unit #14
Richmond Hill, ON L4B 1J9

Attention: Deyonte Levene

DATE RECEIVED: 2025-Sep-11
DATE REPORTED: 2025-Sep-24
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS Landfill
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2025-Sep-12	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Sep-12	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	MWILSON	2025-Sep-17	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Sep-12	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC (Liquid)	1	OTTAWA	SLOZO	2025-Sep-15	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-Sep-15	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	GFENTON	2025-Sep-15	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	NSAUNDERS	2025-Sep-16	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-Sep-15	D-HG-02	SM 3112B
Ammonia (Liquid)	1	KINGSTON	VHAMMOND	2025-Sep-23	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-Sep-15	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Sep-18	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	FLENA	2025-Sep-16	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



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Data Specialist

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Final Report
REPORT No: 25-027763 - Rev. 0

		Client I.D.	LPC #1
		Sample I.D.	25-027763-1
		Date Collected	2025-09-10
Parameter	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	902
TDS (Calc. from Cond.) (Calculated)	mg/L	3	1360
Conductivity @25°C	uS/cm	1	2450
pH @25°C	pH units	-	7.44
Fluoride	mg/L	0.1	<0.7
Chloride	mg/L	0.5	267
Nitrate (N)	mg/L	0.05	1.63
Nitrite (N)	mg/L	0.05	<0.40
Sulphate	mg/L	1	18
BOD5	mg/L	3	13
Phosphorus (Total)	mg/L	0.01	0.05
Total Kjeldahl Nitrogen	mg/L	0.1	52.2
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	35.5
Dissolved Organic Carbon	mg/L	0.8	29.2
Phenolics	mg/L	0.001	0.002
COD	mg/L	5	115
Hardness (as CaCO3)	mg/L	0.02	740
Aluminum (Total)	mg/L	0.01	0.06
Barium (Total)	mg/L	0.001	0.597
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.833



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REPORT No: 25-027763 - Rev. 0

		Client I.D.	LPC #1
		Sample I.D.	25-027763-1
		Date Collected	2025-09-10
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	194
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	0.006
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	25.6
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	62.0
Manganese (Total)	mg/L	0.001	0.311
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	0.01
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	38.9
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	188
Strontium (Total)	mg/L	0.001	0.892
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	0.005
Antimony (Total)	mg/L	0.0005	0.0011



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		Client I.D.	LPC #1
		Sample I.D.	25-027763-1
		Date Collected	2025-09-10
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0018
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01 (25)
Mercury	mg/L	0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	26.1
Cation Sum (Calculated)	meq/L	-	25.4
% Difference (Calculated)	%	-	1.38
Ion Ratio (Calculated)	-	-	1.03
Sodium Adsorption Ratio (Calculated)	-	-	3.01
TDS (Ion Sum Calc) (Calculated)	mg/L	1	1340
TDS(calc.)/EC(actual) (Calculated)	-	-	0.548
Conductivity Calc	µmho/cm	-	2140
Conductivity Calc / Conductivity (Calculated)	-	-	0.872
Langelier Index(25°C) (Calculated)	-	-	1.17
Saturation pH (25°C) (Calculated)	-	-	6.27
pH (Client Data)	pH units	-	6.74
Temperature (Client Data)	°C	-	12.7



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		Client I.D.	LPC #1
		Sample I.D.	25-027763-1
		Date Collected	2025-09-10
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	2.2
Ethylbenzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5

Comments:

25. Chromium (VI) result is based on Total Chromium

Elevated RLs due to sample matrix interferences



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-031264 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
Unit #14
Richmond Hill, ON L4B 1J9

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Oct-09
DATE REPORTED: 2025-Oct-21
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: Lindsay OPS SW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	10	OTTAWA	PCURIEL	2025-Oct-15	A-IC-01	SM 4110B
BOD5 (Liquid)	10	KINGSTON	JWOLFE2	2025-Oct-16	BOD-001	SM 5210B
COD (Liquid)	10	KINGSTON	MWILSON	2025-Oct-15	COD-001	SM 5220D
Colour (Liquid)	10	OTTAWA	STAILLON	2025-Oct-15	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	12	OTTAWA	SBOUDREAU	2025-Oct-14	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	10	KINGSTON	EHINCH	2025-Oct-14	CN-001	SM 4500-CN-E
DOC (Liquid)	10	OTTAWA	SLOZO	2025-Oct-15	C-OC-01	EPA 415.2
Ion Balance (Calc.)	10	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	10	OTTAWA	AGRAF	2025-Oct-20	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	10	OTTAWA	GFENTON	2025-Oct-17	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	12	OTTAWA	SGORMAN	2025-Oct-16	D-ICP-01	SM 3120B
ICP/OES (Liquid)	12	OTTAWA	NSAUNDERS	2025-Oct-14	D-ICP-01	SM 3120B
Mercury (Liquid)	10	OTTAWA	TBENNETT	2025-Oct-16	D-HG-02	SM 3112B
Ammonia (Liquid)	12	KINGSTON	VHAMMOND	2025-Oct-16	NH3-001	SM 4500NH3
Phenols (Liquid)	10	KINGSTON	EHINCH	2025-Oct-16	PHEN-01	MECP E3179
Tannins (Liquid)	1	KINGSTON	MWILSON	2025-Oct-15	TAN-001	SM 5550
TP & TKN (Liquid)	10	KINGSTON	YLIEN	2025-Oct-16	TPTKN-001	MECP E3516.2
TSS (Liquid)	12	KINGSTON	MCLOSS	2025-Oct-16	TSS-001	SM 2540D
Turbidity (Liquid)	12	OTTAWA	ABAILEY	2025-Oct-14	A-TURB-01	SM 2130B

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Final Report

REPORT No: 25-031264 - Rev. 0

Parameter	Client I.D.		SCG-UPSTREAM	SCG-DOWNSTREAM	EMBAY A	EMBAY B	EMBAY C
	Sample I.D.		25-031264-1	25-031264-2	25-031264-3	25-031264-4	25-031264-5
	Date Collected		2025-10-09	2025-10-09	2025-10-09	2025-10-09	2025-10-09
	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	156	148	191	150	150
Conductivity @25°C	uS/cm	1	495	595	1130	506	602
pH @25°C	pH units	-	7.89	7.84	8.12	7.73	7.88
Colour	TCU	2	20	17	14	17	17
Turbidity	NTU	0.1	1.3 (17)	1.4 (17)	1.1 (17)	2.1 (17)	1.6 (17)
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	53.8	87.6	208	61.9	86.9
Nitrate (N)	mg/L	0.05	<0.05	0.16	3.55	<0.05	0.35
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	16	17	46	16	19
BOD5	mg/L	3	<3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	<3	3	<3	<3	3
Phosphorus (Total)	mg/L	0.01	0.04	0.04	0.04	0.04	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	0.9	1.3	2.0	1.0	1.3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.13	0.32	0.74	0.13	0.41
Ammonia (N)-unionized (Calculated)	mg/L	0.01	<0.01	0.01	0.04	<0.01	0.01
Dissolved Organic Carbon	mg/L	0.8	9.0	8.6	4.2	8.2	8.2
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	25	39	24	31	26
Aluminum	mg/L	0.01	0.02	0.02	0.18	0.01	0.02



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REPORT No: 25-031264 - Rev. 0

			Client I.D.	SCG-UPSTREAM	SCG-DOWNSTREAM	EMBAY A	EMBAY B	EMBAY C
			Sample I.D.	25-031264-1	25-031264-2	25-031264-3	25-031264-4	25-031264-5
			Date Collected	2025-10-09	2025-10-09	2025-10-09	2025-10-09	2025-10-09
Parameter	Units	R.L.		-	-	-	-	-
Hardness (as CaCO ₃)	mg/L	0.02		181	166	246	167	179
Aluminum (Total)	mg/L	0.01		0.04	0.04	0.22	0.04	0.04
Barium (Total)	mg/L	0.001		0.044	0.043	0.044	0.040	0.043
Boron (Total)	mg/L	0.005		0.015	0.029	0.095	0.020	0.032
Calcium (Total)	mg/L	0.02		52.4	48.5	74.4	48.7	52.4
Iron (Total)	mg/L	0.005		0.073	0.024	0.021	0.054	0.037
Magnesium (Total)	mg/L	0.02		12.1	10.9	14.6	11.0	11.6
Manganese (Total)	mg/L	0.001		0.024	0.028	0.014	0.027	0.027
Phosphorus (Total)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium (Total)	mg/L	0.1		3.0	5.3	16.1	2.7	5.3
Sodium (Total)	mg/L	0.2		24.8	41.5	108	28.3	43.8
Strontium (Total)	mg/L	0.001		0.198	0.187	0.260	0.186	0.199
Tin (Total)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc (Total)	mg/L	0.005		0.005	<0.005	0.007	<0.005	<0.005
Antimony (Total)	mg/L	0.0001		0.0004	0.0005	0.0007	0.0005	0.0006
Arsenic (Total)	mg/L	0.0001		0.0003	0.0003	0.0002	0.0004	0.0004
Beryllium (Total)	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium (Total)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	0.001
Cobalt (Total)	mg/L	0.0001		0.0002	0.0002	0.0003	0.0002	0.0002



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REPORT No: 25-031264 - Rev. 0

			Client I.D.	SCG-UPSTREAM	SCG-DOWNSTREAM	EMBAY A	EMBAY B	EMBAY C
			Sample I.D.	25-031264-1	25-031264-2	25-031264-3	25-031264-4	25-031264-5
			Date Collected	2025-10-09	2025-10-09	2025-10-09	2025-10-09	2025-10-09
Parameter	Units	R.L.		-	-	-	-	-
Copper (Total)	mg/L	0.0001		0.0007	0.0006	0.0028	0.0012	0.0009
Lead (Total)	mg/L	0.00002		0.00010	0.00007	0.00013	0.00011	0.00010
Molybdenum (Total)	mg/L	0.0001		0.0002	0.0005	0.0025	0.0003	0.0007
Nickel (Total)	mg/L	0.0002		0.0006	0.0006	0.0008	0.0006	0.0019
Selenium (Total)	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005		0.00032	0.00020	0.00014	0.00033	0.00026
Vanadium (Total)	mg/L	0.0001		0.0003	0.0003	0.0003	0.0003	0.0003
Chromium (VI)	mg/L	0.001		<0.001 (25)	<0.001 (25)	<0.001 (25)	<0.001 (25)	<0.001
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-		4.97	5.80	10.9	5.08	5.87
Cation Sum (Calculated)	meq/L	-		4.78	5.26	10.0	4.64	5.62
% Difference (Calculated)	%	-		1.99	4.81	4.11	4.47	2.24
Ion Ratio (Calculated)	-	-		1.04	1.10	1.09	1.09	1.05
Sodium Adsorption Ratio (Calculated)	-	-		0.803	1.40	3.00	0.953	1.43
TDS (Ion Sum Calc) (Calculated)	mg/L	1		256	300	597	259	311
TDS(calc.)/EC(actual) (Calculated)	-	-		0.517	0.505	0.528	0.511	0.516
Conductivity Calc	µmho/cm	-		491	574	1090	495	594
Conductivity Calc / Conductivity (Calculated)	-	-		0.992	0.965	0.964	0.979	0.986
Langelier Index(25°C) (Calculated)	-	-		0.371	0.255	0.800	0.162	0.334



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			Client I.D.	SCG-UPSTREAM	SCG-DOWNSTREAM	EMBAY A	EMBAY B	EMBAY C
			Sample I.D.	25-031264-1	25-031264-2	25-031264-3	25-031264-4	25-031264-5
			Date Collected	2025-10-09	2025-10-09	2025-10-09	2025-10-09	2025-10-09
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C) (Calculated)	-	-		7.52	7.59	7.32	7.57	7.55
pH (Client Data)	pH units	-		8.03	8.26	8.45	8.21	8.15
Temperature (Client Data)	°C	-		16.5	14.2	12.5	15.6	14.0



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			Client I.D.	NEARSHORE 1	NEARSHORE 2	SW-2	SW-15	WPCP Effluent
			Sample I.D.	25-031264-6	25-031264-7	25-031264-8	25-031264-9	25-031264-10
			Date Collected	2025-10-09	2025-10-09	2025-10-09	2025-10-09	2025-10-09
Parameter	Units	R.L.		-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5				237	156	184
Conductivity @25°C	uS/cm	1				1540	1590	1300
pH @25°C	pH units	-		7.85	7.80	7.87	7.86	7.81
Colour	TCU	2				4	23	14
Turbidity	NTU	0.1		1.0 (17)	1.2 (17)	136 (17)	24.5 (17)	1.3 (17)
Fluoride	mg/L	0.1				<0.1	<0.1	<0.1
Chloride	mg/L	0.5				324	366	243
Nitrate (N)	mg/L	0.05				<0.05	0.06	7.56
Nitrite (N)	mg/L	0.05				<0.05	<0.05	<0.05
Sulphate	mg/L	1				59	115	56
BOD5	mg/L	3				<3	<3	<3
Total Suspended Solids	mg/L	3		<3	6	190	12	3
Phosphorus (Total)	mg/L	0.01				0.23	0.07	0.05
Total Kjeldahl Nitrogen	mg/L	0.1				0.6	2.8	1.3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.09	0.08	0.08	0.15	0.13
Ammonia (N)-unionized (Calculated)	mg/L	0.01				<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8				1.3	8.6	3.8
Cyanide (WAD)	mg/L	0.005				<0.005	<0.005	<0.005
Phenolics	mg/L	0.001				<0.001	<0.001	<0.001
COD	mg/L	5				41	72	22
Aluminum	mg/L	0.01				0.04	0.03	0.06



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			Client I.D.	NEARSHORE 1	NEARSHORE 2	SW-2	SW-15	WPCP Effluent
			Sample I.D.	25-031264-6	25-031264-7	25-031264-8	25-031264-9	25-031264-10
			Date Collected	2025-10-09	2025-10-09	2025-10-09	2025-10-09	2025-10-09
Parameter	Units	R.L.		-	-	-	-	-
Iron	mg/L	0.005		0.014	0.020			
Hardness (as CaCO3)	mg/L	0.02				595	239	258
Aluminum (Total)	mg/L	0.01				1.37	0.10	0.54
Barium (Total)	mg/L	0.001				0.127	0.073	0.042
Boron (Total)	mg/L	0.005				0.031	0.089	0.107
Calcium (Total)	mg/L	0.02				208	72.9	78.2
Iron (Total)	mg/L	0.005		0.037	0.051	2.07	0.583	0.048
Magnesium (Total)	mg/L	0.02				18.2	13.9	15.2
Manganese (Total)	mg/L	0.001				0.150	0.100	0.006
Phosphorus (Total)	mg/L	0.1				0.1	<0.1	<0.1
Potassium (Total)	mg/L	0.1				3.3	9.4	20.5
Sodium (Total)	mg/L	0.2				141	188	125
Strontium (Total)	mg/L	0.001				0.620	0.413	0.275
Tin (Total)	mg/L	0.05				<0.05	<0.05	<0.05
Titanium (Total)	mg/L	0.005				0.070	<0.005	<0.005
Zinc (Total)	mg/L	0.005				0.026	<0.005	0.019
Antimony (Total)	mg/L	0.0001				0.0005	0.0006	0.0007
Arsenic (Total)	mg/L	0.0001				0.0006	0.0034	0.0002
Beryllium (Total)	mg/L	0.0001				<0.0001	<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015				0.000025	<0.000015	0.000018
Chromium (Total)	mg/L	0.001				0.002	0.003	<0.001



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REPORT No: 25-031264 - Rev. 0

			Client I.D.	NEARSHORE 1	NEARSHORE 2	SW-2	SW-15	WPCP Effluent
			Sample I.D.	25-031264-6	25-031264-7	25-031264-8	25-031264-9	25-031264-10
			Date Collected	2025-10-09	2025-10-09	2025-10-09	2025-10-09	2025-10-09
Parameter	Units	R.L.		-	-	-	-	-
Cobalt (Total)	mg/L	0.0001				0.0017	0.0006	0.0003
Copper (Total)	mg/L	0.0001				0.0032	0.0009	0.0058
Lead (Total)	mg/L	0.00002				0.00229	0.00045	0.00025
Molybdenum (Total)	mg/L	0.0001				0.0005	0.0012	0.0033
Nickel (Total)	mg/L	0.0002				0.0024	0.0025	0.0008
Selenium (Total)	mg/L	0.001				<0.001	<0.001	<0.001
Silver (Total)	mg/L	0.0001				<0.0001	<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005				<0.00005	<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005				0.00113	0.00091	0.00005
Vanadium (Total)	mg/L	0.0001				0.0026	0.0006	0.0002
Chromium (VI)	mg/L	0.001				<0.001	<0.001	<0.001 (25)
Mercury	mg/L	0.00002				<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-				14.7	15.0	12.2
Cation Sum (Calculated)	meq/L	-				18.2	13.2	11.1
% Difference (Calculated)	%	-				10.8	6.10	4.74
Ion Ratio (Calculated)	-	-				0.805	1.13	1.10
Sodium Adsorption Ratio (Calculated)	-	-				2.52	5.29	3.39
TDS (Ion Sum Calc) (Calculated)	mg/L	1				883	829	681
TDS(calc.)/EC(actual) (Calculated)	-	-				0.573	0.520	0.524
Conductivity Calc	µmho/cm	-				1620	1480	1220
Conductivity Calc / Conductivity (Calculated)	-	-				1.05	0.931	0.941



Michelle Dubien
Data Specialist

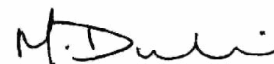
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			Client I.D.	NEARSHORE 1	NEARSHORE 2	SW-2	SW-15	WPCP Effluent
			Sample I.D.	25-031264-6	25-031264-7	25-031264-8	25-031264-9	25-031264-10
			Date Collected	2025-10-09	2025-10-09	2025-10-09	2025-10-09	2025-10-09
Parameter	Units	R.L.		-	-	-	-	-
Langelier Index(25°C) (Calculated)	-	-				1.07	0.425	0.486
Saturation pH (25°C) (Calculated)	-	-				6.80	7.44	7.32
pH (Client Data)	pH units	-		7.97	8.09	7.55	7.93	7.42
Temperature (Client Data)	°C	-		12.4	12.4	11.1	6.2	19.6



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Parameter	Client I.D.		CP1	DUP
	Sample I.D.		25-031264-11	25-031264-12
	Date Collected		2025-10-09	2025-10-09
	Units	R.L.	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	127	149
Conductivity @25°C	uS/cm	1	1010	596
pH @25°C	pH units	-	7.90	7.89
Colour	TCU	2	33	16
Turbidity	NTU	0.1	25.8 (17)	1.4 (17)
Fluoride	mg/L	0.1	<0.1	<0.1
Chloride	mg/L	0.5	212	87.2
Nitrate (N)	mg/L	0.05	<0.05	0.16
Nitrite (N)	mg/L	0.05	<0.05	<0.05
Sulphate	mg/L	1	17	17
BOD5	mg/L	3	5	<3
Total Suspended Solids	mg/L	3	26	<3
Phosphorus (Total)	mg/L	0.01	0.15	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	3.7	1.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	13.9	0.32
Ammonia (N)-unionized (Calculated)	mg/L	0.01	0.02	0.01
Dissolved Organic Carbon	mg/L	0.8	13.0	9.0
Tannin & Lignin	mg/L	0.5	1.0	
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001
COD	mg/L	5	99	30



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			Client I.D.	CP1	DUP
			Sample I.D.	25-031264-11	25-031264-12
			Date Collected	2025-10-09	2025-10-09
Parameter	Units	R.L.		-	-
Aluminum	mg/L	0.01		0.02	0.02
Hardness (as CaCO3)	mg/L	0.02		116	173
Aluminum (Total)	mg/L	0.01		0.05	0.04
Barium (Total)	mg/L	0.001		0.043	0.045
Boron (Total)	mg/L	0.005		0.103	0.032
Calcium (Total)	mg/L	0.02		32.9	50.5
Iron (Total)	mg/L	0.005		0.295	0.025
Magnesium (Total)	mg/L	0.02		8.17	11.4
Manganese (Total)	mg/L	0.001		0.301	0.030
Phosphorus (Total)	mg/L	0.1		0.1	<0.1
Potassium (Total)	mg/L	0.1		60.1	5.6
Sodium (Total)	mg/L	0.2		112	43.9
Strontium (Total)	mg/L	0.001		0.227	0.196
Tin (Total)	mg/L	0.05		<0.05	<0.05
Titanium (Total)	mg/L	0.005		<0.005	<0.005
Zinc (Total)	mg/L	0.005		<0.005	<0.005
Antimony (Total)	mg/L	0.0001		0.0004	0.0004
Arsenic (Total)	mg/L	0.0001		0.0013	0.0003
Beryllium (Total)	mg/L	0.0001		<0.0001	<0.0001
Cadmium (Total)	mg/L	0.000015		<0.000015	<0.000015
Chromium (Total)	mg/L	0.001		<0.001	0.001



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			Client I.D.	CP1	DUP
			Sample I.D.	25-031264-11	25-031264-12
			Date Collected	2025-10-09	2025-10-09
Parameter	Units	R.L.		-	-
Cobalt (Total)	mg/L	0.0001		0.0003	0.0002
Copper (Total)	mg/L	0.0001		0.0006	0.0008
Lead (Total)	mg/L	0.00002		0.00014	0.00007
Molybdenum (Total)	mg/L	0.0001		0.0008	0.0007
Nickel (Total)	mg/L	0.0002		0.0014	0.0014
Selenium (Total)	mg/L	0.001		<0.001	<0.001
Silver (Total)	mg/L	0.0001		<0.0001	<0.0001
Thallium (Total)	mg/L	0.00005		<0.00005	<0.00005
Uranium (Total)	mg/L	0.00005		0.00021	0.00020
Vanadium (Total)	mg/L	0.0001		0.0007	0.0003
Chromium (VI)	mg/L	0.001		<0.001 (25)	<0.001
Mercury	mg/L	0.00002		<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-		8.88	5.80
Cation Sum (Calculated)	meq/L	-		8.75	5.52
% Difference (Calculated)	%	-		0.698	2.51
Ion Ratio (Calculated)	-	-		1.01	1.05
Sodium Adsorption Ratio (Calculated)	-	-		4.53	1.45
TDS (Ion Sum Calc) (Calculated)	mg/L	1		519	306
TDS(calc.)/EC(actual) (Calculated)	-	-		0.512	0.513
Conductivity Calc	µmho/cm	-		980	586
Conductivity Calc / Conductivity (Calculated)	-	-		0.967	0.983



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Parameter	Client I.D.		CP1	DUP
	Sample I.D.		25-031264-11	25-031264-12
	Date Collected		2025-10-09	2025-10-09
	Units	R.L.	-	-
Langelier Index(25°C) (Calculated)	-	-	0.0601	0.325
Saturation pH (25°C) (Calculated)	-	-	7.84	7.56
pH (Client Data)	pH units	-	9.05	8.26
Temperature (Client Data)	°C	-	11.4	14.2

Comments:

17. Analyzed past holding time

25. Chromiun (VI) result is based on Total Chromiun



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C.O.C.: -

REPORT No: 25-032045 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Oct-16
DATE REPORTED: 2025-Oct-24
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: Lindsay OPS GW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	44	OTTAWA	LMACGREGOR	2025-Oct-21	A-IC-01	SM 4110B
COD (Liquid)	44	KINGSTON	MWILSON	2025-Oct-22	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	44	OTTAWA	SBOUDREAU	2025-Oct-21	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC (Liquid)	44	OTTAWA	LMACGREGOR	2025-Oct-23	C-OC-01	EPA 415.2
Ion Balance (Calc.)	44	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	44	OTTAWA	STAILLON	2025-Oct-22	D-CRVI-01	MECP E3056
ICP/MS (Liquid)	44	OTTAWA	GFENTON	2025-Oct-21	D-ICPMS-01	EPA 200.8
ICP/OES (Liquid)	44	OTTAWA	NSAUNDERS	2025-Oct-21	D-ICP-01	SM 3120B
Mercury (Liquid)	44	OTTAWA	AANTONY	2025-Oct-21	D-HG-02	SM 3112B
Ammonia (Liquid)	44	KINGSTON	DCASSIDY	2025-Oct-23	NH3-001	SM 4500NH3
Phenols (Liquid)	44	KINGSTON	MCLOSS	2025-Oct-23	PHEN-01	MECP E3179
TP & TKN (Liquid)	44	KINGSTON	YLIEN	2025-Oct-22	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	44	RICHMOND_HILL	JEVANS	2025-Oct-22	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



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Client I.D.			12-91-I	12-91-II	13-91-I	14-07	15-91-I
Sample I.D.			25-032045-1	25-032045-2	25-032045-3	25-032045-4	25-032045-5
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	306	430	191	297	490
TDS (Calc. from Cond.) (Calculated)	mg/L	3	382	462	366	348	566
Conductivity @25°C	uS/cm	1	733	874	704	670	1060
pH @25°C	pH units	-	7.57	7.52	7.80	7.53	7.52
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	32.0	12.7	97.5	22.9	32.2
Nitrate (N)	mg/L	0.05	0.48	0.66	0.19	0.39	1.59
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	43	36	19	28	58
Phosphorus (Total)	mg/L	0.01	0.78	0.16	0.14	0.93	0.35
Total Kjeldahl Nitrogen	mg/L	0.1	0.7	1.2	0.7	0.5	0.7
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.10	0.23	0.52	0.10	0.11
Dissolved Organic Carbon	mg/L	0.8	4.0	10.1	2.5	3.7	7.0
Phenolics	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001
COD	mg/L	5	39	49	19	54	37
Hardness (as CaCO3)	mg/L	0.02	350	521	334	363	586
Aluminum	mg/L	0.01	0.04	0.08	0.03	0.06	0.07
Barium	mg/L	0.001	0.143	0.082	0.127	0.068	0.148
Boron	mg/L	0.005	0.050	0.032	0.096	0.009	0.074
Calcium	mg/L	0.02	85.1	184	62.7	134	190
Iron	mg/L	0.005	0.026	3.75	0.310	<0.005	0.113



Michelle Dubien
Data Specialist

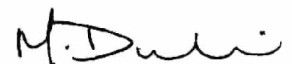
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			Client I.D.	12-91-I	12-91-II	13-91-I	14-07	15-91-I
			Sample I.D.	25-032045-1	25-032045-2	25-032045-3	25-032045-4	25-032045-5
			Date Collected	2025-10-14	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.		-	-	-	-	-
Magnesium	mg/L	0.02		33.4	14.8	43.2	6.70	27.1
Manganese	mg/L	0.001		0.010	0.849	0.006	0.014	0.042
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		2.3	1.0	4.0	0.9	2.3
Sodium	mg/L	0.2		10.6	5.2	12.5	6.2	26.0
Strontium	mg/L	0.001		0.827	0.471	1.65	0.228	0.425
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		<0.005	<0.005	0.006	0.007	<0.005
Antimony	mg/L	0.0001		<0.0001	<0.0001	<0.0001	0.0001	<0.0001
Arsenic	mg/L	0.0001		0.0006	0.0023	<0.0001	0.0001	0.0002
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0002	0.0007	<0.0001	0.0002	0.0003
Copper	mg/L	0.0001		0.0008	0.0003	0.0003	0.0006	0.0006
Lead	mg/L	0.00002		<0.00002	0.00005	<0.00002	<0.00004	<0.00004
Molybdenum	mg/L	0.0001		0.0005	0.0007	<0.0001	0.0003	0.0030
Nickel	mg/L	0.0002		0.0008	0.0017	0.0004	0.0012	0.0025
Selenium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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Data Specialist**

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			Client I.D.	12-91-I	12-91-II	13-91-I	14-'07	15-91-I
			Sample I.D.	25-032045-1	25-032045-2	25-032045-3	25-032045-4	25-032045-5
			Date Collected	2025-10-14	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00078	0.0136	<0.00005	0.00099	0.00051
Vanadium	mg/L	0.0001		<0.0001	0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-		7.96	9.75	6.97	7.17	12.0
Cation Sum (Calculated)	meq/L	-		7.54	10.9	7.38	7.54	12.9
% Difference (Calculated)	%	-		2.76	5.54	2.89	2.47	3.58
Ion Ratio (Calculated)	-	-		1.06	0.895	0.944	0.952	0.931
Sodium Adsorption Ratio (Calculated)	-	-		0.247	0.0990	0.297	0.142	0.467
TDS (Ion Sum Calc) (Calculated)	mg/L	1		393	519	354	378	637
TDS(calc.)/EC(actual) (Calculated)	-	-		0.536	0.594	0.503	0.564	0.603
Conductivity Calc	µmho/cm	-		712	905	713	687	1090
Conductivity Calc / Conductivity (Calculated)	-	-		0.972	1.04	1.01	1.02	1.04
Langelier Index(25°C) (Calculated)	-	-		0.534	0.956	0.425	0.677	1.02
Saturation pH (25°C) (Calculated)	-	-		7.04	6.56	7.38	6.85	6.50
pH (Client Data)	pH units	-		6.83	6.35	7.32	7.39	7.12
Temperature (Client Data)	°C	-		13.4	17.1	11.2	12.2	11.2



Michelle Dubien
Data Specialist

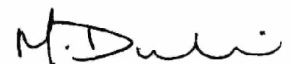
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Client I.D.			16-91-I	17-91-I	17-91-II	18-91	19-91
Sample I.D.			25-032045-6	25-032045-7	25-032045-8	25-032045-9	25-032045-10
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	381	298	385	305	324
TDS (Calc. from Cond.) (Calculated)	mg/L	3	930	366	400	381	408
Conductivity @25°C	uS/cm	1	1700	705	765	731	779
pH @25°C	pH units	-	7.69	7.65	7.53	7.67	7.69
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	349	24.1	2.1	43.5	42.1
Nitrate (N)	mg/L	0.05	0.08	0.30	0.83	0.39	0.30
Nitrite (N)	mg/L	0.05	<0.05	<0.05	0.10	<0.05	<0.05
Sulphate	mg/L	1	<1	46	35	18	32
Phosphorus (Total)	mg/L	0.01	0.31	0.63	0.52	1.43	0.14
Total Kjeldahl Nitrogen	mg/L	0.1	2.6	0.5	0.8	0.6	0.3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.59	0.13	0.54	0.22	0.11
Dissolved Organic Carbon	mg/L	0.8	11.7	4.0	3.9	3.5	4.3
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	103	49	35	44	17
Hardness (as CaCO3)	mg/L	0.02	591	345	388	368	408
Aluminum	mg/L	0.01	0.07	0.05	0.08	0.08	0.06
Barium	mg/L	0.001	0.639	0.067	0.046	0.152	0.133
Boron	mg/L	0.005	0.262	0.014	0.012	0.014	0.016
Calcium	mg/L	0.02	179	117	143	127	139
Iron	mg/L	0.005	6.77	0.652	0.010	0.321	0.722



Michelle Dubien
Data Specialist

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REPORT No: 25-032045 - Rev. 0

Client I.D.			16-91-I	17-91-I	17-91-II	18-91	19-91
Sample I.D.			25-032045-6	25-032045-7	25-032045-8	25-032045-9	25-032045-10
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	34.9	12.8	7.42	12.2	14.8
Manganese	mg/L	0.001	0.046	0.046	0.037	0.011	0.030
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	4.8	1.0	0.6	1.7	1.9
Sodium	mg/L	0.2	127	19.2	6.6	18.2	21.0
Strontium	mg/L	0.001	0.638	0.253	0.244	0.257	0.295
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0007	<0.0001	<0.0001	0.0001	0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0004	0.0002	0.0004	0.0003	0.0004
Copper	mg/L	0.0001	0.0012	0.0004	0.0005	0.0004	0.0005
Lead	mg/L	0.00002	<0.00004	<0.00004	<0.00004	0.00009	0.00006
Molybdenum	mg/L	0.0001	0.0005	0.0005	0.0002	0.0003	0.0004
Nickel	mg/L	0.0002	0.0115	0.0007	0.0010	0.0010	0.0011
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	16-91-I	17-91-I	17-91-II	18-91	19-91
			Sample I.D.	25-032045-6	25-032045-7	25-032045-8	25-032045-9	25-032045-10
			Date Collected	2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		<0.00005	0.00037	0.00054	0.00029	0.00066
Vanadium	mg/L	0.0001		0.0003	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-		17.5	7.61	8.55	7.74	8.35
Cation Sum (Calculated)	meq/L	-		17.8	7.79	8.06	8.20	9.16
% Difference (Calculated)	%	-		1.05	1.18	2.97	2.90	4.66
Ion Ratio (Calculated)	-	-		0.979	0.977	1.06	0.944	0.911
Sodium Adsorption Ratio (Calculated)	-	-		2.27	0.450	0.146	0.413	0.452
TDS (Ion Sum Calc) (Calculated)	mg/L	1		931	401	430	406	447
TDS(calc.)/EC(actual) (Calculated)	-	-		0.548	0.568	0.562	0.556	0.574
Conductivity Calc	µmho/cm	-		1700	713	742	747	811
Conductivity Calc / Conductivity (Calculated)	-	-		1.00	1.01	0.970	1.02	1.04
Langelier Index(25°C) (Calculated)	-	-		1.02	0.740	0.808	0.796	0.882
Saturation pH (25°C) (Calculated)	-	-		6.67	6.91	6.72	6.87	6.81
pH (Client Data)	pH units	-		6.28	7.45	7.21	7.58	7.37
Temperature (Client Data)	°C	-		11.1	12.0	13.1	12.0	10.7



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			Client I.D.	20-91-I	20-91-II	20-91-III	21-91-I	21-91-II
			Sample I.D.	25-032045-11	25-032045-12	25-032045-13	25-032045-14	25-032045-15
			Date Collected	2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5		248	355	343	544	428
TDS (Calc. from Cond.) (Calculated)	mg/L	3		362	458	445	1360	798
Conductivity @25°C	uS/cm	1		696	867	843	2450	1460
pH @25°C	pH units	-		8.01	7.74	7.61	7.47	7.82
Fluoride	mg/L	0.1		0.2	0.2	<0.1	<0.7	1.0
Chloride	mg/L	0.5		73.5	71.5	60.1	497	223
Nitrate (N)	mg/L	0.05		0.20	0.30	0.30	0.98	<0.05
Nitrite (N)	mg/L	0.05		<0.05	<0.05	<0.05	<0.40	<0.05
Sulphate	mg/L	1		5	2	16	5	1
Phosphorus (Total)	mg/L	0.01		0.44	0.06	0.05	0.05	0.12
Total Kjeldahl Nitrogen	mg/L	0.1		3.8	1.3	0.7	3.8	5.3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		3.55	0.74	0.36	2.22	4.07
Dissolved Organic Carbon	mg/L	0.8		3.1	7.8	7.2	10.1	7.6
Phenolics	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	0.001
COD	mg/L	5		53	28	16	83	61
Hardness (as CaCO3)	mg/L	0.02		291	403	394	949	453
Aluminum	mg/L	0.01		0.02	0.04	0.05	0.08	0.04
Barium	mg/L	0.001		0.301	1.78	0.245	1.06	4.13
Boron	mg/L	0.005		0.212	0.157	0.062	0.558	0.522
Calcium	mg/L	0.02		57.0	88.1	119	192	87.9
Iron	mg/L	0.005		0.107	0.323	1.43	0.447	2.31



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Client I.D.			20-91-I	20-91-II	20-91-III	21-91-I	21-91-II
Sample I.D.			25-032045-11	25-032045-12	25-032045-13	25-032045-14	25-032045-15
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	36.2	44.5	23.5	114	56.7
Manganese	mg/L	0.001	0.009	0.011	0.074	0.010	0.012
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	6.4	4.2	2.4	11.6	7.9
Sodium	mg/L	0.2	31.0	34.1	30.5	146	127
Strontium	mg/L	0.001	2.72	2.19	0.488	11.2	5.98
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002
Arsenic	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	<0.0001	0.0001	0.0002	0.0003	0.0001
Copper	mg/L	0.0001	0.0003	0.0006	0.0009	0.0012	0.0002
Lead	mg/L	0.00002	<0.00002	<0.00002	<0.00004	<0.00004	<0.00002
Molybdenum	mg/L	0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0001
Nickel	mg/L	0.0002	0.0005	0.0025	0.0030	0.0073	0.0033
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	20-91-I	20-91-II	20-91-III	21-91-I	21-91-II
			Sample I.D.	25-032045-11	25-032045-12	25-032045-13	25-032045-14	25-032045-15
			Date Collected	2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	0.0002	<0.0001
Chromium (VI)	mg/L	0.01		<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-		7.16	9.17	8.91	25.1	14.9
Cation Sum (Calculated)	meq/L	-		7.40	9.71	9.35	25.9	15.0
% Difference (Calculated)	%	-		1.68	2.86	2.41	1.62	0.380
Ion Ratio (Calculated)	-	-		0.967	0.944	0.953	0.968	0.992
Sodium Adsorption Ratio (Calculated)	-	-		0.790	0.739	0.669	2.06	2.60
TDS (Ion Sum Calc) (Calculated)	mg/L	1		359	459	460	1300	764
TDS(calc.)/EC(actual) (Calculated)	-	-		0.516	0.529	0.546	0.529	0.521
Conductivity Calc	µmho/cm	-		696	867	843	2340	1400
Conductivity Calc / Conductivity (Calculated)	-	-		1.00	1.00	1.00	0.954	0.952
Langelier Index(25°C) (Calculated)	-	-		0.707	0.772	0.758	0.976	0.913
Saturation pH (25°C) (Calculated)	-	-		7.30	6.97	6.85	6.49	6.91
pH (Client Data)	pH units	-		7.75	7.49	7.43	6.36	6.63
Temperature (Client Data)	°C	-		10.2	12.3	10.1	10.2	10.3



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Client I.D.			21-91-III	23-07	25-96	27-93	28-93
Sample I.D.			25-032045-16	25-032045-17	25-032045-18	25-032045-19	25-032045-20
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	469	301	446	218	308
TDS (Calc. from Cond.) (Calculated)	mg/L	3	1050	337	742	262	1490
Conductivity @25°C	uS/cm	1	1910	649	1370	506	2680
pH @25°C	pH units	-	7.38	7.73	8.11	7.83	7.87
Fluoride	mg/L	0.1	<0.1	<0.1	1.8	<0.1	<0.7
Chloride	mg/L	0.5	344	19.1	172	10.7	669
Nitrate (N)	mg/L	0.05	<0.05	0.35	0.26	0.24	<0.40
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.40
Sulphate	mg/L	1	<1	29	<1	36	6
Phosphorus (Total)	mg/L	0.01	0.05	0.38	0.04	0.03	0.03
Total Kjeldahl Nitrogen	mg/L	0.1	2.7	0.4	3.4	0.4	4.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	1.08	0.12	2.86	0.22	3.54
Dissolved Organic Carbon	mg/L	0.8	15.0	4.0	3.1	2.7	2.2
Phenolics	mg/L	0.001	0.003	<0.001	<0.001	<0.001	0.001
COD	mg/L	5	87	25	12	5	33
Hardness (as CaCO3)	mg/L	0.02	735	344	168	279	434
Aluminum	mg/L	0.01	0.07	0.05	0.02	0.04	0.03
Barium	mg/L	0.001	0.960	0.090	0.274	0.096	1.04
Boron	mg/L	0.005	0.243	0.012	1.36	0.037	1.01
Calcium	mg/L	0.02	206	118	28.9	78.1	75.6
Iron	mg/L	0.005	7.04	0.105	0.139	0.593	1.19



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Client I.D.			21-91-III	23-07	25-96	27-93	28-93
Sample I.D.			25-032045-16	25-032045-17	25-032045-18	25-032045-19	25-032045-20
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	53.5	11.9	23.4	20.3	59.6
Manganese	mg/L	0.001	0.038	0.027	0.002	0.011	0.066
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	6.1	1.4	11.8	2.2	16.1
Sodium	mg/L	0.2	129	9.6	227	5.0	296
Strontium	mg/L	0.001	1.68	0.262	3.40	0.482	9.46
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0001	0.0002	0.0003	<0.0001	0.0002
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0004	0.0005	<0.0001	0.0001	0.0001
Copper	mg/L	0.0001	0.0012	0.0024	<0.0001	0.0004	0.0002
Lead	mg/L	0.00002	<0.00004	<0.00002	<0.00004	<0.00002	<0.00004
Molybdenum	mg/L	0.0001	<0.0001	0.0007	0.0016	0.0002	0.0010
Nickel	mg/L	0.0002	0.0120	0.0008	0.0003	0.0004	0.0006
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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Client I.D.			21-91-III	23-07	25-96	27-93	28-93
Sample I.D.			25-032045-16	25-032045-17	25-032045-18	25-032045-19	25-032045-20
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005	0.00022	0.00023	<0.00005	<0.00005
Vanadium	mg/L	0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	21.1	7.19	13.9	5.43	25.2
Cation Sum (Calculated)	meq/L	-	20.9	7.33	13.6	5.88	22.2
% Difference (Calculated)	%	-	0.620	1.02	1.02	4.05	6.18
Ion Ratio (Calculated)	-	-	1.01	0.980	1.02	0.922	1.13
Sodium Adsorption Ratio (Calculated)	-	-	2.07	0.226	7.61	0.131	6.18
TDS (Ion Sum Calc) (Calculated)	mg/L	1	1100	372	735	285	1310
TDS(calc.)/EC(actual) (Calculated)	-	-	0.576	0.573	0.538	0.563	0.488
Conductivity Calc	µmho/cm	-	1980	671	1290	530	2400
Conductivity Calc / Conductivity (Calculated)	-	-	1.04	1.03	0.943	1.05	0.894
Langelier Index(25°C) (Calculated)	-	-	0.853	0.828	0.738	0.619	0.725
Saturation pH (25°C) (Calculated)	-	-	6.53	6.90	7.37	7.21	7.15
pH (Client Data)	pH units	-	6.27	7.67	7.18	7.63	6.90
Temperature (Client Data)	°C	-	10.2	11.0	11.4	10.7	11.1



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Client I.D.			30-93	31-93	35-93-I	35-93-II	36-93
Sample I.D.			25-032045-21	25-032045-22	25-032045-23	25-032045-24	25-032045-25
Date Collected			2025-10-15	2025-10-15	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	455	472	180	295	280
TDS (Calc. from Cond.) (Calculated)	mg/L	3	753	773	227	761	459
Conductivity @25°C	uS/cm	1	1390	1420	439	1400	869
pH @25°C	pH units	-	7.74	7.56	8.00	7.69	7.86
Fluoride	mg/L	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Chloride	mg/L	0.5	174	178	21.8	263	86.4
Nitrate (N)	mg/L	0.05	0.10	0.26	0.22	0.33	0.30
Nitrite (N)	mg/L	0.05	<0.05	<0.05	0.11	<0.05	<0.05
Sulphate	mg/L	1	12	12	16	24	47
Phosphorus (Total)	mg/L	0.01	0.55	0.33	0.04	1.38	0.22
Total Kjeldahl Nitrogen	mg/L	0.1	9.1	8.9	0.4	0.6	0.6
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	9.00	8.78	0.18	0.08	0.40
Dissolved Organic Carbon	mg/L	0.8	5.9	5.9	3.0	2.7	3.4
Phenolics	mg/L	0.001	0.002	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	67	44	14	55	24
Hardness (as CaCO3)	mg/L	0.02	503	508	222	398	371
Aluminum	mg/L	0.01	0.07	0.06	0.03	0.04	0.03
Barium	mg/L	0.001	0.468	0.471	0.182	0.121	0.340
Boron	mg/L	0.005	0.098	0.091	0.117	0.025	0.051
Calcium	mg/L	0.02	145	146	43.2	135	96.0
Iron	mg/L	0.005	9.56	10.6	0.015	<0.005	1.36



Michelle Dubien
Data Specialist

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REPORT No: 25-032045 - Rev. 0

Client I.D.			30-93	31-93	35-93-I	35-93-II	36-93
Sample I.D.			25-032045-21	25-032045-22	25-032045-23	25-032045-24	25-032045-25
Date Collected			2025-10-15	2025-10-15	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	34.1	34.9	27.7	14.8	31.9
Manganese	mg/L	0.001	0.267	0.357	0.005	<0.001	0.024
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	3.8	4.2	3.4	1.8	2.4
Sodium	mg/L	0.2	98.7	96.8	7.3	118	29.1
Strontium	mg/L	0.001	0.530	0.523	0.928	0.436	0.970
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	0.006	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0058	0.0038	0.0003	<0.0001	0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0027	0.0017	0.0001	0.0002	0.0002
Copper	mg/L	0.0001	0.0002	0.0003	0.0004	0.0004	0.0007
Lead	mg/L	0.00002	0.00004	0.00004	<0.00002	<0.00002	0.00002
Molybdenum	mg/L	0.0001	0.0005	0.0004	0.0004	0.0002	0.0002
Nickel	mg/L	0.0002	0.0056	0.0046	0.0005	0.0002	0.0007
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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Client I.D.			30-93	31-93	35-93-I	35-93-II	36-93
Sample I.D.			25-032045-21	25-032045-22	25-032045-23	25-032045-24	25-032045-25
Date Collected			2025-10-15	2025-10-15	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	0.00017	0.00010	0.00006	0.00037	<0.00005
Vanadium	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	14.3	14.7	4.58	13.8	9.04
Cation Sum (Calculated)	meq/L	-	15.0	15.1	4.86	13.1	8.84
% Difference (Calculated)	%	-	2.36	1.18	3.02	2.54	1.16
Ion Ratio (Calculated)	-	-	0.954	0.977	0.941	1.05	1.02
Sodium Adsorption Ratio (Calculated)	-	-	1.92	1.87	0.214	2.58	0.657
TDS (Ion Sum Calc) (Calculated)	mg/L	1	752	767	229	735	464
TDS(calc.)/EC(actual) (Calculated)	-	-	0.542	0.540	0.522	0.524	0.534
Conductivity Calc	µmho/cm	-	1330	1350	448	1350	850
Conductivity Calc / Conductivity (Calculated)	-	-	0.958	0.949	1.02	0.963	0.978
Langelier Index(25°C) (Calculated)	-	-	1.08	0.915	0.457	0.808	0.827
Saturation pH (25°C) (Calculated)	-	-	6.66	6.64	7.54	6.88	7.03
pH (Client Data)	pH units	-	7.30	7.21	7.90	7.26	6.79
Temperature (Client Data)	°C	-	13.2	12.4	12.9	15.2	13.4



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Client I.D.			37-93-I	37-93-II	38-93	39-93-I	45-95-I
Sample I.D.			25-032045-26	25-032045-27	25-032045-28	25-032045-29	25-032045-30
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	229	298	305	249	635
TDS (Calc. from Cond.) (Calculated)	mg/L	3	414	882	335	619	1000
Conductivity @25°C	uS/cm	1	789	1610	646	1150	1830
pH @25°C	pH units	-	7.90	7.74	7.93	7.87	7.64
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	87.0	334	11.5	199	220
Nitrate (N)	mg/L	0.05	0.25	0.33	0.32	0.26	0.07
Nitrite (N)	mg/L	0.05	<0.05	<0.05	0.11	<0.05	<0.05
Sulphate	mg/L	1	48	55	31	36	1
Phosphorus (Total)	mg/L	0.01	0.05	1.44	0.25	0.06	0.19
Total Kjeldahl Nitrogen	mg/L	0.1	0.4	1.1	0.5	0.7	30.5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.25	0.19	0.34	0.54	29.8
Dissolved Organic Carbon	mg/L	0.8	3.0	2.3	4.1	2.4	8.8
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	0.001	0.001
COD	mg/L	5	15	53	30	10	62
Hardness (as CaCO3)	mg/L	0.02	319	505	319	483	549
Aluminum	mg/L	0.01	0.02	0.05	0.03	0.03	0.05
Barium	mg/L	0.001	0.177	0.407	0.145	0.276	1.15
Boron	mg/L	0.005	0.058	0.036	0.028	0.083	0.101
Calcium	mg/L	0.02	73.4	158	100	94.4	156
Iron	mg/L	0.005	0.784	0.061	0.501	1.18	13.9



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			Client I.D.	37-93-I	37-93-II	38-93	39-93-I	45-95-I
			Sample I.D.	25-032045-26	25-032045-27	25-032045-28	25-032045-29	25-032045-30
			Date Collected	2025-10-14	2025-10-14	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Magnesium	mg/L	0.02		32.9	26.5	16.7	60.0	38.4
Manganese	mg/L	0.001		0.012	0.068	0.050	0.017	0.084
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		2.6	2.5	1.1	3.3	9.3
Sodium	mg/L	0.2		32.4	119	7.8	32.1	123
Strontium	mg/L	0.001		0.956	0.712	0.436	1.83	0.727
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		<0.005	<0.005	<0.005	0.006	<0.005
Antimony	mg/L	0.0001		<0.0001	0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001		0.0002	0.0001	0.0002	<0.0001	0.0001
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0001	0.0005	0.0003	0.0004	0.0008
Copper	mg/L	0.0001		0.0005	0.0005	0.0004	0.0005	<0.0001
Lead	mg/L	0.00002		<0.00002	0.00004	0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.0001		0.0002	0.0003	0.0002	<0.0001	<0.0001
Nickel	mg/L	0.0002		0.0005	0.0005	0.0008	0.0007	0.0024
Selenium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	37-93-I	37-93-II	38-93	39-93-I	45-95-I
			Sample I.D.	25-032045-26	25-032045-27	25-032045-28	25-032045-29	25-032045-30
			Date Collected	2025-10-14	2025-10-14	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		<0.00005	0.00025	0.00014	<0.00005	<0.00005
Vanadium	mg/L	0.0001		<0.0001	0.0001	<0.0001	<0.0001	0.0003
Chromium (VI)	mg/L	0.01		<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-		8.04	16.5	7.08	11.3	18.9
Cation Sum (Calculated)	meq/L	-		7.91	15.3	6.78	11.2	17.3
% Difference (Calculated)	%	-		0.801	3.78	2.18	0.472	4.35
Ion Ratio (Calculated)	-	-		1.02	1.08	1.04	1.01	1.09
Sodium Adsorption Ratio (Calculated)	-	-		0.790	2.31	0.191	0.635	2.29
TDS (Ion Sum Calc) (Calculated)	mg/L	1		415	876	353	576	944
TDS(calc.)/EC(actual) (Calculated)	-	-		0.526	0.543	0.547	0.501	0.516
Conductivity Calc	µmho/cm	-		775	1590	631	1110	1600
Conductivity Calc / Conductivity (Calculated)	-	-		0.982	0.983	0.977	0.968	0.873
Langelier Index(25°C) (Calculated)	-	-		0.664	0.921	0.961	0.769	1.13
Saturation pH (25°C) (Calculated)	-	-		7.24	6.82	6.97	7.10	6.51
pH (Client Data)	pH units	-		7.59	7.38	6.75	7.49	6.62
Temperature (Client Data)	°C	-		10.3	13.6	13.6	9.9	10.6



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Client I.D.			45-95-II	46-95-I	46-95-II	47-96-I	47-96-II
Sample I.D.			25-032045-31	25-032045-32	25-032045-33	25-032045-34	25-032045-35
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	318	324	587	369	381
TDS (Calc. from Cond.) (Calculated)	mg/L	3	485	589	974	565	791
Conductivity @25°C	uS/cm	1	915	1100	1780	1060	1450
pH @25°C	pH units	-	7.77	7.75	7.41	7.68	7.84
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	96.2	111	225	111	231
Nitrate (N)	mg/L	0.05	0.48	0.25	<0.05	0.27	<0.05
Nitrite (N)	mg/L	0.05	0.12	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	6	88	3	28	5
Phosphorus (Total)	mg/L	0.01	0.42	0.05	0.08	0.04	1.80
Total Kjeldahl Nitrogen	mg/L	0.1	6.0	1.2	40.4	1.1	20.5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	5.57	0.82	33.2	0.74	17.3
Dissolved Organic Carbon	mg/L	0.8	6.6	5.9	9.6	5.9	5.1
Phenolics	mg/L	0.001	0.002	0.001	0.002	<0.001	<0.001
COD	mg/L	5	74	20	42	21	84
Hardness (as CaCO3)	mg/L	0.02	316	401	539	408	363
Aluminum	mg/L	0.01	0.03	0.03	0.05	0.03	0.04
Barium	mg/L	0.001	0.043	0.049	1.15	0.481	0.112
Boron	mg/L	0.005	0.073	0.116	0.100	0.088	0.087
Calcium	mg/L	0.02	107	117	153	107	107
Iron	mg/L	0.005	1.42	2.22	14.4	1.50	12.3



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Client I.D.			45-95-II	46-95-I	46-95-II	47-96-I	47-96-II
Sample I.D.			25-032045-31	25-032045-32	25-032045-33	25-032045-34	25-032045-35
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	11.5	26.7	38.2	34.3	23.0
Manganese	mg/L	0.001	0.452	0.044	0.080	0.058	0.227
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	4.8	2.6	10.2	2.5	8.1
Sodium	mg/L	0.2	55.7	69.1	122	58.1	122
Strontium	mg/L	0.001	0.326	0.402	0.722	0.666	0.398
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	0.028	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0005	0.0002	0.0002	<0.0001	0.0047
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0008	0.0003	0.0008	0.0002	0.0007
Copper	mg/L	0.0001	0.0009	0.0003	0.0014	0.0008	0.0002
Lead	mg/L	0.00002	0.00002	0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.0001	0.0002	0.0002	<0.0001	<0.0001	0.0009
Nickel	mg/L	0.0002	0.0013	0.0015	0.0023	0.0019	0.0023
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	45-95-II	46-95-I	46-95-II	47-96-I	47-96-II
			Sample I.D.	25-032045-31	25-032045-32	25-032045-33	25-032045-34	25-032045-35
			Date Collected	2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00018	0.00006	<0.00005	<0.00005	0.00005
Vanadium	mg/L	0.0001		<0.0001	<0.0001	0.0003	<0.0001	0.0001
Chromium (VI)	mg/L	0.01		<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-		9.22	11.5	18.1	11.1	14.2
Cation Sum (Calculated)	meq/L	-		8.95	11.2	17.2	10.8	13.4
% Difference (Calculated)	%	-		1.53	1.04	2.78	1.21	2.93
Ion Ratio (Calculated)	-	-		1.03	1.02	1.06	1.02	1.06
Sodium Adsorption Ratio (Calculated)	-	-		1.36	1.50	2.30	1.25	2.79
TDS (Ion Sum Calc) (Calculated)	mg/L	1		476	612	918	565	738
TDS(calc.)/EC(actual) (Calculated)	-	-		0.520	0.557	0.517	0.535	0.507
Conductivity Calc	µmho/cm	-		866	1060	1570	1020	1310
Conductivity Calc / Conductivity (Calculated)	-	-		0.947	0.969	0.885	0.968	0.901
Langelier Index(25°C) (Calculated)	-	-		0.840	0.855	0.861	0.802	0.969
Saturation pH (25°C) (Calculated)	-	-		6.93	6.90	6.55	6.88	6.87
pH (Client Data)	pH units	-		6.58	6.08	6.09	7.28	7.27
Temperature (Client Data)	°C	-		13.1	12.8	12.6	11.5	11.3



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Final Report

REPORT No: 25-032045 - Rev. 0

Client I.D.			48-96-I	48-96-II	49-96-I	49-96-II	59-'05
Sample I.D.			25-032045-36	25-032045-37	25-032045-38	25-032045-39	25-032045-40
Date Collected			2025-10-15	2025-10-15	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	287	440	318	285	610
TDS (Calc. from Cond.) (Calculated)	mg/L	3	377	616	570	564	965
Conductivity @25°C	uS/cm	1	723	1140	1060	1050	1760
pH @25°C	pH units	-	7.92	7.62	8.15	7.92	7.46
Fluoride	mg/L	0.1	0.2	<0.1	0.9	<0.1	<0.1
Chloride	mg/L	0.5	56.3	111	136	136	208
Nitrate (N)	mg/L	0.05	0.26	0.35	0.28	0.30	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	13	9	16	61	<1
Phosphorus (Total)	mg/L	0.01	0.02	2.06	0.05	0.32	0.07
Total Kjeldahl Nitrogen	mg/L	0.1	0.5	0.9	2.4	0.6	26.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.25	0.38	2.12	0.28	22.2
Dissolved Organic Carbon	mg/L	0.8	3.9	6.4	2.5	3.2	8.8
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	0.001
COD	mg/L	5	10	125	9	41	40
Hardness (as CaCO3)	mg/L	0.02	308	478	158	433	544
Aluminum	mg/L	0.01	0.02	0.04	<0.01	0.04	0.05
Barium	mg/L	0.001	1.00	0.726	0.024	0.127	1.25
Boron	mg/L	0.005	0.129	0.070	0.526	0.696	0.099
Calcium	mg/L	0.02	62.3	127	26.8	113	155
Iron	mg/L	0.005	0.168	3.18	0.020	0.619	12.8



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Client I.D.			48-96-I	48-96-II	49-96-I	49-96-II	59-'05
Sample I.D.			25-032045-36	25-032045-37	25-032045-38	25-032045-39	25-032045-40
Date Collected			2025-10-15	2025-10-15	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Magnesium	mg/L	0.02	37.1	39.0	22.1	36.6	38.4
Manganese	mg/L	0.001	0.006	0.053	0.002	0.033	0.073
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	3.3	2.9	8.5	2.6	8.5
Sodium	mg/L	0.2	29.6	46.1	141	41.2	118
Strontium	mg/L	0.001	1.19	0.866	2.10	0.836	0.745
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0003	0.0002	<0.0001	0.0002	<0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0002	0.0003	<0.0001	0.0003	0.0007
Copper	mg/L	0.0001	0.0006	0.0009	0.0005	0.0005	0.0001
Lead	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002
Molybdenum	mg/L	0.0001	0.0002	<0.0001	<0.0001	0.0009	<0.0001
Nickel	mg/L	0.0002	0.0016	0.0022	0.0003	0.0003	0.0022
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



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Client I.D.			48-96-I	48-96-II	49-96-I	49-96-II	59-'05
Sample I.D.			25-032045-36	25-032045-37	25-032045-38	25-032045-39	25-032045-40
Date Collected			2025-10-15	2025-10-15	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	0.00008	<0.00005	<0.00005	0.00009	<0.00005
Vanadium	mg/L	0.0001	0.0002	<0.0001	<0.0001	<0.0001	0.0005
Chromium (VI)	mg/L	0.01	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	7.62	12.1	10.6	10.8	18.1
Cation Sum (Calculated)	meq/L	-	7.57	11.8	9.54	10.6	16.9
% Difference (Calculated)	%	-	0.348	1.26	5.24	1.22	3.23
Ion Ratio (Calculated)	-	-	1.01	1.03	1.11	1.02	1.07
Sodium Adsorption Ratio (Calculated)	-	-	0.732	0.917	4.87	0.860	2.21
TDS (Ion Sum Calc) (Calculated)	mg/L	1	375	604	543	564	908
TDS(calc.)/EC(actual) (Calculated)	-	-	0.519	0.527	0.510	0.535	0.516
Conductivity Calc	µmho/cm	-	707	1090	971	1030	1550
Conductivity Calc / Conductivity (Calculated)	-	-	0.978	0.951	0.912	0.979	0.881
Langelier Index(25°C) (Calculated)	-	-	0.720	0.895	0.608	0.956	0.932
Saturation pH (25°C) (Calculated)	-	-	7.20	6.72	7.54	6.96	6.53
pH (Client Data)	pH units	-	7.71	7.08	7.24	6.90	6.47
Temperature (Client Data)	°C	-	12.7	12.3	12.0	13.5	10.1



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			Client I.D.	60-'05	Dup	Dup-1	Dup-2
			Sample I.D.	25-032045-41	25-032045-42	25-032045-43	25-032045-44
			Date Collected	2025-10-15	2025-10-15	2025-10-14	2025-10-14
Parameter	Units	R.L.		-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5		307	439	296	347
TDS (Calc. from Cond.) (Calculated)	mg/L	3		521	615	363	454
Conductivity @25°C	uS/cm	1		978	1140	699	860
pH @25°C	pH units	-		8.03	7.58	7.97	7.75
Fluoride	mg/L	0.1		<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5		127	111	23.8	62.2
Nitrate (N)	mg/L	0.05		0.32	<0.05	0.32	0.27
Nitrite (N)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1		19	9	45	18
Phosphorus (Total)	mg/L	0.01		0.40	2.12	0.60	0.05
Total Kjeldahl Nitrogen	mg/L	0.1		1.0	0.8	0.4	0.7
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.36	0.31	0.05	0.44
Dissolved Organic Carbon	mg/L	0.8		3.5	6.2	3.7	6.2
Phenolics	mg/L	0.001		<0.001	<0.001	<0.001	<0.001
COD	mg/L	5		44	79	68	16
Hardness (as CaCO3)	mg/L	0.02		410	490	301	355
Aluminum	mg/L	0.01		0.04	0.04	0.03	0.03
Barium	mg/L	0.001		0.221	0.748	0.061	0.230
Boron	mg/L	0.005		0.025	0.072	0.014	0.068
Calcium	mg/L	0.02		101	131	99.6	103
Iron	mg/L	0.005		1.25	3.28	0.583	1.30



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			Client I.D.	60-'05	Dup	Dup-1	Dup-2
			Sample I.D.	25-032045-41	25-032045-42	25-032045-43	25-032045-44
			Date Collected	2025-10-15	2025-10-15	2025-10-14	2025-10-14
Parameter	Units	R.L.		-	-	-	-
Magnesium	mg/L	0.02		38.2	39.5	12.5	23.9
Manganese	mg/L	0.001		0.036	0.054	0.041	0.068
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		3.2	2.9	1.0	2.6
Sodium	mg/L	0.2		42.4	46.6	19.4	32.4
Strontium	mg/L	0.001		0.548	0.877	0.250	0.508
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001		0.0001	0.0002	<0.0001	<0.0001
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0010	0.0002	0.0002	0.0002
Copper	mg/L	0.0001		0.0008	0.0007	0.0005	0.0005
Lead	mg/L	0.00002		0.00003	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.0001		<0.0001	<0.0001	0.0005	<0.0001
Nickel	mg/L	0.0002		0.0010	0.0029	0.0008	0.0029
Selenium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001



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			Client I.D.	60-'05	Dup	Dup-1	Dup-2
			Sample I.D.	25-032045-41	25-032045-42	25-032045-43	25-032045-44
			Date Collected	2025-10-15	2025-10-15	2025-10-14	2025-10-14
Parameter	Units	R.L.		-	-	-	-
Thallium	mg/L	0.00005		<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005		0.00007	<0.00005	0.00038	<0.00005
Vanadium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-		10.1	12.1	7.55	9.08
Cation Sum (Calculated)	meq/L	-		10.2	12.1	6.91	8.65
% Difference (Calculated)	%	-		0.305	0.0194	4.38	2.42
Ion Ratio (Calculated)	-	-		0.994	1.00	1.09	1.05
Sodium Adsorption Ratio (Calculated)	-	-		0.911	0.917	0.487	0.747
TDS (Ion Sum Calc) (Calculated)	mg/L	1		517	606	381	452
TDS(calc.)/EC(actual) (Calculated)	-	-		0.529	0.530	0.545	0.526
Conductivity Calc	µmho/cm	-		973	1100	669	818
Conductivity Calc / Conductivity (Calculated)	-	-		0.995	0.960	0.957	0.952
Langelier Index(25°C) (Calculated)	-	-		1.06	0.867	0.987	0.840
Saturation pH (25°C) (Calculated)	-	-		6.97	6.71	6.98	6.91
pH (Client Data)	pH units	-		6.92	7.08	7.45	7.43
Temperature (Client Data)	°C	-		12.0	12.3	12.0	10.1



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Client I.D.			12-91-I	12-91-II	13-91-I	14-07	15-91-I
Sample I.D.			25-032045-1	25-032045-2	25-032045-3	25-032045-4	25-032045-5
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client I.D.			16-91-I	17-91-I	17-91-II	18-91	19-91
Sample I.D.			25-032045-6	25-032045-7	25-032045-8	25-032045-9	25-032045-10
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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Client I.D.			20-91-I	20-91-II	20-91-III	21-91-I	21-91-II
Sample I.D.			25-032045-11	25-032045-12	25-032045-13	25-032045-14	25-032045-15
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	1.7
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	1.7
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	1.5

Client I.D.			21-91-III	23-07	25-96	27-93	28-93
Sample I.D.			25-032045-16	25-032045-17	25-032045-18	25-032045-19	25-032045-20
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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Client I.D.			30-93	31-93	35-93-I	35-93-II	36-93
Sample I.D.			25-032045-21	25-032045-22	25-032045-23	25-032045-24	25-032045-25
Date Collected			2025-10-15	2025-10-15	2025-10-14	2025-10-14	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client I.D.			37-93-I	37-93-II	38-93	39-93-I	45-95-I
Sample I.D.			25-032045-26	25-032045-27	25-032045-28	25-032045-29	25-032045-30
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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Client I.D.			45-95-II	46-95-I	46-95-II	47-96-I	47-96-II
Sample I.D.			25-032045-31	25-032045-32	25-032045-33	25-032045-34	25-032045-35
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client I.D.			48-96-I	48-96-II	49-96-I	49-96-II	59-05
Sample I.D.			25-032045-36	25-032045-37	25-032045-38	25-032045-39	25-032045-40
Date Collected			2025-10-15	2025-10-15	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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Data Specialist**

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			Client I.D.	60-'05	Dup	Dup-1	Dup-2
			Sample I.D.	25-032045-41	25-032045-42	25-032045-43	25-032045-44
			Date Collected	2025-10-15	2025-10-15	2025-10-14	2025-10-14
Parameter	Units	R.L.		-	-	-	-
Benzene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1		<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1		<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5

Comments:

25. Chromiun (VI) result is based on Total Chromiun

Elevated RLs due to sample matrix interferences



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C.O.C.: -

REPORT No: 25-032047 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Oct-16
DATE REPORTED: 2025-Oct-29
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: Lindsay OPS GW
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	26	OTTAWA	PCURIEL	2025-Oct-24	A-IC-01	SM 4110B
BOD5 (Liquid)	26	KINGSTON	JWOLFE2	2025-Oct-20	BOD-001	SM 5210B
COD (Liquid)	26	KINGSTON	MWILSON	2025-Oct-22	COD-001	SM 5220D
Colour (Liquid)	26	OTTAWA	AGRAF	2025-Oct-20	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	26	OTTAWA	SBOUDREAU	2025-Oct-23	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	26	KINGSTON	EHINCH	2025-Oct-21	CN-001	EPA 9012B
DOC (Liquid)	26	OTTAWA	MMACMILLAN	2025-Oct-23	C-OC-01	EPA 415.2
Ion Balance (Calc.)	26	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	26	OTTAWA	STAILLON	2025-Oct-22	D-CRVI-01	MECP E3056
ICP/MS (Liquid)	26	OTTAWA	GFENTON	2025-Oct-22	D-ICPMS-01	EPA 200.8
ICP/OES (Liquid)	26	OTTAWA	NSAUNDERS	2025-Oct-21	D-ICP-01	SM 3120B
Mercury (Liquid)	26	OTTAWA	AANTONY	2025-Oct-21	D-HG-02	SM 3112B
Ammonia (Liquid)	26	KINGSTON	YLIEN	2025-Oct-24	NH3-001	SM 4500NH3
Phenols (Liquid)	26	KINGSTON	EHINCH	2025-Oct-28	PHEN-01	MECP E3179
TP & TKN (Liquid)	26	KINGSTON	DCASSIDY	2025-Oct-24	TPTKN-001	MECP E3516.2
TSS (Liquid)	26	KINGSTON	MCLOSS	2025-Oct-21	TSS-001	SM 2540D
Turbidity (Liquid)	26	OTTAWA	ABAILEY	2025-Oct-20	A-TURB-01	SM 2130B
VOC-Volatiles Full (Water)	26	RICHMOND_HILL	JEVANS	2025-Oct-22	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



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Data Specialist

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REPORT No: 25-032047 - Rev. 0

Client I.D.			6-90-II	7-90	7-90-II	11-90	32-93-I
Sample I.D.			25-032047-1	25-032047-2	25-032047-3	25-032047-4	25-032047-5
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	3640	5740	4220	359	278
TDS (Calc. from Cond.) (Calculated)	mg/L	3	4980	9920	7810	541	501
Conductivity @25°C	uS/cm	1	8680	16900	13400	1010	943
pH @25°C	pH units	-	7.78	7.76	7.88	7.99	7.72
Colour	TCU	2	216	886	430	<2	<2
Turbidity	NTU	0.1	475 (17)	109 (17)	1090 (17)	13.1 (17)	853 (17)
Fluoride	mg/L	0.1	0.8	<0.7	<0.7	<0.1	<0.1
Chloride	mg/L	0.5	821	1810	1080	101	116
Nitrate (N)	mg/L	0.05	<0.40	<0.40	<0.40	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.40	<0.40	<0.40	<0.05	<0.05
Sulphate	mg/L	1	11	5	9	25	44
BOD5	mg/L	3	16	16	17	3	<3
Total Suspended Solids	mg/L	3	560	280	2210	14	3640
Phosphorus (Total)	mg/L	0.01	1.48	3.80	4.24	0.05	1.59
Total Kjeldahl Nitrogen	mg/L	0.1	542	1390	582	0.7	1.0
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	453	441	489	0.42	0.26
Ammonia (N)-unionized (Calculated)	mg/L	0.01	<0.01	1.91	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	195	676	382	6.3	3.7
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	0.012	0.032	0.035	0.004	0.002
COD	mg/L	5	791	1810	1110	17	84



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Client I.D.			6-90-II	7-90	7-90-II	11-90	32-93-I
Sample I.D.			25-032047-1	25-032047-2	25-032047-3	25-032047-4	25-032047-5
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02	1240	1110	1200	431	413
Aluminum	mg/L	0.01	0.07	0.09	0.06	0.03	0.03
Barium	mg/L	0.001	1.40	0.240	0.312	0.284	0.155
Boron	mg/L	0.005	6.50	21.1	3.78	0.109	0.047
Calcium	mg/L	0.02	140	85.2	92.3	112	107
Iron	mg/L	0.005	0.735	3.36	1.75	1.30	0.380
Magnesium	mg/L	0.02	217	217	236	36.6	35.2
Manganese	mg/L	0.001	0.170	0.175	0.118	0.041	0.011
Phosphorus	mg/L	0.1	<0.1	2.8	0.5	<0.1	<0.1
Potassium	mg/L	0.1	259	510	304	3.9	2.8
Sodium	mg/L	0.2	742	1620	2120	28.5	19.0
Strontium	mg/L	0.001	1.47	1.35	0.708	1.22	0.858
Tin	mg/L	0.05	0.09	<0.06	0.12	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	0.048	0.040	<0.005	<0.005
Zinc	mg/L	0.005	0.008	<0.021	0.050	<0.005	<0.005
Antimony	mg/L	0.0001	0.0018	0.0062	0.0035	<0.0001	<0.0001
Arsenic	mg/L	0.0001	0.0024	0.0219	0.0068	0.0001	<0.0001
Beryllium	mg/L	0.0001	<0.0001	0.0002	0.0002	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000030	0.000080	0.000070	<0.000015	<0.000015
Chromium	mg/L	0.001	0.008	0.053	0.037	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0151	0.0314	0.0199	0.0002	0.0002



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			Client I.D.	6-90-II	7-90	7-90-II	11-90	32-93-I
			Sample I.D.	25-032047-1	25-032047-2	25-032047-3	25-032047-4	25-032047-5
			Date Collected	2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Copper	mg/L	0.0001		0.0007	0.0018	0.0051	0.0002	0.0002
Lead	mg/L	0.00002		0.00053	0.00239	0.00639	0.00002	0.00012
Molybdenum	mg/L	0.0001		0.0016	0.0058	0.0046	0.0002	0.0002
Nickel	mg/L	0.0002		0.0423	0.152	0.0913	0.0009	<0.0002
Selenium	mg/L	0.001		<0.001	<0.002	<0.002	<0.001	<0.001
Silver	mg/L	0.0001		<0.0001	<0.0002	<0.0002	<0.0001	<0.0001
Thallium	mg/L	0.00005		<0.00005	0.00009	0.00006	<0.00005	<0.00005
Uranium	mg/L	0.00005		<0.00005	<0.00005	0.00016	0.00007	<0.00005
Vanadium	mg/L	0.0001		0.0014	0.0108	0.0091	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01		<0.01	<0.01	<0.01	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-		96.2	166	115	10.5	9.73
Cation Sum (Calculated)	meq/L	-		95.6	189	124	10.1	9.18
% Difference (Calculated)	%	-		0.321	6.60	3.85	2.34	2.91
Ion Ratio (Calculated)	-	-		1.01	0.876	0.926	1.05	1.06
Sodium Adsorption Ratio (Calculated)	-	-		9.16	21.1	26.6	0.597	0.406
TDS (Ion Sum Calc) (Calculated)	mg/L	1		4960	9240	6380	524	491
TDS(calc.)/EC(actual) (Calculated)	-	-		0.571	0.547	0.475	0.517	0.521
Conductivity Calc	µmho/cm	-		7290	13100	8090	960	916
Conductivity Calc / Conductivity (Calculated)	-	-		0.840	0.778	0.603	0.948	0.971
Langelier Index(25°C) (Calculated)	-	-		1.94	1.90	1.92	1.13	0.732



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			Client I.D.	6-90-II	7-90	7-90-II	11-90	32-93-I
			Sample I.D.	25-032047-1	25-032047-2	25-032047-3	25-032047-4	25-032047-5
			Date Collected	2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C) (Calculated)	-	-		5.84	5.86	5.96	6.86	6.99
pH (Client Data)	pH units	-		6.36	6.71	6.48	7.36	6.82
Temperature (Client Data)	°C	-		16.1	16.8	13.5	10.7	9.8



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Client I.D.			43-93-I	43-93-II	44-93-I	44-93-II	45-93
Sample I.D.			25-032047-6	25-032047-7	25-032047-8	25-032047-9	25-032047-10
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	329	557	259	380	390
TDS (Calc. from Cond.) (Calculated)	mg/L	3	526	641	494	910	646
Conductivity @25°C	uS/cm	1	986	1190	930	1660	1200
pH @25°C	pH units	-	7.89	7.47	7.96	7.82	7.86
Colour	TCU	2	<2	<2	<2	<2	<2
Turbidity	NTU	0.1	115 (17)	270 (17)	10.9 (17)	1370 (17)	753 (17)
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	94.9	40.7	118	299	148
Nitrate (N)	mg/L	0.05	<0.05	<0.05	<0.05	2.18	0.08
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	51	47	52	27	22
BOD5	mg/L	3	<3	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	382	390	28	2340	1920
Phosphorus (Total)	mg/L	0.01	0.10	0.16	0.02	0.98	0.71
Total Kjeldahl Nitrogen	mg/L	0.1	0.4	0.4	0.2	0.7	0.6
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.34	0.06	0.17	0.14	0.22
Ammonia (N)-unionized (Calculated)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	3.8	7.3	3.2	3.2	3.8
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	17	25	<5	44	45



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Client I.D.			43-93-I	43-93-II	44-93-I	44-93-II	45-93
Sample I.D.			25-032047-6	25-032047-7	25-032047-8	25-032047-9	25-032047-10
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02	474	588	420	444	336
Aluminum	mg/L	0.01	0.03	0.07	0.03	0.05	0.04
Barium	mg/L	0.001	0.088	0.170	0.196	0.127	0.077
Boron	mg/L	0.005	0.076	0.018	0.060	0.018	0.013
Calcium	mg/L	0.02	106	208	102	155	118
Iron	mg/L	0.005	0.458	0.277	0.669	0.011	<0.005
Magnesium	mg/L	0.02	51.0	16.5	40.0	13.6	9.91
Manganese	mg/L	0.001	0.011	0.032	0.013	<0.001	<0.001
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	3.6	1.1	3.1	1.7	1.5
Sodium	mg/L	0.2	10.6	25.3	18.1	169	134
Strontium	mg/L	0.001	1.40	0.490	0.996	0.516	0.310
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002
Arsenic	mg/L	0.0001	<0.0001	0.0005	<0.0001	0.0002	0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0002	0.0009	0.0002	0.0003	0.0002



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Final Report

REPORT No: 25-032047 - Rev. 0

Client I.D.			43-93-I	43-93-II	44-93-I	44-93-II	45-93
Sample I.D.			25-032047-6	25-032047-7	25-032047-8	25-032047-9	25-032047-10
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0005	0.0004	0.0003	0.0010	0.0007
Lead	mg/L	0.00002	0.00003	0.00003	<0.00002	0.00002	<0.00002
Molybdenum	mg/L	0.0001	<0.0001	0.0002	0.0002	0.0004	0.0005
Nickel	mg/L	0.0002	0.0007	0.0008	0.0008	0.0004	0.0005
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005	0.00064	<0.00005	0.00053	0.00047
Vanadium	mg/L	0.0001	<0.0001	0.0002	<0.0001	<0.0001	0.0002
Chromium (VI)	mg/L	0.01	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	10.3	13.3	9.56	16.8	12.4
Cation Sum (Calculated)	meq/L	-	10.1	12.9	9.32	16.3	12.6
% Difference (Calculated)	%	-	1.07	1.35	1.27	1.43	0.492
Ion Ratio (Calculated)	-	-	1.02	1.03	1.03	1.03	0.990
Sodium Adsorption Ratio (Calculated)	-	-	0.212	0.454	0.383	3.49	3.17
TDS (Ion Sum Calc) (Calculated)	mg/L	1	515	673	489	904	668
TDS(calc.)/EC(actual) (Calculated)	-	-	0.522	0.566	0.525	0.544	0.557
Conductivity Calc	µmho/cm	-	952	1140	917	1610	1180
Conductivity Calc / Conductivity (Calculated)	-	-	0.966	0.958	0.986	0.968	0.987
Langelier Index(25°C) (Calculated)	-	-	0.969	1.05	0.921	1.09	1.04



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			Client I.D.	43-93-I	43-93-II	44-93-I	44-93-II	45-93
			Sample I.D.	25-032047-6	25-032047-7	25-032047-8	25-032047-9	25-032047-10
			Date Collected	2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C) (Calculated)	-	-		6.92	6.42	7.04	6.73	6.82
pH (Client Data)	pH units	-		7.41	7.04	6.85	6.52	7.34
Temperature (Client Data)	°C	-		10.4	11.4	9.0	12.0	11.9



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Data Specialist

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Client I.D.			53-98	55-98-I	55-98-II	56-02-I	57-02-II
Sample I.D.			25-032047-11	25-032047-12	25-032047-13	25-032047-14	25-032047-15
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	360	277	241	253	312
TDS (Calc. from Cond.) (Calculated)	mg/L	3	1810	992	456	550	721
Conductivity @25°C	uS/cm	1	3240	1810	864	1030	1330
pH @25°C	pH units	-	7.84	8.02	8.07	8.00	7.99
Colour	TCU	2	<2	<2	<2	<2	<2
Turbidity	NTU	0.1	35.3 (17)	31.0 (17)	9.1 (17)	435 (17)	103 (17)
Fluoride	mg/L	0.1	0.9	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	871	411	112	157	200
Nitrate (N)	mg/L	0.05	0.57	<0.05	<0.05	<0.05	0.06
Nitrite (N)	mg/L	0.05	<0.40	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	35	17	38	36	65
BOD5	mg/L	3	<3	8	<3	<3	<3
Total Suspended Solids	mg/L	3	13	114	4	980	224
Phosphorus (Total)	mg/L	0.01	<0.01	0.06	0.02	0.09	0.14
Total Kjeldahl Nitrogen	mg/L	0.1	0.6	1.8	0.4	0.6	0.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.27	1.32	0.25	0.42	<0.05
Ammonia (N)-unionized (Calculated)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	2.6	3.0	2.7	3.0	3.4
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	42	19	9	21	36



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Client I.D.			53-98	55-98-I	55-98-II	56-02-I	57-02-II
Sample I.D.			25-032047-11	25-032047-12	25-032047-13	25-032047-14	25-032047-15
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02	1040	465	398	433	401
Aluminum	mg/L	0.01	0.08	0.06	0.02	0.04	0.05
Barium	mg/L	0.001	1.53	0.970	0.253	0.182	0.164
Boron	mg/L	0.005	0.054	0.688	0.097	0.093	0.089
Calcium	mg/L	0.02	326	85.4	78.2	95.1	139
Iron	mg/L	0.005	2.35	<0.005	0.844	0.757	0.006
Magnesium	mg/L	0.02	55.0	61.3	49.2	47.6	13.0
Manganese	mg/L	0.001	0.154	0.009	0.014	0.052	0.005
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	4.3	10.6	3.1	4.2	1.7
Sodium	mg/L	0.2	214	169	12.6	19.2	111
Strontium	mg/L	0.001	2.11	7.38	1.46	1.76	0.483
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0006	0.0001	0.0002	0.0018	0.0003



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Client I.D.			53-98	55-98-I	55-98-II	56-02-I	57-02-II
Sample I.D.			25-032047-11	25-032047-12	25-032047-13	25-032047-14	25-032047-15
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0004	0.0008	0.0003	0.0002	0.0007
Lead	mg/L	0.00002	<0.00004	<0.00002	<0.00002	0.00002	<0.00002
Molybdenum	mg/L	0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0003
Nickel	mg/L	0.0002	<0.0002	0.0007	0.0005	0.0007	0.0004
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00067
Vanadium	mg/L	0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	32.6	17.5	8.78	10.2	13.2
Cation Sum (Calculated)	meq/L	-	30.4	17.2	8.66	9.68	12.9
% Difference (Calculated)	%	-	3.48	0.851	0.728	2.67	1.38
Ion Ratio (Calculated)	-	-	1.07	1.02	1.01	1.05	1.03
Sodium Adsorption Ratio (Calculated)	-	-	2.88	3.41	0.276	0.400	2.42
TDS (Ion Sum Calc) (Calculated)	mg/L	1	1730	922	439	511	718
TDS(calc.)/EC(actual) (Calculated)	-	-	0.533	0.511	0.509	0.496	0.540
Conductivity Calc	µmho/cm	-	3040	1740	848	980	1270
Conductivity Calc / Conductivity (Calculated)	-	-	0.937	0.961	0.981	0.952	0.958
Langelier Index(25°C) (Calculated)	-	-	1.40	0.892	0.884	0.918	1.14



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			Client I.D.	53-98	55-98-I	55-98-II	56-02-I	57-02-II
			Sample I.D.	25-032047-11	25-032047-12	25-032047-13	25-032047-14	25-032047-15
			Date Collected	2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C) (Calculated)	-	-		6.44	7.13	7.19	7.08	6.85
pH (Client Data)	pH units	-		6.33	7.01	7.06	7.54	7.44
Temperature (Client Data)	°C	-		9.6	10.1	10.7	9.1	11.1



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Client I.D.			58-I	61-10-I	61-10-II	61-17-I	62-17-I
Sample I.D.			25-032047-16	25-032047-17	25-032047-18	25-032047-19	25-032047-20
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	529	534	393	579	562
TDS (Calc. from Cond.) (Calculated)	mg/L	3	860	1020	735	1110	1020
Conductivity @25°C	uS/cm	1	1570	1860	1360	2010	1860
pH @25°C	pH units	-	7.63	7.73	7.82	7.72	7.80
Colour	TCU	2	4	2	<2	3	5
Turbidity	NTU	0.1	90.2 (17)	18.0 (17)	741 (17)	81.3 (17)	90.2 (17)
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.7
Chloride	mg/L	0.5	165	253	155	309	265
Nitrate (N)	mg/L	0.05	<0.05	<0.05	<0.05	0.68	0.43
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.40
Sulphate	mg/L	1	71	70	96	46	18
BOD5	mg/L	3	<3	<3	<3	5	6
Total Suspended Solids	mg/L	3	202	33	2840	254	292
Phosphorus (Total)	mg/L	0.01	0.10	0.03	0.93	0.12	0.09
Total Kjeldahl Nitrogen	mg/L	0.1	0.5	1.6	0.5	2.2	2.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.09	0.65	0.10	0.60	0.97
Ammonia (N)-unionized (Calculated)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	6.5	14.8	4.7	15.9	15.7
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	28	55	64	81	93



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			Client I.D.	58-I	61-10-I	61-10-II	61-17-I	62-17-I
			Sample I.D.	25-032047-16	25-032047-17	25-032047-18	25-032047-19	25-032047-20
			Date Collected	2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Hardness (as CaCO ₃)	mg/L	0.02		667	740	556	763	562
Aluminum	mg/L	0.01		0.06	0.05	0.05	0.05	0.05
Barium	mg/L	0.001		0.161	0.782	0.155	0.864	0.935
Boron	mg/L	0.005		0.202	0.195	0.030	0.204	0.266
Calcium	mg/L	0.02		212	173	161	178	138
Iron	mg/L	0.005		0.478	0.769	0.073	0.716	0.288
Magnesium	mg/L	0.02		33.1	75.0	37.2	77.4	52.9
Manganese	mg/L	0.001		0.039	0.029	0.050	0.029	0.061
Phosphorus	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1		3.2	6.1	3.1	6.3	6.7
Sodium	mg/L	0.2		62.6	121	53.8	125	186
Strontium	mg/L	0.001		0.947	2.28	0.735	2.38	4.20
Tin	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001		0.0005	0.0001	0.0001	<0.0001	0.0005
Beryllium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015		<0.000015	<0.000015	0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001		0.0010	0.0004	0.0009	0.0004	0.0004



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Client I.D.			58-I	61-10-I	61-10-II	61-17-I	62-17-I
Sample I.D.			25-032047-16	25-032047-17	25-032047-18	25-032047-19	25-032047-20
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0007	0.0001	0.0009	0.0005	0.0003
Lead	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.0001	0.0003	<0.0001	0.0008	<0.0001	0.0001
Nickel	mg/L	0.0002	0.0020	0.0112	0.0014	0.0114	0.0106
Selenium	mg/L	0.001	<0.001	0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	0.00133	<0.00005	0.00121	<0.00005	0.00077
Vanadium	mg/L	0.0001	<0.0001	0.0007	0.0001	0.0007	0.0008
Chromium (VI)	mg/L	0.01	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	16.7	19.2	14.2	21.3	19.1
Cation Sum (Calculated)	meq/L	-	16.2	20.3	13.5	20.9	19.6
% Difference (Calculated)	%	-	1.67	2.65	2.41	0.857	1.19
Ion Ratio (Calculated)	-	-	1.03	0.948	1.05	1.02	0.977
Sodium Adsorption Ratio (Calculated)	-	-	1.05	1.93	0.993	1.97	3.41
TDS (Ion Sum Calc) (Calculated)	mg/L	1	866	1020	742	1090	1010
TDS(calc.)/EC(actual) (Calculated)	-	-	0.550	0.549	0.548	0.544	0.542
Conductivity Calc	µmho/cm	-	1480	1770	1290	1900	1760
Conductivity Calc / Conductivity (Calculated)	-	-	0.941	0.955	0.952	0.947	0.948
Langelier Index(25°C) (Calculated)	-	-	1.19	1.18	1.14	1.22	1.18



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			Client I.D.	58-I	61-10-I	61-10-II	61-17-I	62-17-I
			Sample I.D.	25-032047-16	25-032047-17	25-032047-18	25-032047-19	25-032047-20
			Date Collected	2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C) (Calculated)	-	-		6.44	6.55	6.68	6.50	6.62
pH (Client Data)	pH units	-		7.00	7.00	7.22	6.89	7.21
Temperature (Client Data)	°C	-		12.4	11.2	13.0	11.7	13.5



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Client I.D.			62-17-II	62-17-III	DUP-3	DUP-4	DUP-5
Sample I.D.			25-032047-21	25-032047-22	25-032047-23	25-032047-24	25-032047-25
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	550	431	531	330	248
TDS (Calc. from Cond.) (Calculated)	mg/L	3	1030	516	1030	526	535
Conductivity @25°C	uS/cm	1	1880	969	1870	986	1000
pH @25°C	pH units	-	7.47	7.91	7.53	7.95	7.91
Colour	TCU	2	3	<2	2	<2	<2
Turbidity	NTU	0.1	30.8 (17)	261 (17)	11.8 (17)	132 (17)	229 (17)
Fluoride	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	0.5	298	33.1	264	94.7	151
Nitrate (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L	1	24	56	65	51	36
BOD5	mg/L	3	5	<3	<3	<3	<3
Total Suspended Solids	mg/L	3	62	670	33	386	560
Phosphorus (Total)	mg/L	0.01	0.05	0.27	0.02	0.09	0.08
Total Kjeldahl Nitrogen	mg/L	0.1	2.3	0.4	1.5	0.5	0.7
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.92	0.13	0.47	0.29	0.46
Ammonia (N)-unionized (Calculated)	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	14.6	5.2	14.9	3.9	2.7
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenolics	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
COD	mg/L	5	74	37	58	19	23



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Client I.D.			62-17-II	62-17-III	DUP-3	DUP-4	DUP-5
Sample I.D.			25-032047-21	25-032047-22	25-032047-23	25-032047-24	25-032047-25
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Hardness (as CaCO3)	mg/L	0.02	660	414	753	476	437
Aluminum	mg/L	0.01	0.05	0.04	0.05	0.03	0.05
Barium	mg/L	0.001	0.701	0.219	0.803	0.089	0.184
Boron	mg/L	0.005	0.211	0.031	0.198	0.076	0.096
Calcium	mg/L	0.02	162	104	177	106	95.3
Iron	mg/L	0.005	0.293	0.009	0.782	0.461	0.755
Magnesium	mg/L	0.02	62.1	37.4	75.9	51.1	48.4
Manganese	mg/L	0.001	0.026	0.010	0.030	0.011	0.015
Phosphorus	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium	mg/L	0.1	5.7	3.9	6.1	3.6	4.4
Sodium	mg/L	0.2	128	47.8	122	10.6	19.7
Strontium	mg/L	0.001	2.01	0.681	2.31	1.42	1.82
Tin	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Titanium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.005	<0.005	0.006	<0.005	<0.005	<0.005
Antimony	mg/L	0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001
Arsenic	mg/L	0.0001	<0.0001	0.0003	<0.0001	<0.0001	<0.0001
Beryllium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	mg/L	0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0001	0.0004	0.0003	0.0004	0.0002	0.0018



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Final Report

REPORT No: 25-032047 - Rev. 0

Client I.D.			62-17-II	62-17-III	DUP-3	DUP-4	DUP-5
Sample I.D.			25-032047-21	25-032047-22	25-032047-23	25-032047-24	25-032047-25
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Copper	mg/L	0.0001	0.0001	0.0011	0.0001	0.0011	0.0002
Lead	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.0001	<0.0001	0.0013	<0.0001	<0.0001	<0.0001
Nickel	mg/L	0.0002	0.0103	0.0008	0.0112	0.0008	0.0008
Selenium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005	0.00054	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	0.0001	0.0005	0.0002	0.0007	<0.0001	<0.0001
Chromium (VI)	mg/L	0.01	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	19.9	10.7	19.4	10.3	9.98
Cation Sum (Calculated)	meq/L	-	18.9	10.5	20.6	10.1	9.79
% Difference (Calculated)	%	-	2.41	1.20	3.03	0.976	0.939
Ion Ratio (Calculated)	-	-	1.05	1.02	0.941	1.02	1.02
Sodium Adsorption Ratio (Calculated)	-	-	2.16	1.02	1.94	0.212	0.410
TDS (Ion Sum Calc) (Calculated)	mg/L	1	1010	541	1030	516	505
TDS(calc.)/EC(actual) (Calculated)	-	-	0.537	0.558	0.551	0.523	0.504
Conductivity Calc	µmho/cm	-	1780	935	1800	955	972
Conductivity Calc / Conductivity (Calculated)	-	-	0.948	0.965	0.963	0.968	0.970
Langelier Index(25°C) (Calculated)	-	-	0.907	1.09	0.989	1.03	0.822



Michelle Dubien
Data Specialist

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REPORT No: 25-032047 - Rev. 0

			Client I.D.	62-17-II	62-17-III	DUP-3	DUP-4	DUP-5
			Sample I.D.	25-032047-21	25-032047-22	25-032047-23	25-032047-24	25-032047-25
			Date Collected	2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-14
Parameter	Units	R.L.		-	-	-	-	-
Saturation pH (25°C) (Calculated)	-	-		6.56	6.82	6.54	6.92	7.09
pH (Client Data)	pH units	-		6.99	7.25	7.00	7.41	7.54
Temperature (Client Data)	°C	-		12.4	14.0	11.2	10.4	9.1



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Client I.D.			DUP-6
			25-032047-26
			2025-10-15
			-
Parameter	Units	R.L.	
Alkalinity(CaCO3) to pH4.5	mg/L	5	593
TDS (Calc. from Cond.) (Calculated)	mg/L	3	1120
Conductivity @25°C	uS/cm	1	2030
pH @25°C	pH units	-	7.53
Colour	TCU	2	3
Turbidity	NTU	0.1	352 (17)
Fluoride	mg/L	0.1	<0.1
Chloride	mg/L	0.5	312
Nitrate (N)	mg/L	0.05	<0.05
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	41
BOD5	mg/L	3	5
Total Suspended Solids	mg/L	3	545
Phosphorus (Total)	mg/L	0.01	0.08
Total Kjeldahl Nitrogen	mg/L	0.1	2.3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	0.66
Ammonia (N)-unionized (Calculated)	mg/L	0.01	<0.01
Dissolved Organic Carbon	mg/L	0.8	14.8
Cyanide (WAD)	mg/L	0.005	<0.005
Phenolics	mg/L	0.001	0.002
COD	mg/L	5	82



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		Client I.D.	DUP-6
		Sample I.D.	25-032047-26
		Date Collected	2025-10-15
Parameter	Units	R.L.	-
Hardness (as CaCO3)	mg/L	0.02	759
Aluminum	mg/L	0.01	0.05
Barium	mg/L	0.001	0.861
Boron	mg/L	0.005	0.208
Calcium	mg/L	0.02	175
Iron	mg/L	0.005	0.703
Magnesium	mg/L	0.02	78.0
Manganese	mg/L	0.001	0.029
Phosphorus	mg/L	0.1	<0.1
Potassium	mg/L	0.1	6.4
Sodium	mg/L	0.2	127
Strontium	mg/L	0.001	2.41
Tin	mg/L	0.05	<0.05
Titanium	mg/L	0.005	<0.005
Zinc	mg/L	0.005	<0.005
Antimony	mg/L	0.0001	<0.0001
Arsenic	mg/L	0.0001	<0.0001
Beryllium	mg/L	0.0001	<0.0001
Cadmium	mg/L	0.00001 5	<0.000015
Chromium	mg/L	0.001	<0.001
Cobalt	mg/L	0.0001	0.0004



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		Client I.D.	DUP-6
		Sample I.D.	25-032047-26
		Date Collected	2025-10-15
Parameter	Units	R.L.	-
Copper	mg/L	0.0001	0.0011
Lead	mg/L	0.00002	<0.00002
Molybdenum	mg/L	0.0001	<0.0001
Nickel	mg/L	0.0002	0.0114
Selenium	mg/L	0.001	<0.001
Silver	mg/L	0.0001	<0.0001
Thallium	mg/L	0.00005	<0.00005
Uranium	mg/L	0.00005	<0.00005
Vanadium	mg/L	0.0001	0.0007
Chromium (VI)	mg/L	0.01	<0.01 (25)
Mercury	mg/L	0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	21.5
Cation Sum (Calculated)	meq/L	-	20.9
% Difference (Calculated)	%	-	1.32
Ion Ratio (Calculated)	-	-	1.03
Sodium Adsorption Ratio (Calculated)	-	-	2.01
TDS (Ion Sum Calc) (Calculated)	mg/L	1	1100
TDS(calc.)/EC(actual) (Calculated)	-	-	0.540
Conductivity Calc	µmho/cm	-	1910
Conductivity Calc / Conductivity (Calculated)	-	-	0.942
Langelier Index(25°C) (Calculated)	-	-	1.03



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		Client I.D.	DUP-6
		Sample I.D.	25-032047-26
		Date Collected	2025-10-15
Parameter	Units	R.L.	-
Saturation pH (25°C) (Calculated)	-	-	6.50
pH (Client Data)	pH units	-	6.89
Temperature (Client Data)	°C	-	11.7



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Client I.D.			6-90-II	7-90	7-90-II	11-90	32-93-I
Sample I.D.			25-032047-1	25-032047-2	25-032047-3	25-032047-4	25-032047-5
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Acetone	µg/L	30	33	<30	<30		
Benzene	µg/L	0.5	4.6	3.9	2.4	<0.5	<0.5
Bromodichloromethane	µg/L	2	<2	<2	<2		
Bromoform	µg/L	5	<5	<5	<5		
Bromomethane	µg/L	0.5	<0.5	<0.5	<0.5		
Carbon Tetrachloride	µg/L	0.2	<0.2	<0.2	<0.2		
Chlorobenzene	µg/L	0.5	2.8	7.4	3.4		
Chloroform	µg/L	1	<1	<1	<1		
Chloromethane (Methyl Chloride)	µg/L	2	<2	<2	<2		
Dibromochloromethane	µg/L	2	<2	<2	<2		
Ethylene Dibromide	µg/L	0.2	<0.2	<0.2	<0.2		
Dichlorobenzene,1,2-	µg/L	0.5	<0.5	<0.5	<0.5		
Dichlorobenzene,1,3-	µg/L	0.5	<0.5	<0.5	<0.5		
Dichlorobenzene,1,4-	µg/L	0.5	2.1	7.2	6.3		
Dichloroethane,1,1-	µg/L	0.5	<0.5	1.0	<0.5		
Dichloroethane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5		
Dichloroethylene,1,1-	µg/L	0.5	<0.5	<0.5	<0.5		
Dichloroethylene,1,2-cis-	µg/L	0.5	<0.5	<0.5	<0.5		
Dichloroethylene,1,2-trans-	µg/L	0.5	<0.5	<0.5	<0.5		
Dichloropropane,1,2-	µg/L	0.5	<0.5	<0.5	<0.5		
Dichloropropene,1,3-cis-	µg/L	0.5	<0.5	<0.5	<0.5		



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Client I.D.			6-90-II	7-90	7-90-II	11-90	32-93-I
Sample I.D.			25-032047-1	25-032047-2	25-032047-3	25-032047-4	25-032047-5
Date Collected			2025-10-14	2025-10-14	2025-10-14	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Dichloropropene, 1,3-trans-	µg/L	0.5	<0.5	<0.5	<0.5		
Ethylbenzene	µg/L	0.5	13.5	58.7	0.9	<0.5	<0.5
Dichloromethane (Methylene Chloride)	µg/L	5	<5	<5	<5		
Methyl Ethyl Ketone	µg/L	2	<2	<2	<2		
Methyl Isobutyl Ketone	µg/L	20	<20	<20	<20		
Methyl tert-Butyl Ether (MTBE)	µg/L	2	<2	<2	<2		
Styrene	µg/L	0.5	<0.5	1.0	<0.5		
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	<0.5	<0.5	<0.5		
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	<0.5	<0.5	<0.5		
Tetrachloroethylene	µg/L	0.5	<0.5	<0.5	<0.5		
Toluene	µg/L	0.5	<0.5	5.6	<0.5	<0.5	<0.5
Trichlorobenzene, 1,2,4-	µg/L	0.5	<0.5	<0.5	<0.5		
Trichloroethane, 1,1,1,-	µg/L	0.5	<0.5	<0.5	<0.5		
Trichloroethane, 1,1,2,-	µg/L	0.5	<0.5	<0.5	<0.5		
Trichloroethylene	µg/L	0.5	<0.5	<0.5	<0.5		
Trichlorofluoromethane (Freon 11)	µg/L	5	<5	<5	<5		
Vinyl Chloride	µg/L	0.2	<0.2	<0.2	<0.2		
Xylene, m,p-	µg/L	1	33	173	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	37.8	251	30.2	<1.1	<1.1
Xylene, o-	µg/L	0.5	4.6	78.6	29.5	<0.5	<0.5



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REPORT No: 25-032047 - Rev. 0

Client I.D.			43-93-I	43-93-II	44-93-I	44-93-II	45-93
Sample I.D.			25-032047-6	25-032047-7	25-032047-8	25-032047-9	25-032047-10
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client I.D.			53-98	55-98-I	55-98-II	56-02-I	57-02-II
Sample I.D.			25-032047-11	25-032047-12	25-032047-13	25-032047-14	25-032047-15
Date Collected			2025-10-15	2025-10-14	2025-10-14	2025-10-14	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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REPORT No: 25-032047 - Rev. 0

Client I.D.			58-I	61-10-I	61-10-II	61-17-I	62-17-I
Sample I.D.			25-032047-16	25-032047-17	25-032047-18	25-032047-19	25-032047-20
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-15
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client I.D.			62-17-II	62-17-III	DUP-3	DUP-4	DUP-5
Sample I.D.			25-032047-21	25-032047-22	25-032047-23	25-032047-24	25-032047-25
Date Collected			2025-10-15	2025-10-15	2025-10-15	2025-10-15	2025-10-14
Parameter	Units	R.L.	-	-	-	-	-
Benzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1	<1	<1	<1	<1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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Data Specialist**

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		Client I.D.	DUP-6
		Sample I.D.	25-032047-26
		Date Collected	2025-10-15
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5

Comments:

17. Analyzed past holding time

25. Chromium (VI) result is based on Total Chromium

Samples 25-032047-1, -2, -3 filtered from unpreserved for metals analysis due to sediment in the metals bottles.
Elevated RLs due to sample matrix interferences**Michelle Dubien**
Data Specialist

C.O.C.: -

REPORT No: 25-032057 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
Unit #14
Richmond Hill, ON L4B 1J9

Attention: Kayla Pantaleo

DATE RECEIVED: 2025-Oct-17
DATE REPORTED: 2025-Nov-17
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	PCURIEL	2025-Oct-28	A-IC-01	SM 4110B
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-Oct-20	BOD-001	SM 5210B
COD (Liquid)	2	KINGSTON	MWILSON	2025-Oct-22	COD-001	SM 5220D
Colour (Liquid)	2	OTTAWA	AGRAF	2025-Oct-20	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-Oct-21	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Cyanide WAD (Liquid)	2	KINGSTON	EHINCH	2025-Oct-21	CN-001	EPA 9012B
DOC (Liquid)	2	OTTAWA	MMACMILLAN	2025-Oct-29	C-OC-01	EPA 415.2
Ion Balance (Calc.)	2	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	2	OTTAWA	AGRAF	2025-Oct-23	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	2	OTTAWA	TPRICE	2025-Oct-21	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	2	OTTAWA	SGORMAN	2025-Oct-23	D-ICP-01	SM 3120B
Mercury (Liquid)	2	OTTAWA	TBENNETT	2025-Oct-21	D-HG-02	SM 3112B
Ammonia (Liquid)	2	KINGSTON	VHAMMOND	2025-Oct-27	NH3-001	SM 4500NH3
NTA Liquid (Subcontract)	1	SGS_LAKEFIELD	CBURKE	2025-Oct-30		Subcontracted
OC Pesticides (Liquid)	1	KINGSTON	CSUMMERHAYS	2025-Oct-21	PESTCL-001	EPA 8081
PCB's (Liquid)	1	KINGSTON	CSUMMERHAYS	2025-Oct-22	PCB-001	EPA 8081
Phenols (Liquid)	2	KINGSTON	EHINCH	2025-Oct-27	PHEN-01	MECP E3179
Radionuc. Liquid (Subcontract)	1	BUREAU_VERITAS	CBURKE	2025-Nov-11		Subcontracted
TP & TKN (Liquid)	2	KINGSTON	YLIEN	2025-Oct-23	TPTKN-001	MECP E3516.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Oct-21	TSS-001	SM 2540D
Turbidity (Liquid)	2	OTTAWA	ABAILEY	2025-Oct-20	A-TURB-01	SM 2130B
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	JEVANS	2025-Oct-23	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-032057 - Rev. 0

Parameter	Client I.D.		LPC 1	LPC 2
	Sample I.D.		25-032057-1	25-032057-2
	Date Collected		2025-10-15	2025-10-15
	Units	R.L.	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	845	2580
TDS (Calc. from Cond.) (Calculated)	mg/L	3	1300	3820
Conductivity @25°C	uS/cm	1	2340	6710
pH @25°C	pH units	-	7.59	7.88
Colour	TCU	2	15	358
Turbidity	NTU	0.1	136	151
Fluoride	mg/L	0.1	<0.7	<0.7
Chloride	mg/L	0.5	270	804
Nitrate (N)	mg/L	0.05	1.16	<0.40
Nitrite (N)	mg/L	0.05	<0.40	0.91
Sulphate	mg/L	1	15	96
BOD5	mg/L	3	8	13
Total Suspended Solids	mg/L	3	48	2800
Phosphorus (Total)	mg/L	0.01	0.13	11.5
Total Kjeldahl Nitrogen	mg/L	0.1	37.2	428
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	28.2	300
Ammonia (N)-unionized (Calculated)	mg/L	0.01	0.02	0.81
Dissolved Organic Carbon	mg/L	0.8	21.6	36.8
Cyanide (WAD)	mg/L	0.005	<0.005	<0.005
Phenolics	mg/L	0.001	0.003	0.006
COD	mg/L	5	116	756



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Data Specialist

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Final Report
REPORT No: 25-032057 - Rev. 0

			Client I.D.	LPC 1	LPC 2
			Sample I.D.	25-032057-1	25-032057-2
			Date Collected	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-
Hardness (as CaCO ₃)	mg/L	0.02		668	956
Aluminum (Total)	mg/L	0.01		0.18	0.10
Barium (Total)	mg/L	0.001		0.554	0.446
Beryllium (Total)	mg/L	0.001		<0.001	<0.001
Boron (Total)	mg/L	0.005		0.708	7.57
Cadmium (Total)	mg/L	0.005		<0.005	<0.005
Calcium (Total)	mg/L	0.02		181	235
Chromium (Total)	mg/L	0.002		0.003	0.024
Cobalt (Total)	mg/L	0.005		<0.005	0.012
Copper (Total)	mg/L	0.002		<0.002	<0.002
Iron (Total)	mg/L	0.005		20.3	4.24
Lead (Total)	mg/L	0.02		<0.02	<0.02
Magnesium (Total)	mg/L	0.02		52.5	89.6
Manganese (Total)	mg/L	0.001		0.389	0.404
Molybdenum (Total)	mg/L	0.01		<0.01	<0.01
Nickel (Total)	mg/L	0.01		0.02	0.06
Phosphorus (Total)	mg/L	0.1		<0.1	0.9
Potassium (Total)	mg/L	0.1		30.6	227
Silver (Total)	mg/L	0.005		<0.005	<0.005
Sodium (Total)	mg/L	0.2		162	643
Strontium (Total)	mg/L	0.001		0.839	2.20



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Final Report
REPORT No: 25-032057 - Rev. 0

			Client I.D.	LPC 1	LPC 2
			Sample I.D.	25-032057-1	25-032057-2
			Date Collected	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-
Tin (Total)	mg/L	0.05		<0.05	<0.05
Titanium (Total)	mg/L	0.005		0.006	0.030
Vanadium (Total)	mg/L	0.005		<0.005	0.016
Zinc (Total)	mg/L	0.005		<0.005	0.030
Antimony (Total)	mg/L	0.0005		<0.0005	0.0030
Arsenic (Total)	mg/L	0.0005		0.0032	0.0222
Selenium (Total)	mg/L	0.005		<0.005	0.007
Thallium (Total)	mg/L	0.0003		<0.0003	<0.0003
Uranium (Total)	mg/L	0.0003		<0.0003	0.0003
Chromium (VI)	mg/L	0.01		<0.01 (25)	<0.01 (25)
Mercury	mg/L	0.00002		<0.00002	0.00003
Anion Sum (Calculated)	meq/L	-		24.9	76.3
Cation Sum (Calculated)	meq/L	-		22.3	74.2
% Difference (Calculated)	%	-		5.44	1.36
Ion Ratio (Calculated)	-	-		1.12	1.03
Sodium Adsorption Ratio (Calculated)	-	-		2.73	9.05
TDS (Ion Sum Calc) (Calculated)	mg/L	1		1240	4040
TDS(calc.)/EC(actual) (Calculated)	-	-		0.531	0.602
Conductivity Calc	µmho/cm	-		2000	6090
Conductivity Calc / Conductivity (Calculated)	-	-		0.855	0.907
Langelier Index(25°C) (Calculated)	-	-		1.26	2.11



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Final Report
REPORT No: 25-032057 - Rev. 0

			Client I.D.	LPC 1	LPC 2
			Sample I.D.	25-032057-1	25-032057-2
			Date Collected	2025-10-15	2025-10-15
Parameter	Units	R.L.		-	-
Saturation pH (25°C) (Calculated)	-	-		6.33	5.77
pH (Client Data)	pH units	-		6.40	6.95
Temperature (Client Data)	°C	-		12.8	16.4

			Client I.D.	LPC 1
			Sample I.D.	25-032057-1
			Date Collected	2025-10-15
Parameter	Units	R.L.		-
Benzene	µg/L	0.5		1.0
Bromodichloromethane	µg/L	2		<2
Bromoform	µg/L	5		<5
Chloroform	µg/L	1		<1
Dibromochloromethane	µg/L	2		<2
Ethylbenzene	µg/L	0.5		<0.5
Total Trihalomethanes (Calculated)	µg/L	6		<6
Toluene	µg/L	0.5		<0.5
Xylene, m,p-	µg/L	1		<1
Xylene, m,p,o- (Calculated)	µg/L	1.1		<1.1
Xylene, o-	µg/L	0.5		<0.5



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		Client I.D.	LPC 1
		Sample I.D.	25-032057-1
		Date Collected	2025-10-15
Parameter	Units	R.L.	-
Poly-Chlorinated Biphenyls (PCB's) (Calculated)	µg/L	0.05	<0.05
Identification Comment	-	-	-
BHC (alpha)	µg/L	0.4	<0.4
Aldrin	µg/L	0.01	<0.01
BHC (beta)	µg/L	0.4	<0.4
Chlordane (alpha)	µg/L	0.05	<0.05
Chlordane (gamma)	µg/L	0.05	<0.05
Chlordane (Alpha + Gamma) (Calculated)	µg/L	0.05	<0.05
BHC (delta)	µg/L	0.01	<0.01
p,p'-DDD	µg/L	0.05	<0.05
p,p'-DDE	µg/L	0.01	<0.01
o,p'-DDT	µg/L	0.05	<0.05
p,p'-DDT	µg/L	0.05	<0.05
Dieldrin	µg/L	0.01	<0.01
Endosulfan I	µg/L	0.05	<0.05
Endosulfan II	µg/L	0.05	<0.05
Endosulfan (Total) (Calculated)	µg/L	0.05	<0.05
Endosulfan Sulfate	µg/L	0.05	<0.05
Endrin	µg/L	0.05	<0.05
Heptachlor	µg/L	0.01	<0.01
Heptachlor Epoxide	µg/L	0.01	<0.01



Michelle Dubien
Data Specialist

		Client I.D.	LPC 1
		Sample I.D.	25-032057-1
		Date Collected	2025-10-15
Parameter	Units	R.L.	-
Hexachlorobenzene	µg/L	0.01	<0.01
Lindane (Hexachlorocyclohexane, Gamma)	µg/L	0.01	<0.01
Methoxychlor	µg/L	0.05	<0.05
Mirex	µg/L	1	<1

Subcontracted Analyses

		Client I.D.	LPC 1
		Sample I.D.	25-032057-1
		Date Collected	2025-10-15
Parameter	Units	R.L.	-
Nitritotriacetic acid (NTA)	mg/L	-	<0.03
Gross Alpha	Bq/L	-	<0.10
Gross Beta	Bq/L	-	0.80

Comments:

25. Chromiun (VI) result is based on Total Chromiun

Elevated RLs due to sample matrix interferences



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-034361 - Rev. 0

Report To:

City of Kawartha Lakes
 PO Box 9000
 322 Kent Street West
 Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
 Unit #14
 Richmond Hill, ON L4B 1J9

Attention: Deyonte Levene

DATE RECEIVED: 2025-Nov-05
 DATE REPORTED: 2025-Nov-13
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS
 P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	LMACGREGOR	2025-Nov-07	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Nov-07	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	MWILSON	2025-Nov-10	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Nov-06	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC (Liquid)	1	OTTAWA	MMACMILLAN	2025-Nov-10	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-Nov-07	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	GFENTON	2025-Nov-10	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	NSAUNDERS	2025-Nov-07	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-Nov-07	D-HG-02	SM 3112B
Ammonia (Liquid)	1	KINGSTON	VHAMMOND	2025-Nov-07	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-Nov-07	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Nov-12	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	FLENA	2025-Nov-08	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

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Final Report
REPORT No: 25-034361 - Rev. 0

Parameter	Client I.D.		LPC #1
	Sample I.D.		25-034361-1
	Date Collected		2025-11-04
	Units	R.L.	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	819
TDS (Calc. from Cond.) (Calculated)	mg/L	3	1240
Conductivity @25°C	uS/cm	1	2240
pH @25°C	pH units	-	8.19
Fluoride	mg/L	0.1	<0.7
Chloride	mg/L	0.5	266
Nitrate (N)	mg/L	0.05	<0.40
Nitrite (N)	mg/L	0.05	<0.40
Sulphate	mg/L	1	15
BOD5	mg/L	3	11
Phosphorus (Total)	mg/L	0.01	0.49
Total Kjeldahl Nitrogen	mg/L	0.1	42.4
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	28.4
Dissolved Organic Carbon	mg/L	0.8	29.1
Phenolics	mg/L	0.001	0.005
COD	mg/L	5	140
Hardness (as CaCO3)	mg/L	0.02	767
Aluminum (Total)	mg/L	0.01	0.65
Barium (Total)	mg/L	0.001	1.23
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	0.805



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Final Report
REPORT No: 25-034361 - Rev. 0

		Client I.D.	LPC #1
		Sample I.D.	25-034361-1
		Date Collected	2025-11-04
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	208
Chromium (Total)	mg/L	0.002	0.006
Cobalt (Total)	mg/L	0.005	<0.005
Copper (Total)	mg/L	0.002	0.004
Iron (Total)	mg/L	0.005	106
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	60.0
Manganese (Total)	mg/L	0.001	0.566
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	0.02
Phosphorus (Total)	mg/L	0.1	0.4
Potassium (Total)	mg/L	0.1	36.0
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	179
Strontium (Total)	mg/L	0.001	1.08
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	0.025
Vanadium (Total)	mg/L	0.005	0.007
Zinc (Total)	mg/L	0.005	0.015
Antimony (Total)	mg/L	0.0005	<0.0005



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Client I.D.			LPC #1
Sample I.D.			25-034361-1
Date Collected			2025-11-04
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0102
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01
Mercury	mg/L	0.00002	<0.00002
Anion Sum (Calculated)	meq/L	-	24.2
Cation Sum (Calculated)	meq/L	-	26.1
% Difference (Calculated)	%	-	3.75
pH (Client Data)	pH units	-	6.98
Temperature (Client Data)	°C	-	10

Client I.D.			LPC #1
Sample I.D.			25-034361-1
Date Collected			2025-11-04
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	0.6
Ethylbenzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5

Elevated RLs due to sample matrix interferences



Michelle Dubien
Data Specialist

C.O.C.: -

REPORT No: 25-036990 - Rev. 0

Report To:

City of Kawartha Lakes
PO Box 9000
322 Kent Street West
Lindsay, ON K9V 4T7

CADUCEON Environmental Laboratories

110 West Beaver Creek Rd
Unit #14
Richmond Hill, ON L4B 1J9

Attention: Deyonte Levene

DATE RECEIVED: 2025-Dec-02
DATE REPORTED: 2025-Dec-12
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: Lindsay OPS Landfill
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	LMACGREGOR	2025-Dec-03	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Dec-04	BOD-001	SM 5210B
COD (Liquid)	1	KINGSTON	MWILSON	2025-Dec-03	COD-001	SM 5220D
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Dec-03	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
DOC (Liquid)	1	OTTAWA	MMACMILLAN	2025-Dec-04	C-OC-01	EPA 415.2
Ion Balance (Calc.)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
Chromium VI (Liquid)	1	OTTAWA	STAILLON	2025-Dec-08	D-CRVI-01	MECP E3056
ICP/MS Total (Liquid)	1	OTTAWA	GFENTON	2025-Dec-04	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	NSAUNDERS	2025-Dec-05	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2025-Dec-04	D-HG-02	SM 3112B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Dec-12	NH3-001	SM 4500NH3
Phenols (Liquid)	1	KINGSTON	EHINCH	2025-Dec-05	PHEN-01	MECP E3179
TP & TKN (Liquid)	1	KINGSTON	MWILSON	2025-Dec-11	TPTKN-001	MECP E3516.2
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	GKAUR	2025-Dec-04	C-VOC-02	EPA 8260

R.L. = Reporting Limit

NC = Not Calculated

Test methods may be modified from specified reference method unless indicated by an *



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Data Specialist

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Final Report
REPORT No: 25-036990 - Rev. 0

Parameter	Units	R.L.	Client I.D.
			LPC #1
			Sample I.D.
			Date Collected
			25-036990-1
			2025-12-01
			-
Alkalinity(CaCO3) to pH4.5	mg/L	5	792
TDS (Calc. from Cond.) (Calculated)	mg/L	3	1170
Conductivity @25°C	uS/cm	1	2110
pH @25°C	pH units	-	7.93
Fluoride	mg/L	0.1	<0.7
Chloride	mg/L	0.5	290
Nitrate (N)	mg/L	0.05	<0.40
Nitrite (N)	mg/L	0.05	<0.40
Sulphate	mg/L	1	15
BOD5	mg/L	3	8
Phosphorus (Total)	mg/L	0.01	0.04
Total Kjeldahl Nitrogen	mg/L	0.1	32.1
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	25.4
Dissolved Organic Carbon	mg/L	0.8	26.2
Phenolics	mg/L	0.001	<0.001
COD	mg/L	5	87
Hardness (as CaCO3)	mg/L	0.02	647
Aluminum (Total)	mg/L	0.01	0.19
Barium (Total)	mg/L	0.001	1.75
Beryllium (Total)	mg/L	0.001	<0.001
Boron (Total)	mg/L	0.005	1.00



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Final Report
REPORT No: 25-036990 - Rev. 0

		Client I.D.	LPC #1
		Sample I.D.	25-036990-1
		Date Collected	2025-12-01
Parameter	Units	R.L.	-
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	179
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	0.005
Copper (Total)	mg/L	0.002	<0.002
Iron (Total)	mg/L	0.005	8.90
Lead (Total)	mg/L	0.02	<0.02
Magnesium (Total)	mg/L	0.02	48.6
Manganese (Total)	mg/L	0.001	0.351
Molybdenum (Total)	mg/L	0.01	<0.01
Nickel (Total)	mg/L	0.01	<0.01
Phosphorus (Total)	mg/L	0.1	<0.1
Potassium (Total)	mg/L	0.1	30.2
Silver (Total)	mg/L	0.005	<0.005
Sodium (Total)	mg/L	0.2	164
Strontium (Total)	mg/L	0.001	0.844
Tin (Total)	mg/L	0.05	<0.05
Titanium (Total)	mg/L	0.005	<0.005
Vanadium (Total)	mg/L	0.005	<0.005
Zinc (Total)	mg/L	0.005	0.458
Antimony (Total)	mg/L	0.0005	<0.0005



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Final Report
REPORT No: 25-036990 - Rev. 0

		Client I.D.	LPC #1
		Sample I.D.	25-036990-1
		Date Collected	2025-12-01
Parameter	Units	R.L.	-
Arsenic (Total)	mg/L	0.0005	0.0018
Selenium (Total)	mg/L	0.005	<0.005
Thallium (Total)	mg/L	0.0003	<0.0003
Uranium (Total)	mg/L	0.0003	<0.0003
Chromium (VI)	mg/L	0.01	<0.01 (25)
Mercury	mg/L	0.00002	0.00005
Anion Sum (Calculated)	meq/L	-	24.3
Cation Sum (Calculated)	meq/L	-	21.3
% Difference (Calculated)	%	-	6.53
Ion Ratio (Calculated)	-	-	1.14
Sodium Adsorption Ratio (Calculated)	-	-	2.80
TDS (Ion Sum Calc) (Calculated)	mg/L	1	1210
TDS(calc.)/EC(actual) (Calculated)	-	-	0.574
Conductivity Calc	µmho/cm	-	2000
Conductivity Calc / Conductivity (Calculated)	-	-	0.946
Langelier Index(25°C) (Calculated)	-	-	1.57
Saturation pH (25°C) (Calculated)	-	-	6.36
pH (Client Data)	pH units	-	6.87
Temperature (Client Data)	°C	-	4.6



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

		Client I.D.	LPC #1
		Sample I.D.	25-036990-1
		Date Collected	2025-12-01
Parameter	Units	R.L.	-
Benzene	µg/L	0.5	0.9
Ethylbenzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Xylene, m,p-	µg/L	1	<1
Xylene, m,p,o- (Calculated)	µg/L	1.1	<1.1
Xylene, o-	µg/L	0.5	<0.5

Comments:

25. Chromium (VI) result is based on Total Chromium

Elevated RLs due to sample matrix interferences



Michelle Dubien
Data Specialist



APPENDIX I

Surface Water Photos



26-010 – 2025 Lindsay OPS Landfill Monitoring Report



SW-1: April 2025



SW-1: August 2025



SW-2: April 2025



SW-2: August 2025



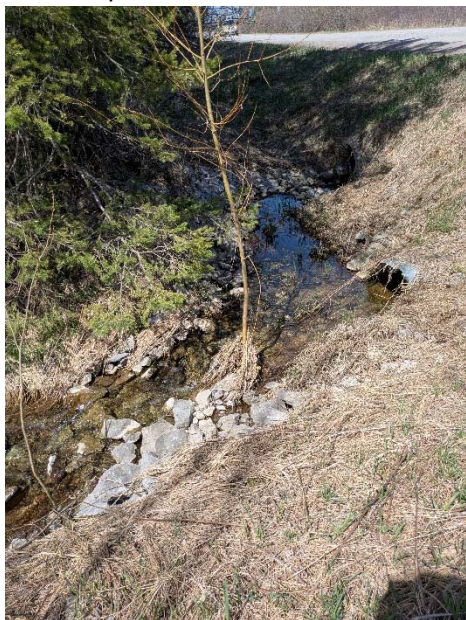
26-010 – 2025 Lindsay OPS Landfill Monitoring Report



SW-3: April 2025



SW-3: August 2025



SW-4: April 2025



SW-4: August 2025



26-010 – 2025 Lindsay OPS Landfill Monitoring Report



SW-13: April 2025



SW-13: August 2025



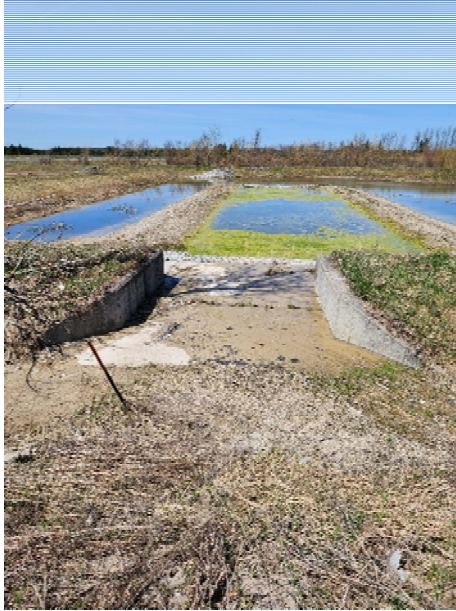
SW-14: April 2025



SW-14: August 2025



26-010 – 2025 Lindsay OPS Landfill Monitoring Report



SW-15: April 2025



SW-15: August 2025



SW-16: April 2025



SW-16: August 2025



26-010 – 2025 Lindsay OPS Landfill Monitoring Report



SW-18: April 2025



SW-18: August 2025



WPCP Effluent: April 2025



WPCP Effluent : August 2025



26-010 – 2025 Lindsay OPS Landfill Monitoring Report



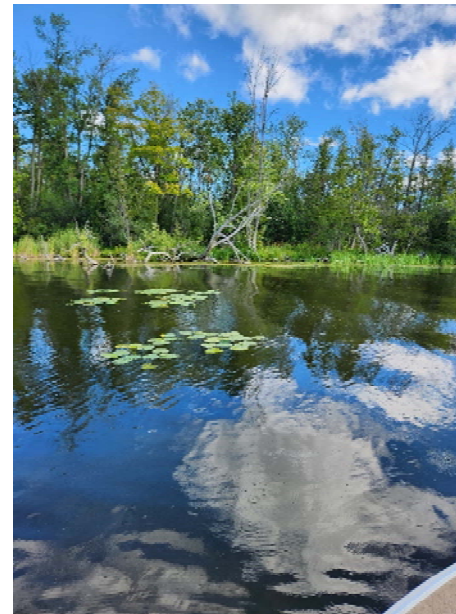
Embayment A: April 2025



Embayment A: August 2025



Embayment B: April 2025



Embayment B: August 2025



26-010 – 2025 Lindsay OPS Landfill Monitoring Report



Embayment C: April 2025



Embayment C: August 2025



Scugog Upstream: April 2025



Scugog Upstream: August 2025



26-010 – 2025 Lindsay OPS Landfill Monitoring Report



Scugog Downstream: April 2025



Scugog Downstream: August 2025



Nearshore 1: April 2025



Nearshore 1: August 2025



26-010 – 2025 Lindsay OPS Landfill Monitoring Report



Nearshore 2: April 2025



Nearshore 2: August 2025



CP 1: June 2025



CP 1: October 2025



26-010 – 2025 Lindsay OPS Landfill Monitoring Report



CP 2: June 2025

No photo

CP 2: October 2025



APPENDIX J

Surface Water Quality Summary Tables

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	CP1	CP1	CP1	CP1	CP1	CP1	CP1	CP1	CP1	CP1	CP1	CP1	CP1	CP1	CP1
			17-Oct-17	6-Nov-17	7-Dec-17	28-Jun-18	10-Oct-18	24-Apr-19	17-Jul-19	24-Jun-20	22-Oct-20	15-Jun-21	15-Oct-21	21-Jun-22	17-Oct-22	8-Jun-23	16-Aug-23
pH -Lab	pH units	6.5-8.5	8.18	8.36	8.23	8.04	8.07	8.12	8	9	8.1	7.49	8.06	8.27	8.03	8.36	8.4
Conductivity	uS/cm	-	983	726	768	1420	547	1260	1140	1510	1070	1330	911	1460	1490	1320	931
BOD	mg/L	-	<3	<3	<3	<3	5	<3	<3	<3	<3	3	4	<3	8	<3	4
COD	mg/L	-	22	<5	29	20	56	33	62	49	48	73	81	79	116	67	89
Total Dissolved Solids	mg/L	-	560	374	407	758	294	647	549	765	605	750	513	732	861	649	488
Total Suspended Solids	mg/L	-	14	4	42	4	<3	10	8	16	13	12	8	5	78	128	9
Alkalinity	mg/L	-	126	215	245	66	143	163	130	37	162	78	177	102	218	93	162
Hardness	mg/L	-	430	318	327	196	162	260	188	145	261	179	196	158	365	140	127
Ammonia	mg/L	-	0.03	<0.01	0.03	0.04	0.06	0.05	0.07	0.05	0.28	0.15	0.14	0.06	0.1	0.08	0.33
Un-ionized Ammonia	mg/L	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.04	<0.01	<0.01	<0.01	0.04	0.12
Calcium	mg/L	-	147	106	112	59.5	50.7	91.3	55.1	41.1	87.6	53.7	64.9	46.6	128	38.3	39.4
Chloride	mg/L	-	80.5	35.3	55.2	363	69.9	268	221	410	175	348	150	324	226	271	173
DOC	mg/L	-	5.5	8	13.1	5.3	20.5	17.4	11.6	4.1	8.8	6.7	15.5	9.5	7	5.3	30.2
Fluoride	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1
Iron	mg/L	0.3	0.258	0.16	0.475	0.059	0.31	0.215	0.15	0.121	0.622	0.534	0.29	0.111	3.05	1.25	0.244
Magnesium	mg/L	-	15.2	8.26	9.51	11.4	8.61	7.71	8.91	11.8	10.1	10.8	8.2	9.31	13.7	10.7	6.99
Manganese	mg/L	-	0.045	0.017	0.044	0.028	0.034	0.103	0.122	0.072	0.282	0.279	0.496	0.031	1.06	0.092	0.15
Nitrate	mg/L	-	1.95	1.96	1.18	<0.05	<0.05	0.12	<0.05	0.06	0.07	0.1	<0.05	<0.05	0.27	<0.5	<0.05
Nitrite	mg/L	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	<0.5	<0.05
TKN	mg/L	-	0.5	0.6	0.7	0.8	1.3	0.8	1.8	1.3	2	2.5	2.4	2.5	5.3	2.3	2.5
Sodium	mg/L	-	41.9	24.8	37.1	214	39.1	134	142	207	97	167	82.5	201	124	146	85.4
Sulphate	mg/L	-	196	66	43	60	4	28	19	37	93	57	43	33	165	54	24
Phenols	mg/L	0.001	0.003	0.002	<0.001	<0.001	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	0.002
Phosphorus	mg/L	0.03	0.03	0.03	0.06	0.01	0.05	0.05	0.04	0.04	0.06	0.15	0.08	0.06	0.4	0.04	0.09
Potassium	mg/L	-	4.1	3.4	3.2	9.8	35.5	10.5	24.7	35.2	42	39.4	56.9	56.4	68.7	71.5	62.2
Aluminum	mg/L	0.075	0.19	0.19	0.4	0.06	0.03	0.05	0.03	0.03	0.03	0.04	0.01	0.04	0.04	0.02	0.14
Antimony	mg/L	-	0.0003	<0.0001	0.0002	0.0004	<0.0001	0.0003	0.0003	0.0002	0.0002	0.0003	0.0004	0.0006	0.0009	0.0004	0.0005
Arsenic	mg/L	0.1	0.0006	0.0002	0.0007	0.0007	0.0008	0.0006	0.0013	0.0013	0.0011	0.0015	0.0013	0.001	0.0021	0.0011	0.0014
Barium	mg/L	-	0.085	0.047	0.055	0.039	0.059	0.059	0.054	0.048	0.094	0.061	0.075	0.045	0.147	0.057	0.045
Beryllium	mg/L	1.1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0001
Boron	mg/L	0.2	0.303	0.106	0.068	0.179	0.08	0.048	0.117	0.171	0.118	0.099	0.118	0.099	0.107	0.087	0.094
Cadmium	mg/L	0.0002	0.000045	<0.000014	0.000033	<0.000015	0.000028	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.000036	0.000015	<0.000015
Chromium	mg/L	0.1	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.002	0.001	<0.001	<0.001
Cobalt	mg/L	0.0006	<0.0001	<0.0001	0.0002	0.0003	0.0001	0.0002	0.0002	0.0002	0.0005	0.0003	0.0003	0.0003	0.0013	0.0006	0.0004
Copper	mg/L	0.005	0.006	0.0148	0.0016	0.0028	0.0055	0.0011	0.0019	0.0008	0.0014	0.0008	0.0014	0.0014	0.0025	0.0022	0.0018
Lead	mg/L	0.025	0.00048	0.00031	0.00057	0.00003	0.00024	0.00018	0.00014	0.0004	0.00031	0.00015	0.00009	0.00004	0.00192	0.0008	0.00023
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04	0.0032	0.0001	0.0009	0.0036	0.0003	0.0008	0.0013	0.0012	0.0023	0.0012	0.0012	0.0012	0.0092	0.0015	0.001
Nickel	mg/L	0.025	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0025
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001
Silver	mg/L	0.0001	<0.00002	<0.00002	0.00009	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	-	1.06	0.537	0.525	0.736	0.221	0.615	0.604	0.544	0.677	0.525	0.497	0.391	0.697	0.333	0.237
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	-	0.0004	<0.0001	0.0006	0.0003	0.0001	0.0003	0.0003	0.0006	0.001	0.0007	0.0003	0.0003	0.0043	0.0014	0.0008
Zinc	mg/L	0.03	0.044	<0.005	0.022	0.016	0.008	0.023	0.008	0.013	0.008	0.022	<0.005	0.007	0.019	0.007	<0.005
Cyanide	mg/L	0.005								<0.005	<0.005	<0.005	<0.005			<0.005	<0.005
Turbidity	NTU	-								<0.5	0.9	8.2	6.4			7.6	9.5
Tannins & Lignins	mg/L	-										0.7	1.1			0.9	1.2

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	CP1	CP1	CP1	CP1	CP1	CP1	CP2	CP2	CP2	CP2	CP2	CP2	CP2	CP2	CP2
			5-Oct-23	11-Jun-24	15-Aug-24	10-Oct-24	17-Jun-25	9-Oct-25	22-Jun-17	17-Oct-17	6-Nov-17	7-Dec-17	28-Jun-18	24-Apr-19	17-Jul-19	2-Oct-19	22-Oct-20
pH -Lab	pH units	6.5-8.5	7.92	8.71	8.11	7.99	9.38	7.9	7.93	8.33	8.37	8.27	8	8.15	8.07	7.89	8.23
Conductivity	uS/cm	-	1100	674	657	633	731	1010	537	837	730	704	698	427	2170		1610
BOD	mg/L	-	6	3	<3	<3	<3	5	<3	<3	<3	<3	8	< 3	< 3		< 3
COD	mg/L	-	108	64	72	61	64	99	51	14	<5	21	38	25	57		17
Total Dissolved Solids	mg/L	-	624	361	356	356	378	519	272	449	375	366	372	219	1154		910
Total Suspended Solids	mg/L	-	22	7	5	4	<3	26	3	13	21	4	12	7	13		40
Alkalinity	mg/L	-	194	97	163	173	71	127	189	321	231	300	144	159	310		340
Hardness	mg/L	-	194	85.9	141	157	70	116	180	361	314	338	243	183	798		490
Ammonia	mg/L	-	0.19	0.06	0.2	0.26	0.06	13.9	0.59	0.03	< 0.01	0.02	0.07	0.05	0.11	0.11	0.03
Un-ionized Ammonia	mg/L	0.02	<0.01	0.01	<0.01	<0.01	0.02	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Calcium	mg/L	-	60.3	23.7	45.8	51.9	17.4	32.9	59	129	115	112	76.7	66.8	257		174
Chloride	mg/L	-	216	136	93.3	83.1	163	212	39.6	45.3	30.6	25.6	136	23.9	400		306
DOC	mg/L	-	5.7	12.8	23.4	25.9	10.3	13	15.9	5.9	7.8	6.3	15.8	6.6	7.5		4.2
Fluoride	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1
Iron	mg/L	0.3	0.494	0.142	0.296	0.232	0.157	0.295	0.891	0.226	0.134	0.053	0.696	0.115	0.179		0.088
Magnesium	mg/L	-	10.5	6.48	6.33	6.62	6.42	8.17	7.85	9.28	8.2	7.59	12.4	3.95	19.7		13.3
Manganese	mg/L	-	0.408	0.055	0.13	0.116	0.042	0.301	0.163	0.054	0.023	0.015	1.18	0.024	0.243		0.053
Nitrate	mg/L	-	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	1.76	2.38	1.91	0.07	0.56	< 0.05		< 0.05
Nitrite	mg/L	-	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		< 0.05
TKN	mg/L	-	4.4	1.5	2	1.8	1.5	3.7	1.7	0.5	0.6	0.4	1.6	0.8	1.2		0.9
Sodium	mg/L	-	105	76.2	49.8	44.3	94.3	112	20.9	37.2	23.6	20.9	56.7	13.3	149		144
Sulphate	mg/L	-	28	14	12	14	11	17	3	34	56	19	< 1	10	128		53
Phenols	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.036	0.002	0.002	< 0.001	< 0.001	< 0.002	< 0.002		< 0.002
Phosphorus	mg/L	0.03	0.21	0.05	0.08	0.05	0.05	0.15	0.12	0.03	0.03	0.01	0.08	0.05	0.05		0.02
Potassium	mg/L	-	86.3	46.5	49.8	51.4	42.6	60.1	27	1.9	2.8	1.3	0.7	2.3	13.2		12.6
Aluminum	mg/L	0.075	0.04	0.03	0.14	0.09	0.03	0.05	0.06	0.19	0.13	0.09	0.1	0.04	0.11		0.06
Antimony	mg/L	-	0.0006	0.0004	0.0006	0.0006	0.0005	0.0004	0.0002	< 0.0001	0.0001	< 0.0001	0.0002	0.0002	0.0004		0.0002
Arsenic	mg/L	0.1	0.0016	0.0008	0.0012	0.001	0.0008	0.0013	0.0023	0.0004	0.0004	0.0004	0.0029	0.0002	0.0008		0.0004
Barium	mg/L	-	0.075	0.019	0.036	0.058	0.018	0.043	0.083	0.064	0.047	0.037	0.101	0.026	0.132		0.082
Beryllium	mg/L	1.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002		< 0.002
Boron	mg/L	0.2	0.129	0.082	0.106	0.106	0.078	0.103	0.058	0.019	0.068	0.011	0.018	0.008	0.092		0.041
Cadmium	mg/L	0.0002	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	< 0.000014	0.000067	< 0.000014	< 0.000014	< 0.000015	< 0.000015	< 0.000015		< 0.000015
Chromium	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001		0.001
Cobalt	mg/L	0.0006	0.0005	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	< 0.0001	< 0.0001	< 0.0001	0.0005	< 0.0001	0.0003		0.0002
Copper	mg/L	0.005	0.0004	0.0009	0.0009	0.0008	0.0006	0.0006	0.0003	0.0052	0.0009	0.0005	0.0011	0.0006	0.002		0.0019
Lead	mg/L	0.025	0.00013	0.00005	0.00025	0.00012	0.00007	0.00014	0.00017	0.00057	0.00013	0.00004	0.00025	0.00007	0.00012		0.00007
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002		< 0.00002
Molybdenum	mg/L	0.04	0.0013	0.0007	0.0008	0.0009	0.0008	0.0004	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002	0.0019		0.0007
Nickel	mg/L	0.025	0.0028	0.0016	0.0015	0.0017	0.0018	0.0014	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001		< 0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001	<0.0001	< 0.00002	0.00003	< 0.00002	0.00007	< 0.0001	< 0.0001	< 0.0001		< 0.0001
Strontium	mg/L	-	0.37	0.185	0.244	0.262	0.157	0.227	0.243	0.315	0.444	0.29	0.365	0.166	0.998		0.569
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005
Vanadium	mg/L	-	0.0007	0.0004	0.0006	0.0004	0.0005	0.0007	0.0003	0.0005	0.0002	0.0002	0.0006	0.0002	0.0008		0.0004
Zinc	mg/L	0.03	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	0.043	0.01	0.013	0.012	0.015	0.01		< 0.005
Cyanide	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005							< 0.005	< 0.005	
Turbidity	NTU	-	20.1	3.4	5.9	6	2.8	25.8							0.9	91.6	
Tannins & Lignins	mg/L	-	1.2	0.7	0.9		0.9	1								0.5	

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	CP2	CP2	CP2	CP2	CP2	CP2	CP2	CP2	CP2	CP2	Emb A	Emb A	Emb A	Emb A	Emb A
			15-Oct-21	21-Jun-22	8-Jun-23	16-Aug-23	5-Oct-23	11-Jun-24	15-Aug-24	10-Oct-24	17-Jun-25	9-Oct-25	28-Apr-16	14-Jun-16	9-Aug-16	12-Oct-16	24-Apr-17
pH -Lab	pH units	6.5-8.5	8.16	8.21	Dry	8.18	8.22	8.28	Dry	8.22	8.25	Dry	8.4	9.09	8.56	8.18	8.25
Conductivity	uS/cm	-	1030	838		916	1140	845		966	843		468	668	465	1170	788
BOD	mg/L	-	< 3	< 3		<3	<3	<3		<3	<3		< 2	3	< 3	< 3	<3
COD	mg/L	-	34	18		26	29	20		25	31		22	40	27	24	21
Total Dissolved Solids	mg/L	-	590	469		507	686	486		574	471		247	354	235	637	459
Total Suspended Solids	mg/L	-	161	40		<3	25	10		28	<3		3	17	4	3	4
Alkalinity	mg/L	-	365	321		367	383	327		403	316		172	90	92	185	165
Hardness	mg/L	-	451	388		376	487	394		469	365		202	150	121	251	243
Ammonia	mg/L	-	0.05	0.05		1.27	0.19	0.78		0.09	0.09		0.06	0.03	0.02	0.34	0.31
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01		0.07	<0.01	0.08		<0.01	<0.01		< 0.01	0.01	< 0.01	0.01	0.02
Calcium	mg/L	-	161	137		135	173	142		166	130		66.3	41.2	30.7	73	92.1
Chloride	mg/L	-	123	75.4		76	159	76.3		79.2	83.4		33.5	125	71.8	178	60
DOC	mg/L	-	6.5	7.5		9.4	6.3	5		9.4	4.8		8.4	7.2	7.4	4.5	6.9
Fluoride	mg/L	-	< 0.1	< 0.1		<0.1	<0.1	<0.1		<0.1	<0.1		< 0.1	0.1	0.1	0.2	< 0.1
Iron	mg/L	0.3	0.947	0.103		0.157	0.132	0.424		0.218	0.312		0.052	0.094	0.016	0.042	0.043
Magnesium	mg/L	-	11.7	9.02		9.38	13.4	9.8		13.4	10.1		8.86	11.5	10.7	16.6	10.6
Manganese	mg/L	-	0.301	0.034		0.16	0.186	0.261		0.125	0.265		0.028	0.019	0.011	0.018	0.033
Nitrate	mg/L	-	< 0.05	2.96		0.25	<0.05	0.55		<0.05	0.27		0.7	0.3	< 0.1	5.2	1.6
Nitrite	mg/L	-	0.07	< 0.05		<0.05	<0.05	<0.05		<0.05	<0.05		< 0.1	< 0.1	< 0.1	0.3	0.1
TKN	mg/L	-	0.9	0.9		1.8	0.7	1.1		0.9	0.8		0.7	0.9	1.1	1.5	1.2
Sodium	mg/L	-	56.5	37.6		43.1	72.3	45.9		52	46.7		19	75.1	42.7	131	98.5
Sulphate	mg/L	-	16	15		19	33	12		13	9		11	40	22	100	25
Phenols	mg/L	0.001	< 0.002	< 0.001		0.002	<0.001	<0.001		<0.001	<0.001		< 0.001	< 0.001	0.003	< 0.001	0.003
Phosphorus	mg/L	0.03	0.1	0.03		0.02	0.02	0.04		0.03	0.05		0.05	0.03	0.03	0.03	0.03
Potassium	mg/L	-	2.2	2.2		2.7	4.7	1		8.6	0.8		1.9	5	1.9	14.7	5.1
Aluminum	mg/L	0.075	0.05	0.07		0.1	0.08	0.24		0.07	0.13		0.03	0.13	0.02	0.27	0.29
Antimony	mg/L	-	0.0003	0.0004		0.0005	0.0004	0.0003		0.0003	0.0004		< 0.0001	0.0001	0.0002	0.0003	0.0001
Arsenic	mg/L	0.1	0.0005	0.0004		0.0004	0.0003	0.0004		0.0003	0.0005		0.0003	0.0003	0.0004	0.0005	0.0008
Barium	mg/L	-	0.08	0.052		0.058	0.077	0.047		0.059	0.045		0.023	0.011	0.029	0.038	0.042
Beryllium	mg/L	1.1	< 0.002	< 0.002		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.024	0.02		0.025	0.023	0.014		0.028	0.021		< 0.005	0.058	0.037	0.151	0.054
Cadmium	mg/L	0.0002	0.000023	< 0.000015		<0.000015	<0.000015	<0.000015		<0.000015	<0.000015		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.000014
Chromium	mg/L	0.1	0.001	0.001		<0.001	<0.001	<0.001		<0.001	<0.001		0.0009	0.0005	0.0004	0.0004	< 0.0015
Cobalt	mg/L	0.0006	0.0006	0.0002		0.0005	0.0005	0.0006		0.0004	0.0005		< 0.005	< 0.005	< 0.005	0.0001	< 0.0001
Copper	mg/L	0.005	0.001	0.0028		0.0012	0.0007	0.0009		0.0008	0.0005		0.0007	0.0006	0.0005	0.0017	0.0015
Lead	mg/L	0.025	0.00061	0.00007		0.00008	0.00014	0.00019		0.00004	0.00011		0.00014	0.00044	0.00004	0.00052	0.00029
Mercury	mg/L	-	< 0.00002	< 0.00002		<0.00002	<0.00002	<0.00002		<0.00002	<0.00002		< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0002	0.0002		0.0002	0.0002	0.0001		0.0002	0.0002		0.0003	0.0003	0.0003	0.001	0.0007
Nickel	mg/L	0.025	< 0.01	< 0.01		0.0007	0.001	0.0007		0.0008	0.0006		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001		<0.001	<0.001	<0.001		<0.001	<0.001		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		0.00003	0.00011	< 0.00002	0.00011	0.00031
Strontium	mg/L	-	0.445	0.376		0.38	0.457	0.385		0.462	0.384		0.208	0.201	0.151	0.262	0.28
Thallium	mg/L	-	< 0.00005	< 0.00005		<0.00005	<0.00005	<0.00005		<0.00005	<0.00005		< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0012	0.0005		0.0006	0.0003	0.0006		0.0003	0.0004		0.0004	0.0005	0.0005	0.0003	0.0004
Zinc	mg/L	0.03	0.009	0.014		0.005	0.005	<0.005		<0.005	<0.005		< 0.005	0.009	< 0.005	0.031	0.451
Cyanide	mg/L	0.005				<0.005	<0.005	<0.005		<0.005	<0.005						
Turbidity	NTU	-				4.4	29	3.2		2.8	4.4						
Tannins & Lignins	mg/L	-				<0.5	<0.5	<0.5			<0.5						

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A
			22-Jun-17	24-Aug-17	17-Oct-17	9-May-18	26-Jun-18	28-Aug-18	10-Oct-18	25-Apr-19	18-Jul-19	12-Aug-19	8-Oct-19	27-Apr-20	24-Jun-20	10-Aug-20	22-Oct-20
pH -Lab	pH units	6.5-8.5	8.2	8.1	8.04	8.15	8.07	8.1	7.95	8.04	7.96	8.19	7.98	8	7.99	8.05	8.2
Conductivity	uS/cm	-	883	886	728	557	1370	423	1200	895	1020	1110	867	1270	1060	1170	758
BOD	mg/L	-	<3	<3	<3	< 3	< 3	2	4	< 3	< 3	< 3	< 3	4	< 3	< 3	< 3
COD	mg/L	-	30	36	29	32	34	46	32	28	31	30	21	32	31	23	17
Total Dissolved Solids	mg/L	-	429	444	382	314	732	227	658	457	500	608	475	677	564	626	383
Total Suspended Solids	mg/L	-	3	11	6	4	9	9	4	14	7	5	3	28	4	7	7
Alkalinity	mg/L	-	204	178	164	169	257	110	195	206	162	168	162	230	153	158	180
Hardness	mg/L	-	235	236	220	215	270	143	293	266	226	221	195	327	211	239	254
Ammonia	mg/L	-	1.47	0.81	3.44	0.26	15.9	0.14	0.89	0.16	1.12	0.59	0.54	0.22	0.57	0.28	0.27
Un-ionized Ammonia	mg/L	0.02	0.08	0.08	1.05	0.03	0.53	< 0.01	0.04	< 0.01	0.11	0.09	0.01	< 0.01	0.03	< 0.01	< 0.01
Calcium	mg/L	-	78.7	76.7	67.8	67.8	75	47.3	92.7	88.7	64.6	68.2	57.2	98.1	70.2	72.1	70.4
Chloride	mg/L	-	108	116	92.7	71.6	239	54.5	188	134	161	227	145	252	204	226	107
DOC	mg/L	-	7.6	7.8	6.8	9	6.3	9.9	5.6	6.8	7.3	7	7	3.5	5	4.2	5.9
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.065	0.118	0.077	0.08	0.057	0.049	0.071	0.068	0.055	0.04	0.006	0.08	0.124	0.083	0.055
Magnesium	mg/L	-	9.46	12.7	12.3	9.15	12.5	10.6	14.9	8.06	10.4	12.3	12.7	11.4	13.3	14.2	12
Manganese	mg/L	-	0.043	0.057	0.055	0.041	0.058	0.045	0.056	0.026	0.107	0.048	< 0.001	0.028	0.075	0.062	0.025
Nitrate	mg/L	-	0.53	0.22	0.18	0.4	0.25	< 0.05	3.54	4.9	0.2	0.24	1.19	7	0.12	0.25	0.86
Nitrite	mg/L	-	0.09	0.11	< 0.05	< 0.05	0.1	< 0.05	0.22	< 0.05	< 0.05	< 0.05	1.07	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	2.3	1.9	4.1	1	19.5	1.1	2	1.2	2.3	1.7	1.3	1.5	2	1.3	1.1
Sodium	mg/L	-	72.9	85.3	67.3	32.5	151	33.1	134	69.4	113	128	97.5	127	118	129	50.6
Sulphate	mg/L	-	31	39	32	14	68	13	92	29	43	57	44	42	56	77	29
Phenols	mg/L	0.001	0.004	0.006	0.003	< 0.001	< 0.001	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.008	< 0.002	< 0.002
Phosphorus	mg/L	0.03	0.03	0.08	0.06	0.04	0.05	0.04	0.04	0.04	0.04	0.02	0.03	0.07	0.06	0.03	0.02
Potassium	mg/L	-	3.9	6.2	7.4	2.6	11.9	2.3	11.3	4.2	9.4	12.5	11.8	9	9.8	13.6	5.2
Aluminum	mg/L	0.075	0.16	0.54	0.17	0.07	0.25	0.05	0.18	0.1	0.07	0.14	0.06	0.28	0.08	0.16	0.05
Antimony	mg/L	-	0.0003	0.0004	0.0001	< 0.0001	0.0002	0.0001	0.0003	0.0004	0.0005	0.0005	0.0002	0.0002	0.0004	0.0004	0.0003
Arsenic	mg/L	0.1	0.0007	0.0006	0.0006	< 0.0001	0.0004	0.0004	0.0003	0.0002	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003
Barium	mg/L	-	0.034	0.077	0.057	0.046	0.06	0.047	0.062	0.045	0.066	0.055	0.032	0.044	0.058	0.069	0.044
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.052	0.09	0.073	0.016	0.127	0.034	0.127	0.029	0.102	0.128	0.098	0.078	0.184	0.199	0.049
Cadmium	mg/L	0.0002	0.000016	0.000085	0.000057	< 0.000015	< 0.000015	< 0.000015	0.000034	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.000021	< 0.000015	0.000024	< 0.000015
Chromium	mg/L	0.1	< 0.001	< 0.001	0.001	< 0.001	< 0.001	0.001	0.001	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	0.0006	0.0001	0.0003	< 0.0001	< 0.0001	0.0003	0.0001	0.0002	0.0001	0.0001	0.0002	< 0.0001	0.0003	0.0001	0.0001	< 0.0001
Copper	mg/L	0.005	0.0012	0.0053	0.0072	< 0.0001	0.0015	0.0002	0.0054	0.0012	0.0009	0.0007	0.0011	0.0049	0.0005	0.0007	0.0006
Lead	mg/L	0.025	0.00021	0.00092	0.00062	< 0.00002	0.00014	0.00011	0.00067	0.00016	0.00037	0.00066	0.00036	0.00081	0.00039	0.00076	0.00024
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0017	0.0042	0.0011	< 0.0001	0.0015	0.0006	0.0013	0.0006	0.0019	0.0033	0.0008	0.0015	0.0017	0.0128	0.0007
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.265	0.282	0.213	0.21	0.273	0.205	0.309	0.24	0.237	0.25	0.243	0.282	0.263	0.281	0.226
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0005	0.0002	0.0003	< 0.0001	0.0003	0.0004	0.0007	0.0005	0.0004	0.0005	0.0002	0.0005	0.0004	0.0003	0.0003
Zinc	mg/L	0.03	< 0.005	0.049	0.041	0.024	0.013	0.026	0.039	0.014	0.014	0.022	0.02	0.025	0.024	0.034	0.012
Cyanide	mg/L	0.005									< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Turbidity	NTU	-															2.9
Tannins & Lignins	mg/L	-													2.5	3.8	

PWQO - Provincial Water Quality Objectives

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Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A
			26-Apr-21	15-Jun-21	10-Aug-21	12-Oct-21	26-Apr-22	21-Jun-22	24-Aug-22	17-Oct-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24
pH -Lab	pH units	6.5-8.5	8.23	8.02	8.13	7.99	7.99	8.11	7.99	7.92	8.18	8.16	8	8.13	8.15	8.03	7.52
Conductivity	uS/cm	-	996	1520	1360	829	1480	1420	1050	905	524	1440	1360	1300	570	1350	913
BOD	mg/L	-	< 3	5	4	< 3	5	< 3	< 3	4	< 3	< 3	<3	<3	<3	<3	<3
COD	mg/L	-	27	68	42	37	26	35	29	24	22	< 5	28	31	31	29	35
Total Dissolved Solids	mg/L	-	526	821	738	470	761	725	545	447	268	681	750	747	302	772	460
Total Suspended Solids	mg/L	-	3	4	12	10	4	3	5	3	5	< 3	4	20		4	3
Alkalinity	mg/L	-	221	302	267	193	253	277	191	177	194	149	212	210	193	179	195
Hardness	mg/L	-	282	345	294	211	322	337	195	233	223	242	261	280	252	309	214
Ammonia	mg/L	-	1.84	22.1	11	3.24	9.87	7.02	9.69	0.9	0.11	0.12	1.06	0.45	0.18	0.82	0.77
Un-ionized Ammonia	mg/L	0.02	0.12	1.24	0.11	0.02	0.06	0.27	0.12	0.04	< 0.01	0.02	0.05	<0.01	<0.01	0.08	0.06
Calcium	mg/L	-	89.5	87.3	80.2	65.2	107	103	59.3	66	65.1	60.3	84.2	86.3	71.2	99.6	68.2
Chloride	mg/L	-	163	260	250	139	255	245	188	143	42.9	289	275	273	52.9	275	146
DOC	mg/L	-	4.8	6.8	4.8	4.3	< 0.2	4.4	3.3	2.7	8.9	1.1	3.1	1.3	4.3	3.7	7.3
Fluoride	mg/L	-	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 1	<0.7	<0.7	<0.1	<0.1	<0.1
Iron	mg/L	0.3	0.073	0.161	0.146	0.013	0.047	0.057	0.04	0.154	0.061	0.017	0.017	0.05	0.006	0.02	0.027
Magnesium	mg/L	-	11.3	15.8	14.7	11.8	13.2	12.5	11.5	12.8	7.71	13	12.3	15.6	8.73	14.7	10.7
Manganese	mg/L	-	0.024	0.114	0.082	< 0.001	0.032	0.056	0.063	0.02	0.028	0.006	0.022	0.017	0.005	0.007	0.03
Nitrate	mg/L	-	0.83	1.85	< 0.05	< 0.05	3.53	0.29	0.1	6.61	1.25	6.42	6.48	7.64	1.74	7.87	2.92
Nitrite	mg/L	-	0.13	< 0.5	< 0.05	0.15	< 0.5	< 0.05	< 0.05	0.41	< 0.05	0.68	<0.40	<0.40	<0.05	<0.05	<0.05
TKN	mg/L	-	3	25.5	13.4	4.5	10.3	10.5	16.9	1.7	0.8	1.3	2	1	0.8	1.6	1.8
Sodium	mg/L	-	85.4	157	140	81.4	169	132	105	77.6	19	159	146	137	27.5	165	65.2
Sulphate	mg/L	-	34	75	63	43	42	49	33	31	15	58	60	57	16	59	34
Phenols	mg/L	0.001	< 0.002	0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	<0.001	<0.001	<0.001	0.004	0.001
Phosphorus	mg/L	0.03	0.07	0.11	0.08	0.07	0.06	0.05	0.04	0.03	0.03	0.04	0.04	0.04	0.03	0.03	0.03
Potassium	mg/L	-	7.1	15.8	14.7	9.6	10.1	7.7	8.6	8	1.9	12.3	14.6	18	2.4	14.2	5.5
Aluminum	mg/L	0.075	0.18	0.23	0.15	0.03	0.1	0.17	0.06	0.08	0.02	0.43	0.22	0.51	0.04	0.45	0.12
Antimony	mg/L	-	0.0004	0.0005	0.0006	0.0003	0.0004	0.0005	0.0004	0.0004	0.0003	0.0005	0.0003	0.0008	0.0002	0.0005	0.0005
Arsenic	mg/L	0.1	0.0003	0.0004	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0002	0.0003
Barium	mg/L	-	0.043	0.109	0.079	0.044	0.056	0.047	0.045	0.043	0.031	0.003	0.065	0.054	0.031	0.039	0.043
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	0.2	0.055	0.165	0.112	0.072	0.107	0.086	0.106	0.076	0.01	0.164	0.192	0.196	0.017	0.156	0.058
Cadmium	mg/L	0.0002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.00003	<0.000015	<0.000015	<0.000015	0.000026	<0.000015
Chromium	mg/L	0.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	0.002	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0006	0.0001	0.0001	0.0003	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0002	0.0003	0.0004	0.0003	0.0003	0.0002
Copper	mg/L	0.005	0.0007	0.0011	0.0008	0.0004	0.0017	0.0005	0.0006	0.0015	0.0005	0.0044	0.0029	0.0058	0.0019	0.005	0.0016
Lead	mg/L	0.025	0.00022	0.00015	0.00014	0.0002	0.00026	0.00015	0.00016	0.00023	0.00011	0.0006	0.00025	0.00043	0.00024	0.00047	0.00009
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04	0.003	0.0011	0.0003	0.0003	0.0032	0.0013	0.0011	0.0014	0.0003	0.003	0.0044	0.0049	0.0009	0.0027	0.001
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0016	0.0021	0.0006	0.0017	0.0006
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0001
Strontium	mg/L	-	0.275	0.318	0.314	0.219	0.373	0.326	0.237	0.245	0.193	0.263	0.302	0.304	0.211	0.323	0.242
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	-	0.0004	0.0002	0.0003	0.0004	0.0003	0.0003	0.0002	0.0004	0.0005	0.0004	0.0005	0.0007	0.0004	0.0003	0.0004
Zinc	mg/L	0.03	0.015	0.018	0.013	< 0.005	0.013	0.009	< 0.005	0.01	< 0.005	0.028	0.017	0.012	<0.005	0.019	<0.005
Cyanide	mg/L	0.005	< 0.005								< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Turbidity	NTU	-	3.9								2.4	1.5	2.1	8.4	2.1	1.8	3.3
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	Emb A	Emb A	Emb A	Emb A	Emb A	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B
			10-Oct-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25	28-Apr-16	14-Jun-16	9-Aug-16	12-Oct-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	9-May-18	26-Jun-18
pH -Lab	pH units	6.5-8.5	8.11	8.16	8.05	8.06	8.12	8.37	8.19	8.14	8.19	8.28	8.08	8.13	7.92	8.08	8.09
Conductivity	uS/cm	-	1270	625	1410	1110	1130	472	445	368	475	475	355	360	437	434	418
BOD	mg/L	-	<3	<3	5	<3	<3	< 2	2	< 3	< 3	<3	<3	<3	<3	< 3	< 3
COD	mg/L	-	24	29	43	28	24	21	22	26	27	24	40	27	30	33	23
Total Dissolved Solids	mg/L	-	729	343	794	571	597	249	234	189	239	234	169	185	217	240	210
Total Suspended Solids	mg/L	-	<3	7	<3	10	<3	3	3	5	< 3	5	3	4	5	< 3	4
Alkalinity	mg/L	-	190	180	159	160	191	174	113	105	142	154	118	119	141	165	106
Hardness	mg/L	-	308	232	261	230	246	207	150	138	181	188	111	147	165	202	133
Ammonia	mg/L	-	0.26	0.24	0.08	1.01	0.74	0.1	0.05	0.02	0.09	0.05	< 0.01	0.02	0.05	0.1	0.08
Un-ionized Ammonia	mg/L	0.02	<0.01	0.01	<0.01	0.04	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	0.01	< 0.01
Calcium	mg/L	-	97.8	76.5	82.1	69.2	74.4	67.9	43.7	37.1	50.3	57.1	38.5	46.7	51.5	64.7	34.4
Chloride	mg/L	-	242	78.1	341	207	208	32.1	61.3	42.9	52.2	35.1	28	29.9	39.7	33	58.8
DOC	mg/L	-	6.2	11.9	2.7	12.8	4.2	8.2	8.3	8.4	9.3	9.1	10.6	11.1	9.8	8.6	9.3
Fluoride	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	0.1	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.027	0.076	0.04	0.032	0.021	0.056	0.182	0.037	0.012	0.076	0.038	0.063	0.032	0.088	0.02
Magnesium	mg/L	-	15.4	9.97	13.6	13.8	14.6	9.03	9.98	11.1	13.4	8.13	5.64	9.59	8.82	8.43	8.19
Manganese	mg/L	-	0.012	0.049	0.008	0.022	0.014	0.03	0.025	0.014	0.019	0.02	0.016	0.03	0.011	0.063	0.016
Nitrate	mg/L	-	6.46	1.64	6.06	4.09	3.55	0.7	0.1	< 0.1	< 0.1	0.9	< 0.05	< 0.05	< 0.05	0.29	0.11
Nitrite	mg/L	-	<0.05	<0.05	0.08	<0.05	<0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	1.4	1	1.5	2.6	2	0.7	0.8	0.8	0.8	0.7	0.8	0.7	0.6	0.8	0.8
Sodium	mg/L	-	152	43.8	172	108	108	18.5	33.7	23	29.7	18.2	21.4	18.5	22.5	19.8	32.8
Sulphate	mg/L	-	60	16	51	42	46	12	16	11	14	17	4	8	8	9	11
Phenols	mg/L	0.001	<0.001	0.002	0.005	<0.001	<0.001	< 0.001	< 0.001	0.001	0.003	< 0.001	0.013	0.006	0.004	< 0.001	< 0.001
Phosphorus	mg/L	0.03	0.12	0.02	0.04	0.07	0.04	0.05	0.04	0.03	0.02	0.01	0.02	0.04	0.02	0.04	0.03
Potassium	mg/L	-	18.7	3.6	13.2	17	16.1	1.9	1.4	0.3	1.9	1.6	0.5	0.9	2.1	2.1	0.7
Aluminum	mg/L	0.075	0.25	0.1	0.6	0.45	0.22	0.03	0.04	0.02	0.02	0.06	0.02	0.06	0.03	0.06	0.03
Antimony	mg/L	-	0.0006	0.0002	0.0007	0.0009	0.0007	< 0.0001	0.0001	0.0002	0.0001	< 0.0001	0.0001	0.0004	< 0.0001	< 0.0001	0.0002
Arsenic	mg/L	0.1	0.0002	0.0002	0.0003	0.0003	0.0002	0.0003	0.0003	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004
Barium	mg/L	-	0.033	0.039	0.017	0.069	0.044	0.024	0.023	0.031	0.037	0.028	0.017	0.05	0.031	0.044	0.024
Beryllium	mg/L	1.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.139	0.022	0.092	0.099	0.095	< 0.005	0.018	0.016	0.02	0.006	0.016	0.018	0.019	0.01	0.013
Cadmium	mg/L	0.0002	<0.000015	<0.000015	0.000015	0.000018	<0.000015	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.000077	0.000056	< 0.000015	< 0.000015
Chromium	mg/L	0.1	<0.001	<0.001	0.002	<0.001	<0.001	< 0.0002	0.0005	0.0005	0.0003	< 0.0015	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	0.0006	0.0003	0.0002	0.0004	0.0003	0.0003	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0002
Copper	mg/L	0.005	0.0061	0.001	0.0033	0.0044	0.0028	0.0006	0.0005	0.0004	0.0003	0.0002	0.0004	0.0085	0.0069	0.0005	0.0005
Lead	mg/L	0.025	0.00015	0.00015	0.00048	0.00028	0.00013	0.00014	0.00048	0.00007	0.00003	0.00016	0.00009	0.00061	0.00047	0.0002	0.00004
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0031	0.0004	0.0029	0.0113	0.0025	0.0003	0.0003	0.0001	0.0001	0.0003	0.0002	0.0004	0.0002	0.0003	0.0003
Nickel	mg/L	0.025	0.0011	0.0008	0.0018	0.0018	0.0008	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00003	0.00007	< 0.00002	0.00007	0.00022	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001
Strontium	mg/L	-	0.312	0.218	0.302	0.238	0.26	0.206	0.191	0.162	0.21	0.163	0.144	0.2	0.142	0.193	0.152
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0003	0.0004	0.0005	0.0004	0.0003	0.0004	0.0006	0.0007	0.0003	0.0005	0.0004	0.0002	0.0003	0.0005	0.0004
Zinc	mg/L	0.03	0.012	0.032	0.024	0.008	0.007	< 0.005	< 0.005	< 0.005	< 0.005	0.017	< 0.005	0.043	0.006	0.018	0.006
Cyanide	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005										< 0.005
Turbidity	NTU	-	0.9	2.7	4.3	3.7	1.1										
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B
			28-Aug-18	10-Oct-18	25-Apr-19	18-Jul-19	12-Aug-19	8-Oct-19	27-Apr-20	24-Jun-20	10-Aug-20	22-Oct-20	26-Apr-21	15-Jun-21	10-Aug-21	12-Oct-21	26-Apr-22
pH -Lab	pH units	6.5-8.5	8.02	8.02	8.2	8.17	7.91	7.97	8.02	7.92	8.01	8.16	8.2	8.37	8.14	8.01	7.73
Conductivity	uS/cm	-	405	526	455	265	427	460	520	403	403	508	518	371	333	461	527
BOD	mg/L	-	2	3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
COD	mg/L	-	46	38	27	30	30	19	26	28	29	16	25	29	41	34	28
Total Dissolved Solids	mg/L	-	217	274	231	126	225	240	261	216	212	261	283	204	174	250	276
Total Suspended Solids	mg/L	-	6	10	5	3	4	< 3	11	4	3	7	5	4	5	11	5
Alkalinity	mg/L	-	125	165	166	64	108	135	185	113	97	165	185	102	98	160	189
Hardness	mg/L	-	157	216	207	88	159	173	255	152	152	223	227	145	127	173	214
Ammonia	mg/L	-	0.04	0.05	0.07	0.05	0.11	0.14	0.05	0.08	0.02	0.04	0.04	0.09	0.03	0.07	3.39
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	0.02	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	0.07
Calcium	mg/L	-	54.5	67.9	69.6	21.9	47.9	51.9	70.3	48.4	44.6	66	80.2	35.4	31.9	55	71.4
Chloride	mg/L	-	44.1	58.4	27.4	33.6	60.3	58.7	36.3	48.7	58.8	49.1	41.4	54.5	41	52.7	40.5
DOC	mg/L	-	11	11.8	1.7	9.3	10	8	8.6	8.8	8.6	9.9	9	10.9	10.5	7.9	8.6
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.059	0.051	0.078	0.023	0.04	0.059	0.073	0.21	0.081	0.051	0.082	0.098	0.058	0.042	0.073
Magnesium	mg/L	-	10.5	11.2	6.23	6.64	9.56	10.5	7.14	10.2	9.76	12	9.16	10	8.73	8.71	8.72
Manganese	mg/L	-	0.047	0.021	0.021	0.017	0.007	0.02	0.021	0.087	0.029	0.011	0.024	0.026	0.095	0.038	0.037
Nitrate	mg/L	-	< 0.05	< 0.05	1.92	< 0.05	0.07	< 0.05	2.16	0.07	0.1	< 0.05	1.13	0.1	< 0.05	< 0.05	1.08
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	0.9	0.8	0.2	0.7	0.8	0.7	0.6	1.1	0.8	0.7	0.8	1.1	0.9	0.9	3.5
Sodium	mg/L	-	26.2	33.9	13.8	20.2	32	28	14.9	26.8	27.4	16.7	22.1	28.8	21.8	23.7	21.2
Sulphate	mg/L	-	6	6	12	6	9	8	20	12	12	15	18	13	10	11	14
Phenols	mg/L	0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001
Phosphorus	mg/L	0.03	0.05	0.03	0.01	0.03	0.02	0.03	0.02	0.06	0.03	0.02	0.09	0.06	0.03	0.04	0.03
Potassium	mg/L	-	0.8	1.9	2.1	< 0.1	0.9	2	1.3	1.2	0.7	2.2	1.9	1.3	0.9	2.5	2
Aluminum	mg/L	0.075	0.04	0.05	0.05	0.01	0.03	0.04	0.06	0.02	0.03	0.06	0.05	0.04	0.01	0.03	0.05
Antimony	mg/L	-	0.0001	< 0.0001	0.0001	0.0003	0.0002	0.0002	< 0.0001	0.0002	0.0004	0.0003	0.0003	0.0006	0.0004	0.0002	0.0003
Arsenic	mg/L	0.1	0.0003	0.0003	0.0002	0.0003	0.0004	0.0003	0.0002	0.0005	0.0004	0.0003	0.0003	0.0006	0.0004	0.0003	0.0003
Barium	mg/L	-	0.045	0.048	0.032	0.018	0.034	0.035	0.027	0.043	0.044	0.047	0.04	0.023	0.025	0.036	0.037
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.029	0.023	0.007	0.014	0.022	0.016	0.008	0.093	0.09	0.011	0.012	0.019	< 0.005	0.015	0.011
Cadmium	mg/L	0.0002	0.000089	0.000042	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.1	0.001	0.002	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	0.0006	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0002	0.0001
Copper	mg/L	0.005	0.0065	0.0072	0.0012	0.0004	0.0008	0.0007	0.0012	0.0007	0.0003	0.0003	0.0006	0.0005	0.0004	0.0002	0.0005
Lead	mg/L	0.025	0.00042	0.00033	0.00012	0.00009	0.00018	0.00012	0.00015	0.00018	0.00004	0.00006	0.00015	0.00014	0.0001	0.00009	0.00012
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0002	0.0002	0.0004	0.0002	0.0003	0.0001	0.0005	0.0004	0.0003	0.0003	0.0004	0.0004	0.0002	0.0002	0.0003
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.214	0.234	0.171	0.113	0.193	0.182	0.178	0.195	0.183	0.208	0.224	0.154	0.148	0.176	0.211
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0003	0.0002	0.0005	0.0005	0.0005	0.0001	0.0005	0.0005	0.0004	0.0003	0.0005	0.0005	0.0004	0.0003	0.0004
Zinc	mg/L	0.03	0.018	0.016	0.009	0.006	0.006	0.005	0.005	0.011	0.066	0.005	0.005	0.017	0.011	0.022	< 0.005
Cyanide	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005								
Turbidity	NTU	-					1.6	4.5	2.5								
Tannins & Lignins	mg/L	-				2.7											

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B
			21-Jun-22	24-Aug-22	17-Oct-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25
pH -Lab	pH units	6.5-8.5	8.06	8.03	7.91	8.13	7.96	7.26	8.07	8.21	7.37	7.09	8.03	8.19	7.52	7.98	7.73
Conductivity	uS/cm	-	435	421	500	521	341	387	503	513	433	367	456	476	396	426	506
BOD	mg/L	-	< 3	< 3	< 3	< 3	< 3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
COD	mg/L	-	34	30	25	22	32	31	37	30	29	39	27	20	30	29	31
Total Dissolved Solids	mg/L	-	239	216	251	274	170	218	273	287	233	198	253	267	199	217	259
Total Suspended Solids	mg/L	-	< 3	5	< 3	< 3	< 3	5	3		5	3	<3	6	<3	3	<3
Alkalinity	mg/L	-	157	117	164	191	105	128	180	205	143	127	154	175	143	126	150
Hardness	mg/L	-	183	140	191	218	119	154	195	237	178	158	197	223	127	166	167
Ammonia	mg/L	-	0.09	0.07	0.24	0.12	1	0.17	0.08	0.08	0.07	0.12	0.11	0.23	<0.05	<0.05	0.13
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	0.01	< 0.01	0.11	0.02	<0.01	<0.01	<0.01	0.03	<0.01	0.01	<0.01	<0.01	<0.01
Calcium	mg/L	-	60.9	41.7	52.8	70.3	30.9	46.5	58.4	80	55.6	48.5	60.8	72.9	37.8	47.8	48.7
Chloride	mg/L	-	43.3	54.5	54.1	44.5	35.7	45.5	55.8	33.3	44.8	37.2	48.1	40	38.6	49.4	61.9
DOC	mg/L	-	13	7.3	6	5.2	8.2	8.6	3	8.3	9	11.2	10.5	12.6	9	16.5	8.2
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Iron	mg/L	0.3	0.054	0.068	0.043	0.062	0.035	0.054	0.054	0.061	0.062	0.026	0.059	0.076	0.056	0.05	0.054
Magnesium	mg/L	-	8.45	8.76	11.2	7.72	7.99	9.25	12	9	9.4	8.94	10.8	9.86	7.91	11.2	11
Manganese	mg/L	-	0.014	0.035	0.012	0.038	0.022	0.039	0.034	0.034	0.025	0.011	0.017	0.066	0.011	0.027	0.027
Nitrate	mg/L	-	0.16	0.08	0.1	0.78	< 0.05	0.09	0.11	1.72	0.14	<0.05	0.07	0.82	0.14	<0.05	<0.05
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TKN	mg/L	-	0.9	1.1	0.9	0.8	1.3	0.8	0.9	0.7	0.8	0.8	0.2	0.9	0.7	1.1	1
Sodium	mg/L	-	24.4	25.8	19.9	21.7	21.2	27.7	24.6	18.3	24.5	19.6	26.3	22.8	18.7	24.2	28.3
Sulphate	mg/L	-	7	9	12	13	10	10	10	14	11	7	11	11	8	8	16
Phenols	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	0.03	0.03	0.04	0.01	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.01	0.02	0.02	0.03	0.04
Potassium	mg/L	-	0.7	0.9	2	2	0.2	1.4	3.5	2.1	1	0.9	2.8	2.4	0.4	0.8	2.7
Aluminum	mg/L	0.075	0.03	< 0.01	0.01	0.02	< 0.01	0.04	<0.01	0.04	0.02	0.01	0.03	0.04	0.01	0.03	0.04
Antimony	mg/L	-	0.0004	0.0004	0.0003	0.0003	0.0003	0.0001	0.0004	0.0003	0.0004	0.0003	0.0004	0.0004	0.0004	0.0006	0.0005
Arsenic	mg/L	0.1	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003	0.0004	0.0002	0.0003	0.0003	0.0003	0.0002	0.0003	0.0004	0.0004
Barium	mg/L	-	0.032	0.029	0.038	0.034	0.015	0.035	0.043	0.034	0.032	0.035	0.04	0.038	0.023	0.04	0.04
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	0.2	0.014	0.007	0.012	0.012	0.013	0.016	0.018	0.011	0.01	0.017	0.014	0.012	0.009	0.017	0.02
Cadmium	mg/L	0.0002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.1	0.001	< 0.001	< 0.001	0.002	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0006	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	0.0002	0.0002	0.0002	<0.0001	0.0002	0.0002	0.0002	<0.0001	0.0002
Copper	mg/L	0.005	0.0004	0.0005	0.0004	0.0004	0.0002	0.0006	0.0006	0.0006	0.0005	0.0004	0.0004	0.0003	0.0003	0.0006	0.0012
Lead	mg/L	0.025	0.0001	0.00008	0.00007	0.00011	0.00009	0.00008	0.00006	0.00008	0.00008	0.00004	0.0001	0.00009	0.00003	0.00026	0.00011
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04	0.0003	0.0003	0.0003	0.0003	0.0002	0.0001	0.0003	0.0003	0.0002	0.0001	0.0002	0.0002	0.0002	0.0001	0.0003
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0004	0.0007	0.0009	0.0006	0.0002	<0.0002	0.0006	0.0006	0.0005	0.0006
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	-	0.201	0.175	0.201	0.199	0.13	0.176	0.225	0.217	0.192	0.19	0.202	0.207	0.15	0.188	0.186
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	-	0.0004	0.0004	0.0002	0.0004	0.0004	0.0003	0.0003	0.0004	0.0004	0.0002	0.0004	0.0004	0.0003	0.0003	0.0003
Zinc	mg/L	0.03	0.006	< 0.005	0.011	< 0.005	< 0.005	0.005	<0.005	0.01	<0.005	<0.005	0.007	0.019	0.007	<0.005	<0.005
Cyanide	mg/L	0.005				< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Turbidity	NTU	-				2.2	2	2.4	1.6	1.6	1.6	1.2	2.9	2.3	1.4	1.6	2.1
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C
			28-Apr-16	14-Jun-16	9-Aug-16	12-Oct-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	9-May-18	26-Jun-18	28-Aug-18	10-Oct-18	25-Apr-19	18-Jul-19	12-Aug-19
pH -Lab	pH units	6.5-8.5	8.37	9.1	8.14	8.21	8.3	8.16	8.06	8.15	8.16	8.54	8.05	8.03	8.19	8.45	7.97
Conductivity	uS/cm	-	489	383	476	540	479	483	407	490	509	397	1130	608	467	265	426
BOD	mg/L	-	< 2	3	< 3	< 3	<3	<3	<3	<3	< 3	4	< 2	3	< 3	< 3	< 3
COD	mg/L	-	24	41	29	27	24	29	29	29	34	56	35	37	28	37	28
Total Dissolved Solids	mg/L	-	258	202	252	271	252	242	207	257	300	213	616	320	239	128	216
Total Suspended Solids	mg/L	-	3	4	4	< 3	6	4	3	6	< 3	8	13	< 3	7	3	7
Alkalinity	mg/L	-	179	87	103	126	157	163	124	138	184	108	184	163	167	66	54
Hardness	mg/L	-	208	119	136	154	198	195	154	192	208	133	246	209	211	89	82
Ammonia	mg/L	-	0.06	0.05	0.02	0.04	0.08	0.1	0.02	0.93	0.28	0.13	4.9	0.64	0.07	0.05	0.05
Un-ionized Ammonia	mg/L	0.02	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.4	0.02	< 0.01	0.13	0.04	< 0.01	0.02	< 0.01
Calcium	mg/L	-	68.6	31.8	36.2	41.6	63.6	63.1	47.7	58.1	67.3	39.5	81.8	65.1	72.5	22.2	18.9
Chloride	mg/L	-	35.6	59.3	77.4	77.7	37.8	35.4	38.9	50.5	61	54	198	72	29.7	32.2	90.6
DOC	mg/L	-	8.6	9.5	7.4	8.1	9.4	10.2	10.3	8.5	8.2	14.5	6.5	10.3	9.3	10.8	9
Fluoride	mg/L	-	0.2	0.1	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.058	0.069	0.029	< 0.005	0.044	0.081	0.104	0.068	0.06	0.034	0.08	0.07	0.08	0.024	0.02
Magnesium	mg/L	-	8.87	9.55	11	12.1	8.44	8.03	9.95	11.3	8.83	9.06	14.1	11.3	6.74	6.29	8.47
Manganese	mg/L	-	0.03	0.014	0.023	0.028	0.028	0.029	0.029	0.029	0.049	0.028	0.06	0.029	0.014	0.023	0.004
Nitrate	mg/L	-	0.8	0.1	0.2	< 0.1	1	1.06	< 0.05	0.07	0.31	< 0.05	0.72	0.4	2.1	< 0.05	0.06
Nitrite	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.16	0.07	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	0.9	0.9	0.8	0.9	0.7	0.9	0.7	1.7	1	1.3	6.4	1.6	0.7	0.9	0.7
Sodium	mg/L	-	19.8	33.5	41	44.6	22.7	25.4	24	33	32.7	33.6	134	41.7	14.9	21.8	48.5
Sulphate	mg/L	-	12	15	21	21	20	11	11	16	13	11	60	23	13	6	17
Phenols	mg/L	0.001	< 0.001	< 0.001	0.002	0.008	0.002	0.021	0.007	0.004	< 0.001	< 0.001	0.003	< 0.002	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	0.03	0.07	0.04	0.03	0.02	0.01	0.02	0.03	0.04	0.04	0.05	0.05	0.03	0.02	0.03	0.01
Potassium	mg/L	-	2	0.6	2.3	3.7	1.9	1	1.2	3.9	2.7	0.6	11.7	3.8	2.3	< 0.1	0.6
Aluminum	mg/L	0.075	0.04	0.03	0.03	0.02	0.06	0.06	0.09	0.07	0.08	0.05	0.23	0.05	0.05	0.05	0.03
Antimony	mg/L	-	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0002	0.0005	< 0.0001	< 0.0001	0.0002	0.0003	0.0001	0.0004	0.0003	0.0005
Arsenic	mg/L	0.1	0.0003	0.0003	0.0005	0.0004	0.0004	0.0005	0.0004	0.0005	0.0004	0.0005	0.0003	0.0003	0.0002	0.0003	0.0003
Barium	mg/L	-	0.023	0.012	0.034	0.032	0.028	0.037	0.057	0.054	0.048	0.022	0.063	0.057	0.035	0.027	0.021
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	< 0.005	0.022	0.033	0.036	0.009	0.015	0.021	0.027	0.017	0.02	0.132	0.028	0.007	0.023	0.038
Cadmium	mg/L	0.0002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.000064	0.000051	0.000016	0.000063	< 0.000015	0.000048	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.1	< 0.0002	0.0004	0.0005	0.0004	< 0.0015	< 0.001	0.001	0.001	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	< 0.001
Cobalt	mg/L	0.0006	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0002	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper	mg/L	0.005	0.0011	0.0004	0.0004	0.0004	0.0004	0.0007	0.0065	0.0064	0.0006	0.0074	0.0006	0.0059	0.0008	0.0004	0.0002
Lead	mg/L	0.025	0.00021	0.00049	0.00009	0.00004	0.00006	0.00013	0.00042	0.00051	0.00018	0.0006	0.00038	0.00038	0.00015	0.00008	0.00007
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0003	0.0002	0.0002	0.0002	0.0004	0.0005	0.0004	0.0005	0.0004	0.0008	0.0003	0.0003	0.0003	0.0002	0.0006
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	0.00005	0.00014	< 0.00002	0.00006	0.00021	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.211	0.153	0.163	0.187	0.183	0.211	0.203	0.189	0.202	0.176	0.306	0.238	0.181	0.112	0.123
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0004	0.0006	0.0006	0.0003	0.0005	0.0005	0.0002	0.0003	0.0006	0.0006	0.0003	0.0003	0.0005	0.0004	0.0006
Zinc	mg/L	0.03	< 0.005	< 0.005	< 0.005	< 0.005	0.079	0.009	0.03	0.055	0.014	0.016	0.032	0.018	0.008	0.006	0.006
Cyanide	mg/L	0.005						< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		
Turbidity	NTU	-												2.8	2.9		
Tannins & Lignins	mg/L	-										4.1	6.1				

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C
			8-Oct-19	27-Apr-20	24-Jun-20	10-Aug-20	22-Oct-20	26-Apr-21	15-Jun-21	10-Aug-21	12-Oct-21	26-Apr-22	21-Jun-22	24-Aug-22	17-Oct-22	24-Apr-23	8-Jun-23
pH -Lab	pH units	6.5-8.5	8.08	8	7.98	7.93	8.17	8.21	8.16	8.02	7.99	7.86	8.17	8.13	7.94	8.17	8
Conductivity	uS/cm	-	577	547	484	469	606	540	514	423	536	546	426	505	505	552	478
BOD	mg/L	-	< 3	< 3	< 3	4	< 3	< 3	< 3	3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
COD	mg/L	-	24	25	33	36	16	29	38	45	39	31	36	33	20	17	< 5
Total Dissolved Solids	mg/L	-	309	277	261	244	331	289	274	224	290	288	233	257	263	286	238
Total Suspended Solids	mg/L	-	6	4	5	18	3	4	3	8	10	5	< 3	3	< 3	< 3	< 3
Alkalinity	mg/L	-	144	182	133	82	192	184	133	123	146	201	150	110	165	192	139
Hardness	mg/L	-	189	250	180	139	235	227	179	153	155	233	182	138	194	219	160
Ammonia	mg/L	-	1.07	0.11	0.09	0.02	0.19	0.14	1	0.24	1.61	0.32	0.12	0.92	0.18	0.12	0.41
Un-ionized Ammonia	mg/L	0.02	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.08	< 0.01	0.04	0.01	0.01	0.06	< 0.01	< 0.01	0.04
Calcium	mg/L	-	56.9	71	59.8	38.5	67.9	77.7	43	40	46.6	78.3	57.4	39.8	56.1	70	43.3
Chloride	mg/L	-	81	47.7	60.2	81.9	74.8	47	78.3	55.3	78.6	40.4	41.3	81.6	53.6	51.8	57.3
DOC	mg/L	-	7.6	8	10.2	8.2	7.5	8.7	9.8	10.1	5.9	9	12.8	6.3	5.5	5.2	7
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Iron	mg/L	0.3	0.063	0.064	0.078	0.075	0.026	0.056	0.091	0.062	0.036	0.144	0.065	0.053	0.034	0.068	0.133
Magnesium	mg/L	-	11.3	7.18	10.2	10.3	11.3	8.74	9.97	9.49	9.37	9.1	8.43	9.33	11.9	8.02	8.39
Manganese	mg/L	-	0.032	0.032	0.071	0.055	0.002	0.024	0.032	0.069	0.032	0.034	0.02	0.034	0.012	0.03	0.029
Nitrate	mg/L	-	< 0.05	2.05	0.07	0.11	0.26	1.21	0.08	< 0.05	0.1	1.36	0.58	0.09	0.54	1.43	0.28
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07
TKN	mg/L	-	1.8	0.7	1	1.1	0.9	1	2.2	1.4	2.7	0.8	1	2.4	1	0.8	1.2
Sodium	mg/L	-	48.5	19.9	32.7	42.3	38.5	23.6	40	29.7	37.4	21.2	22.7	39.6	23.8	23.3	29.4
Sulphate	mg/L	-	18	20	17	19	20	19	18	13	23	15	11	13	16	16	14
Phenols	mg/L	0.001	< 0.002	< 0.002	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	0.03	0.04	0.02	0.04	0.04	0.02	0.06	0.05	0.05	0.09	0.04	0.04	0.04	0.02	0.03	0.04
Potassium	mg/L	-	5.3	1.7	1	2	3.3	2.1	3.2	2.1	4.9	2	1.4	2.3	2.2	2.2	1.3
Aluminum	mg/L	0.075	0.04	0.06	0.03	0.03	0.06	0.05	0.04	0.01	0.02	0.05	0.04	0.02	0.02	0.03	0.03
Antimony	mg/L	-	0.0003	< 0.0001	0.0002	0.0004	0.0003	0.0003	0.0004	0.0005	0.0003	0.0003	0.0005	0.0003	0.0005	0.0004	0.0004
Arsenic	mg/L	0.1	0.0004	0.0003	0.0004	0.0003	0.0003	0.0003	0.0005	0.0004	0.0003	0.0003	0.0003	0.0004	0.0003	0.0003	0.0004
Barium	mg/L	-	0.042	0.028	0.045	0.044	0.045	0.037	0.026	0.059	0.038	0.043	0.03	0.03	0.04	0.033	0.022
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.041	0.009	0.112	0.114	0.028	0.014	0.032	0.009	0.028	0.012	0.01	0.021	0.018	0.013	0.018
Cadmium	mg/L	0.0002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.1	0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	0.002	< 0.001
Cobalt	mg/L	0.0006	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0002	0.0001	0.0002	< 0.0001	0.0001	0.0002	< 0.0001
Copper	mg/L	0.005	0.0005	0.0012	0.0008	0.0004	0.0007	0.0005	0.0006	0.0003	0.0003	0.001	0.0004	0.0028	0.0004	0.0029	0.0006
Lead	mg/L	0.025	0.00024	0.00017	0.00015	0.0001	0.00014	0.00018	0.00022	0.00017	0.0001	0.00034	0.00014	0.00012	0.00009	0.00024	0.00028
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0004	0.0005	0.0004	0.0005	0.0004	0.0006	0.0004	0.0002	0.0003	0.0004	0.0003	0.0002	0.0003	0.0004	0.0005
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.199	0.179	0.22	0.179	0.219	0.213	0.17	0.172	0.169	0.226	0.187	0.177	0.215	0.201	0.159
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00007	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0003	0.0005	0.0003	0.0003	0.0003	0.0005	0.0005	0.0005	0.0003	0.0006	0.0005	0.0003	0.0003	0.0005	0.0006
Zinc	mg/L	0.03	0.007	0.019	0.013	0.014	0.005	< 0.005	0.013	0.007	0.016	< 0.005	< 0.005	0.006	< 0.005	< 0.005	0.009
Cyanide	mg/L	0.005														< 0.005	< 0.005
Turbidity	NTU	-					2.7	5.4	4.6	0.8						2.5	5.1
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1
			16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25	25-Apr-19	12-Aug-19	8-Oct-19	27-Apr-20	24-Jun-20
pH -Lab	pH units	6.5-8.5	9.07	7.65	8.2	7.28	7.77	7.98	8.2	7.29	8.07	7.88	8.09	8.05	8.02	7.95	7.89
Conductivity	uS/cm	-	360	536	520	402	505	476	533	536	478	602					
BOD	mg/L	-	4	<3	<3	<3	<3	<3	<3	<3	<3	<3					
COD	mg/L	-	39	35	35	32	51	26	33	36	36	26					
Total Dissolved Solids	mg/L	-	196	291	291	217	281	270	299	284	243	311					
Total Suspended Solids	mg/L	-	11	<3		<3	16	<3	9	7	5	3	< 3	< 3	< 3	3	5
Alkalinity	mg/L	-	76	121	205	118	187	143	175	136	119	150					
Hardness	mg/L	-	90.4	142	242	149	221	193	223	172	158	179					
Ammonia	mg/L	-	1.36	0.08	0.06	<0.05	0.73	0.12	0.29	0.16	0.11	0.41	0.12	0.06	0.28	0.14	0.08
Un-ionized Ammonia	mg/L	0.02	0.04	<0.01	<0.01	<0.01	0.11	<0.01	0.02	<0.01	0.02	0.01					
Calcium	mg/L	-	22.8	37.3	82	44	73.2	58.6	73.2	52.5	44.1	52.4					
Chloride	mg/L	-	64.2	95.9	33.9	49.9	42.9	60.8	55.2	75.8	67.9	86.9					
DOC	mg/L	-	8.8	3.6	8.1	9.7	13.4	10.2	11.3	7.6	20.6	8.2					
Fluoride	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					
Iron	mg/L	0.3	0.021	0.021	0.071	0.022	0.05	0.022	0.085	0.087	0.016	0.037	0.069	0.03	0.041	0.056	0.067
Magnesium	mg/L	-	8.13	11.9	9.02	9.5	9.19	11.2	9.77	9.94	11.6	11.6					
Manganese	mg/L	-	0.017	0.051	0.057	0.009	0.009	0.003	0.048	0.059	0.023	0.027					
Nitrate	mg/L	-	0.09	0.24	1.84	<0.05	0.4	0.21	1.13	0.59	<0.05	0.35					
Nitrite	mg/L	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					
TKN	mg/L	-	1.1	1	0.6	0.8	1.9	0.8	1	1.2	1.3	1.3					
Sodium	mg/L	-	37.3	49.8	18.8	28.7	25.6	35.1	34.5	44.3	34.4	43.8					
Sulphate	mg/L	-	14	15	14	13	13	14	13	14	10	19					
Phenols	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001					
Phosphorus	mg/L	0.03	0.04	0.02	0.02	0.02	0.04	0.01	0.03	0.05	0.04	0.04					
Potassium	mg/L	-	1.5	6.9	2.3	0.6	2.7	3.8	3.1	2.8	2.9	5.3					
Aluminum	mg/L	0.075	0.04	<0.01	0.05	0.01	0.06	0.03	0.15	0.13	0.06	0.04					
Antimony	mg/L	-	0.0002	0.0005	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003	0.0009	0.0006					
Arsenic	mg/L	0.1	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0004					
Barium	mg/L	-	0.019	0.034	0.035	0.034	0.046	0.037	0.038	0.06	0.043	0.043					
Beryllium	mg/L	1.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001					
Boron	mg/L	0.2	0.03	0.047	0.012	0.014	0.027	0.023	0.017	0.023	0.025	0.032					
Cadmium	mg/L	0.0002	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015					
Chromium	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001					
Cobalt	mg/L	0.0006	<0.0001	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	<0.0001	0.0002					
Copper	mg/L	0.005	0.0015	0.0008	0.0006	0.0006	0.0007	0.0006	0.001	0.002	0.0006	0.0009					
Lead	mg/L	0.025	0.00008	0.00006	0.00009	0.00004	0.00009	0.00003	0.00019	0.00017	0.00008	0.0001					
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002					
Molybdenum	mg/L	0.04	0.0005	0.0008	0.0003	0.0002	0.0003	0.0003	0.0003	0.0005	0.0003	0.0007					
Nickel	mg/L	0.025	0.0008	0.0006	0.0009	0.0006	0.0004	0.0002	0.0007	0.0007	0.0006	0.0019					
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001					
Silver	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001					
Strontium	mg/L	-	0.119	0.194	0.222	0.178	0.235	0.204	0.21	0.197	0.185	0.199					
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005					
Vanadium	mg/L	-	0.0004	0.0002	0.0004	0.0003	0.0003	0.0003	0.0004	0.0006	0.0003	0.0003					
Zinc	mg/L	0.03	0.005	<0.005	0.027	<0.005	<0.005	<0.005	0.024	0.009	<0.005	<0.005					
Cyanide	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
Turbidity	NTU	-	5.2	4.7	2.8	0.9	6.9	0.8	2.9	6.3	2.2	1.6					
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1
			22-Oct-20	26-Apr-21	15-Jun-21	10-Aug-21	12-Oct-21	26-Apr-22	21-Jun-22	24-Aug-22	17-Oct-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24
pH -Lab	pH units	6.5-8.5	8.15	8.12	9.01	7.99	7.52	7.83	8.14	8.15	8.11	7.97	7.45	7.2	7.35	8.12	8.66
Conductivity	uS/cm	-															
BOD	mg/L	-															
COD	mg/L	-															
Total Dissolved Solids	mg/L	-															
Total Suspended Solids	mg/L	-	5	4	6	9	< 3	< 3	< 3	3	4	<3	4	8	3	<3	6
Alkalinity	mg/L	-															
Hardness	mg/L	-															
Ammonia	mg/L	-	0.04	0.04	0.03	0.03	0.07	0.15	0.02	0.01	0.03	0.37	0.12	0.11	0.07	0.17	<0.05
Un-ionized Ammonia	mg/L	0.02															
Calcium	mg/L	-															
Chloride	mg/L	-				42.5											
DOC	mg/L	-															
Fluoride	mg/L	-															
Iron	mg/L	0.3	0.052	0.094	0.041		0.114	0.041	0.062	0.021	0.025	0.059	0.12	0.026	0.045	0.068	0.05
Magnesium	mg/L	-															
Manganese	mg/L	-															
Nitrate	mg/L	-				0.06											
Nitrite	mg/L	-				< 0.05											
TKN	mg/L	-															
Sodium	mg/L	-															
Sulphate	mg/L	-				< 1											
Phenols	mg/L	0.001															
Phosphorus	mg/L	0.03															
Potassium	mg/L	-															
Aluminum	mg/L	0.075															
Antimony	mg/L	-															
Arsenic	mg/L	0.1															
Barium	mg/L	-															
Beryllium	mg/L	1.1															
Boron	mg/L	0.2															
Cadmium	mg/L	0.0002															
Chromium	mg/L	0.1															
Cobalt	mg/L	0.0006															
Copper	mg/L	0.005															
Lead	mg/L	0.025															
Mercury	mg/L	-															
Molybdenum	mg/L	0.04															
Nickel	mg/L	0.025															
Selenium	mg/L	-															
Silver	mg/L	0.0001															
Strontium	mg/L	-															
Thallium	mg/L	-															
Vanadium	mg/L	-															
Zinc	mg/L	0.03															
Cyanide	mg/L	0.005															
Turbidity	NTU	-			1.8	2.7	1.8			0		1.3	1.7	1.6	1.8	1.8	1
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1	Near shore #1F	Near shore #1F	Near shore #1F	Near Shore #1F	Near shore #1F	Near shore #1F	Near shore #1F	Near shore #1F	Near shore #1F
			15-Aug-24	10-Oct-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25	25-Apr-19	12-Aug-19	8-Oct-19	24-Jun-20	22-Oct-20	26-Apr-21	15-Jun-21	12-Oct-21	26-Apr-22
pH -Lab	pH units	6.5-8.5	8.06	7.77	8.12	8.77	8.23	7.85									0
Conductivity	uS/cm	-															
BOD	mg/L	-															
COD	mg/L	-															
Total Dissolved Solids	mg/L	-															
Total Suspended Solids	mg/L	-	3	<3	4	<3	3	<3									
Alkalinity	mg/L	-															
Hardness	mg/L	-										173					
Ammonia	mg/L	-	0.33	0.1	0.16	0.07	<0.05	0.09									
Un-ionized Ammonia	mg/L	0.02															
Calcium	mg/L	-										53.9					
Chloride	mg/L	-															
DOC	mg/L	-															
Fluoride	mg/L	-															
Iron	mg/L	0.3	0.02	0.031	0.078	0.164	0.009	0.037	0.039	0.03	0.047	0.024	0.036	0.033	0.03	0.045	0.032
Magnesium	mg/L	-										9.21					
Manganese	mg/L	-										0.055					
Nitrate	mg/L	-															
Nitrite	mg/L	-															
TKN	mg/L	-															
Sodium	mg/L	-										24.6					
Sulphate	mg/L	-															
Phenols	mg/L	0.001															
Phosphorus	mg/L	0.03										< 0.1					
Potassium	mg/L	-										0.6					
Aluminum	mg/L	0.075										0.03					
Antimony	mg/L	-										< 0.0001					
Arsenic	mg/L	0.1										0.0004					
Barium	mg/L	-										0.028					
Beryllium	mg/L	1.1										< 0.002					
Boron	mg/L	0.2										0.022					
Cadmium	mg/L	0.0002										< 0.000015					
Chromium	mg/L	0.1										< 0.001					
Cobalt	mg/L	0.0006										< 0.005					
Copper	mg/L	0.005										0.0006					
Lead	mg/L	0.025										0.00008					
Mercury	mg/L	-															
Molybdenum	mg/L	0.04										0.0002					
Nickel	mg/L	0.025										< 0.01					
Selenium	mg/L	-										< 0.001					
Silver	mg/L	0.0001										< 0.0001					
Strontium	mg/L	-										0.183					
Thallium	mg/L	-										< 0.005					
Vanadium	mg/L	-										0.0004					
Zinc	mg/L	0.03										< 0.005					
Cyanide	mg/L	0.005															
Turbidity	NTU	-	0.7	1.4	1.4	1.7	0.6	1				0					
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	Near shore #1F	Near shore #1F	Near shore #1F	Near shore #1F	Near shore #1F	Near shore #1F	Near shore #1F	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near Shore #2	Near shore #2	Near shore #2	Near shore #2
			21-Jun-22	24-Aug-22	17-Oct-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-19	12-Aug-19	8-Oct-19	27-Apr-20	24-Jun-20	22-Oct-20	26-Apr-21	15-Jun-21
pH -Lab	pH units	6.5-8.5	0	0	0					8.03	7.93	8.07	8.04	8.14	8.01	7.99	9.29
Conductivity	uS/cm	-															
BOD	mg/L	-															
COD	mg/L	-															
Total Dissolved Solids	mg/L	-															
Total Suspended Solids	mg/L	-								8	< 3	4	3	8	5	4	4
Alkalinity	mg/L	-															
Hardness	mg/L	-															
Ammonia	mg/L	-								0.07	0.05	0.09	0.08	0.05	0.05	0.06	0.05
Un-ionized Ammonia	mg/L	0.02															
Calcium	mg/L	-															
Chloride	mg/L	-															
DOC	mg/L	-															
Fluoride	mg/L	-															
Iron	mg/L	0.3	0.029	< 0.005	< 0.005	0.021	0.035	<0.005	0.014	0.084	0.054	0.033	0.063	0.091	0.078	0.058	0.077
Magnesium	mg/L	-															
Manganese	mg/L	-															
Nitrate	mg/L	-															
Nitrite	mg/L	-															
TKN	mg/L	-															
Sodium	mg/L	-															
Sulphate	mg/L	-															
Phenols	mg/L	0.001															
Phosphorus	mg/L	0.03															
Potassium	mg/L	-															
Aluminum	mg/L	0.075															
Antimony	mg/L	-															
Arsenic	mg/L	0.1															
Barium	mg/L	-															
Beryllium	mg/L	1.1															
Boron	mg/L	0.2															
Cadmium	mg/L	0.0002															
Chromium	mg/L	0.1															
Cobalt	mg/L	0.0006															
Copper	mg/L	0.005															
Lead	mg/L	0.025															
Mercury	mg/L	-															
Molybdenum	mg/L	0.04															
Nickel	mg/L	0.025															
Selenium	mg/L	-															
Silver	mg/L	0.0001															
Strontium	mg/L	-															
Thallium	mg/L	-															
Vanadium	mg/L	-															
Zinc	mg/L	0.03															
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2	Near shore #2
			12-Oct-21	26-Apr-22	21-Jun-22	24-Aug-22	17-Oct-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25	17-Jun-25
pH -Lab	pH units	6.5-8.5	7.88	8.05	7.75	8.22	7.78	7.87	8.23	8.36	7.74	8.06	8.15	8.66	8.03	8	9.44
Conductivity	uS/cm	-															
BOD	mg/L	-															
COD	mg/L	-															
Total Dissolved Solids	mg/L	-															
Total Suspended Solids	mg/L	-	6	< 3	4	< 3	3	<3	7	<3	12	8	<3	10	4	3	<3
Alkalinity	mg/L	-															
Hardness	mg/L	-															
Ammonia	mg/L	-	0.04	0.12	0.02	< 0.01	< 0.01	0.07	0.18	<0.05	0.14	0.15	0.85	<0.05	0.08	0.07	<0.05
Un-ionized Ammonia	mg/L	0.02															
Calcium	mg/L	-															
Chloride	mg/L	-															
DOC	mg/L	-															
Fluoride	mg/L	-															
Iron	mg/L	0.3	0.123	0.075	0.148	0.051	0.059	0.064	0.18	0.021	0.1	0.076	0.047	0.033	0.048	0.089	0.06
Magnesium	mg/L	-															
Manganese	mg/L	-															
Nitrate	mg/L	-															
Nitrite	mg/L	-															
TKN	mg/L	-															
Sodium	mg/L	-															
Sulphate	mg/L	-															
Phenols	mg/L	0.001															
Phosphorus	mg/L	0.03															
Potassium	mg/L	-															
Aluminum	mg/L	0.075															
Antimony	mg/L	-															
Arsenic	mg/L	0.1															
Barium	mg/L	-															
Beryllium	mg/L	1.1															
Boron	mg/L	0.2															
Cadmium	mg/L	0.0002															
Chromium	mg/L	0.1															
Cobalt	mg/L	0.0006															
Copper	mg/L	0.005															
Lead	mg/L	0.025															
Mercury	mg/L	-															
Molybdenum	mg/L	0.04															
Nickel	mg/L	0.025															
Selenium	mg/L	-															
Silver	mg/L	0.0001															
Strontium	mg/L	-															
Thallium	mg/L	-															
Vanadium	mg/L	-															
Zinc	mg/L	0.03															
Cyanide	mg/L	0.005															
Turbidity	NTU	-						1.1	1.1	1	8.6	1.2	0.7	2.3	1	1	0.8
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	Near shore #2	Near shore #2	Near shore #2F	Near shore #2F	Near shore #2F	Near Shore #2F	Near shore #2F	Near shore #2F	Near shore #2F	Near shore #2F	Near shore #2F	Near shore #2F	Near shore #2F	Near shore #2F	Near shore #2F
			21-Aug-25	9-Oct-25	25-Apr-19	12-Aug-19	8-Oct-19	24-Jun-20	22-Oct-20	26-Apr-21	15-Jun-21	12-Oct-21	26-Apr-22	21-Jun-22	24-Aug-22	17-Oct-22	24-Apr-23
pH -Lab	pH units	6.5-8.5	8.61	7.8									0	0	0	0	
Conductivity	uS/cm	-															
BOD	mg/L	-															
COD	mg/L	-															
Total Dissolved Solids	mg/L	-															
Total Suspended Solids	mg/L	-	5	6													
Alkalinity	mg/L	-															
Hardness	mg/L	-						151									
Ammonia	mg/L	-	<0.05	0.08													
Un-ionized Ammonia	mg/L	0.02															
Calcium	mg/L	-						46.9									
Chloride	mg/L	-															
DOC	mg/L	-															
Fluoride	mg/L	-															
Iron	mg/L	0.3	0.022	0.051	0.053	0.027	0.038	0.027	0.044	0.033	0.048	0.038	0.042	0.069	0.015	< 0.005	0.031
Magnesium	mg/L	-						8.33									
Manganese	mg/L	-						0.009									
Nitrate	mg/L	-															
Nitrite	mg/L	-															
TKN	mg/L	-															
Sodium	mg/L	-						27.4									
Sulphate	mg/L	-															
Phenols	mg/L	0.001															
Phosphorus	mg/L	0.03						< 0.1									
Potassium	mg/L	-						0.3									
Aluminum	mg/L	0.075						0.03									
Antimony	mg/L	-						< 0.0001									
Arsenic	mg/L	0.1						0.0003									
Barium	mg/L	-						0.027									
Beryllium	mg/L	1.1						< 0.002									
Boron	mg/L	0.2						0.035									
Cadmium	mg/L	0.0002						< 0.000015									
Chromium	mg/L	0.1						< 0.001									
Cobalt	mg/L	0.0006						< 0.005									
Copper	mg/L	0.005						0.0006									
Lead	mg/L	0.025						0.00005									
Mercury	mg/L	-															
Molybdenum	mg/L	0.04						0.0001									
Nickel	mg/L	0.025						< 0.01									
Selenium	mg/L	-						< 0.001									
Silver	mg/L	0.0001						< 0.0001									
Strontium	mg/L	-						0.186									
Thallium	mg/L	-						< 0.005									
Vanadium	mg/L	-						0.0002									
Zinc	mg/L	0.03						< 0.005									
Cyanide	mg/L	0.005															
Turbidity	NTU	-	2.4	1.2													
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Near shore #2F	Near shore #2F	Near shore #2F	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down
			8-Jun-23	16-Aug-23	5-Oct-23	28-Apr-16	14-Jun-16	9-Aug-16	12-Oct-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	9-May-18	26-Jun-18	28-Aug-18	10-Oct-18
pH -Lab	pH units	6.5-8.5				8.37	8.81	8.55	8.22	8.31	8.07	8.14	8.13	8.18	8.7	8.15	8.08
Conductivity	uS/cm	-				500	382	416	504	477	486	424	430	424	410	422	555
BOD	mg/L	-				< 2	3	< 3	< 3	<3	<3	<3	<3	< 3	< 3	3	3
COD	mg/L	-				26	35	31	29	22	34	31	29	31	33	37	35
Total Dissolved Solids	mg/L	-				264	201	211	254	242	254	208	213	238	222	226	285
Total Suspended Solids	mg/L	-				6	< 3	3	3	6	8	3	6	12	6	7	3
Alkalinity	mg/L	-				183	91	80	122	157	169	139	129	156	84	128	162
Hardness	mg/L	-				211	123	108	160	195	222	174	155	196	110	162	220
Ammonia	mg/L	-				0.07	0.03	0.03	0.07	0.05	0.11	0.05	0.3	0.07	0.38	0.21	0.3
Un-ionized Ammonia	mg/L	0.02				0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	0.02
Calcium	mg/L	-				70.1	33.8	26.9	44	59.9	73.3	48.9	47.2	66.3	32.4	52.6	68.6
Chloride	mg/L	-				36.5	56.9	70	69.2	36.2	32.8	35.5	40.3	37.4	69.7	46.6	57.4
DOC	mg/L	-				8.4	9.3	8	8	9.1	11.1	10.6	8.5	8.2	10.1	9.4	10.4
Fluoride	mg/L	-				0.2	0.1	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.057	0.008	0.025	0.062	0.074	0.01	0.011	0.086	0.4	0.032	0.064	0.159	0.055	0.081	0.071
Magnesium	mg/L	-				8.75	9.32	9.82	12.1	8.21	9.38	8.63	8.91	8.88	9.61	10.5	11.7
Manganese	mg/L	-				0.04	0.018	0.024	0.026	0.027	0.054	0.019	0.018	0.045	0.023	0.04	0.023
Nitrate	mg/L	-				0.9	< 0.1	< 0.1	0.1	1	1.04	< 0.05	0.14	0.36	0.06	< 0.05	0.23
Nitrite	mg/L	-				< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-				0.8	0.8	1.1	1	0.7	1.5	0.7	1	0.9	1.3	1.1	1.1
Sodium	mg/L	-				20.2	31.8	38.1	42.7	19	24.7	20	23.4	20.7	43.8	26.9	34.5
Sulphate	mg/L	-				13	13	16	20	18	11	10	13	11	14	11	16
Phenols	mg/L	0.001				< 0.001	< 0.001	0.002	0.007	0.002	0.02	0.006	0.005	< 0.001	< 0.001	< 0.002	< 0.002
Phosphorus	mg/L	0.03				0.02	0.03	0.03	0.03	0.01	0.1	0.03	0.03	0.06	0.04	0.05	0.02
Potassium	mg/L	-				2	0.6	1.6	3.5	1.6	1.1	0.9	2.5	2.1	1.2	1.8	2.8
Aluminum	mg/L	0.075				0.04	0.03	0.02	0.02	0.06	0.27	0.03	0.06	0.11	0.03	0.06	0.06
Antimony	mg/L	-				< 0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	0.0003	0.0002	0.0001	0.0003	0.0002	0.0001	0.0002
Arsenic	mg/L	0.1				0.0003	0.0002	0.0004	0.0006	0.0004	0.0006	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
Barium	mg/L	-				0.023	0.012	0.027	0.034	0.028	0.055	0.034	0.033	0.047	0.036	0.049	0.055
Beryllium	mg/L	1.1				< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2				< 0.005	0.021	0.026	0.034	0.007	0.019	0.018	0.017	0.01	0.025	0.03	0.022
Cadmium	mg/L	0.0002				< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000014	0.000056	< 0.000015	< 0.000015	< 0.000015	0.000036
Chromium	mg/L	0.1				< 0.0002	0.0011	0.0005	0.0003	< 0.0015	< 0.001	< 0.001	0.001	< 0.001	< 0.001	0.001	0.001
Cobalt	mg/L	0.0006				< 0.005	< 0.005	< 0.005	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0001
Copper	mg/L	0.005				0.0015	0.0002	0.0004	0.0004	0.0001	0.0011	0.0003	0.0069	0.0009	0.0009	0.0003	0.0057
Lead	mg/L	0.025				0.00027	0.00038	0.00005	0.00007	0.00022	0.00081	0.00011	0.00058	0.00082	0.00016	0.00022	0.00041
Mercury	mg/L	-				< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04				0.0003	0.0003	0.0002	0.0002	0.0005	0.0004	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003
Nickel	mg/L	0.025				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001				0.00006	0.00019	< 0.00002	0.00007	0.00018	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-				0.205	0.154	0.141	0.191	0.172	0.254	0.166	0.134	0.2	0.166	0.207	0.241
Thallium	mg/L	-				< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-				0.0005	0.0006	0.0007	0.0003	0.0005	0.0008	0.0003	0.0004	0.0007	0.0006	0.0005	0.0004
Zinc	mg/L	0.03				< 0.005	< 0.005	< 0.005	< 0.005	0.142	0.098	0.005	< 0.005	0.021	0.021	0.024	0.02
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Scg-Down	Scg-Down	ScG-Down	ScG-Down	ScG-Down	ScG-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down
			25-Apr-19	18-Jul-19	12-Aug-19	8-Oct-19	27-Apr-20	24-Jun-20	10-Aug-20	22-Oct-20	26-Apr-21	15-Jun-21	10-Aug-21	12-Oct-21	26-Apr-22	21-Jun-22	24-Aug-22
pH -Lab	pH units	6.5-8.5	8.17	8.15	7.99	8.01	8	7.87	8.03	8.15	8.22	7.88	8.1	7.81	7.87	8.2	8.01
Conductivity	uS/cm	-	459	478	329	501	540	444	434	512	549	465	387	405	614	412	525
BOD	mg/L	-	< 3	4	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
COD	mg/L	-	32	38	33	27	26	28	33	18	29	43	41	42	32	32	34
Total Dissolved Solids	mg/L	-	231	236	167	259	279	238	223	273	293	248	203	216	307	227	267
Total Suspended Solids	mg/L	-	7	8	7	4	13	3	6	8	10	6	15	17	11	10	4
Alkalinity	mg/L	-	167	113	85	128	182	96	82	168	193	118	117	122	195	147	120
Hardness	mg/L	-	208	152	108	157	250	137	130	229	225	162	149	141	226	177	146
Ammonia	mg/L	-	0.09	0.05	0.06	0.3	0.1	0.12	0.01	0.07	0.14	0.69	0.09	0.19	0.58	0.15	1.18
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.03	< 0.01	< 0.01	0.02	0.02	0.06
Calcium	mg/L	-	68.7	44.2	32.1	47.1	76.1	42.1	37	66.5	75	40.3	38.9	41.6	75.8	57.6	42.5
Chloride	mg/L	-	27.7	60.7	45.1	71.1	44.2	70.3	73.4	49.1	47.8	71.6	46.5	51.6	61.5	38	80.7
DOC	mg/L	-	9.4	9.3	9.7	8.7	7.6	8	7.9	9.4	8.7	10.3	9.9	6.6	8.2	12.8	6.3
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.079	0.07	0.037	0.036	0.125	0.125	0.079	0.057	0.089	0.12	0.135	0.151	0.12	0.113	0.066
Magnesium	mg/L	-	6.36	7.89	6.75	9.63	7.8	10.4	9.18	11.6	8.72	9.64	8.99	9.02	8.92	8.5	9.73
Manganese	mg/L	-	0.014	0.042	0.02	0.014	0.046	0.058	0.033	0.013	0.027	0.054	0.074	0.05	0.033	0.03	0.045
Nitrate	mg/L	-	2.04	< 0.05	0.06	< 0.05	2.1	0.09	0.08	0.15	1.13	0.08	0.06	0.12	1.31	0.48	0.09
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	0.9	1.1	0.8	1	0.8	1.1	1	0.8	1.1	2.3	1.2	1.2	1	1	2.5
Sodium	mg/L	-	13.4	40.9	23.9	38	20	38.4	36.3	24.9	24.3	35.5	24	23.2	24.6	21.7	42.5
Sulphate	mg/L	-	12	12	8	11	20	18	16	17	19	17	12	15	16	11	13
Phenols	mg/L	0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	0.03	0.02	0.05	0.03	0.03	0.04	0.06	0.03	0.02	0.08	0.11	0.06	0.06	0.04	0.04	0.05
Potassium	mg/L	-	2.2	2.5	0.3	4.7	1.7	1.7	1.3	2.5	2	2.3	1.6	2.4	2.1	1.4	2.4
Aluminum	mg/L	0.075	0.05	0.03	0.02	0.04	0.05	0.02	0.03	0.06	0.05	0.04	0.01	0.03	0.05	0.04	< 0.01
Antimony	mg/L	-	0.0005	0.0001	0.0001	0.0001	< 0.0001	0.0004	0.0004	0.0005	0.0004	0.0005	0.0004	0.0004	0.0004	0.0003	0.0003
Arsenic	mg/L	0.1	0.0002	0.0004	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003	0.0003	0.0006	0.0004	0.0003	0.0003	0.0004	0.0004
Barium	mg/L	-	0.034	0.034	0.022	0.036	0.03	0.039	0.043	0.046	0.038	0.025	0.032	0.033	0.041	0.032	0.032
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.007	0.029	0.02	0.03	0.009	0.103	0.11	0.017	0.013	0.026	< 0.005	0.013	0.015	0.01	0.023
Cadmium	mg/L	0.0002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.000016	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.1	0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001
Cobalt	mg/L	0.0006	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0002	0.0001	< 0.0001	< 0.0001	< 0.0001
Copper	mg/L	0.005	0.0011	0.0009	0.0007	0.0007	0.0014	0.0003	0.0002	0.0006	0.0006	0.0007	0.0005	0.0004	0.0007	0.0005	0.0004
Lead	mg/L	0.025	0.00014	0.00025	0.00018	0.00012	0.00046	0.00016	0.00009	0.00014	0.0003	0.0004	0.00046	0.00036	0.00033	0.00033	0.00015
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0004	0.0006	0.0003	0.0003	0.0005	0.0003	0.0004	0.0005	0.0004	0.0005	0.0004	0.0002	0.0004	0.0003	0.0003
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.172	0.165	0.127	0.172	0.194	0.185	0.167	0.213	0.212	0.159	0.155	0.153	0.22	0.186	0.187
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0005	0.0004	0.0005	0.0002	0.0006	0.0005	0.0004	0.0004	0.0006	0.0006	0.0007	0.0005	0.0005	0.0006	0.0004
Zinc	mg/L	0.03	0.012	0.009	< 0.005	< 0.005	0.005	0.014	0.019	0.005	0.005	0.017	0.015	0.017	< 0.005	< 0.005	< 0.005
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down	Scg-Down (Dup)	Scg-Down
			17-Oct-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25	28-Apr-25	17-Jun-25	21-Aug-25	21-Aug-25	9-Oct-25
pH -Lab	pH units	6.5-8.5	7.94	8.15	7.92	7.44	7.73	8.18	7.38	7.53	8.07	8.2	8.14	7.64	8.05	8.07	7.84
Conductivity	uS/cm	-	502	538	424	447	539	519	446	483	462	489	485	504	485	484	595
BOD	mg/L	-	< 3	< 3	< 3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
COD	mg/L	-	19	19	< 5	33	32	30	34	33	30	24	23	30	33	36	39
Total Dissolved Solids	mg/L	-	268	283	216	250	295	288	241	267	255	270	264	263	236	234	300
Total Suspended Solids	mg/L	-	3	3	< 3	3	3		5	<3	<3	12	11	6	<3	<3	3
Alkalinity	mg/L	-	163	188	126	132	125	205	136	206	145	176	174	147	111	111	148
Hardness	mg/L	-	194	225	144	155	151	238	177	226	192	218	207	178	140	134	166
Ammonia	mg/L	-	0.26	0.2	0.15	1.58	0.07	0.1	0.85	0.1	0.19	0.23	0.22	0.06	0.07	0.06	0.32
Un-ionized Ammonia	mg/L	0.02	0.01	< 0.01	0.02	0.21	<0.01	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Calcium	mg/L	-	55.9	71.3	39.3	47.2	41.8	80.3	54.7	76.6	59.2	71.3	68	55.2	38.4	37.2	48.5
Chloride	mg/L	-	56	49	50.7	56.6	96.4	33.8	49.1	27.7	52.6	42	42.7	60	73.2	73.9	87.6
DOC	mg/L	-	5.2	8	4.9	7.7	2.5	8	9	12.3	9.6	12.4	11.9	7.6	16.5	17.5	8.6
Fluoride	mg/L	-	< 0.1	< 0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Iron	mg/L	0.3	0.066	0.08	0.091	0.053	0.032	0.076	0.07	0.077	0.3	0.124	0.114	0.09	0.023	0.023	0.024
Magnesium	mg/L	-	11.6	8.3	8.48	9.02	11.3	8.99	9.66	8.45	10.8	9.67	9.02	9.7	10.6	10	10.9
Manganese	mg/L	-	0.014	0.032	0.026	0.071	0.037	0.038	0.026	0.016	0.02	0.073	0.052	0.038	0.023	0.022	0.028
Nitrate	mg/L	-	0.43	1.23	0.14	0.21	0.31	1.7	0.19	0.24	0.11	0.92	0.93	0.54	<0.05	<0.05	0.16
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TKN	mg/L	-	1.1	0.9	1	0.9	0.5	0.7	1.1	0.9	0.9	0.9	0.9	1	0.9	1	1.3
Sodium	mg/L	-	28.3	24.2	26.9	33	46.7	18.4	29.4	16.1	29.3	23.1	21.8	33.6	34.3	33.1	41.5
Sulphate	mg/L	-	15	15	13	13	16	14	13	11	12	11	11	12	11	11	17
Phenols	mg/L	0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	0.03	0.03	0.04	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.03	0.03	0.04	0.03	0.02	0.04
Potassium	mg/L	-	2.3	2.2	0.8	2.4	6.8	2.1	1.4	2.6	3.4	2.5	2.2	1.8	2.6	2.5	5.3
Aluminum	mg/L	0.075	0.02	0.03	0.02	0.04	0.02	0.05	0.03	0.03	0.03	0.08	0.07	0.07	0.03	0.03	0.04
Antimony	mg/L	-	0.0004	0.0004	0.0004	0.0002	0.0007	0.0003	0.0004	0.0004	0.0004	0.0004	0.0002	0.0006	0.0009	0.0009	0.0005
Arsenic	mg/L	0.1	0.0003	0.0003	0.0004	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0004	0.0004	0.0003
Barium	mg/L	-	0.04	0.035	0.018	0.036	0.033	0.035	0.032	0.047	0.039	0.038	0.036	0.032	0.037	0.036	0.043
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	0.2	0.02	0.013	0.016	0.026	0.042	0.011	0.014	0.018	0.018	0.013	0.011	0.018	0.024	0.023	0.029
Cadmium	mg/L	0.0002	< 0.000015	< 0.000015	< 0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.1	< 0.001	0.002	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0006	< 0.0001	0.0001	< 0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	<0.0001	<0.0001	0.0002
Copper	mg/L	0.005	0.0006	0.0006	0.0004	0.001	0.0009	0.0006	0.0006	0.0005	0.0006	0.0006	0.0005	0.0007	0.0006	0.0005	0.0006
Lead	mg/L	0.025	0.00014	0.00019	0.00024	0.00013	0.00007	0.00014	0.00015	0.00011	0.00013	0.00026	0.00033	0.0002	0.00008	0.00006	0.00007
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04	0.0003	0.0003	0.0004	0.0004	0.0008	0.0003	0.0003	0.0003	0.0003	0.0002	0.0002	0.0003	0.0004	0.0004	0.0005
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	0.0006	0.0007	0.0005	0.0006	0.0003	0.0003	0.0006	0.0005	0.0007	0.0006	0.0006	0.0006
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	-	0.216	0.208	0.153	0.174	0.193	0.219	0.194	0.23	0.199	0.204	0.191	0.201	0.165	0.157	0.187
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	-	0.0003	0.0005	0.0005	0.0003	0.0003	0.0005	0.0004	0.0003	0.0003	0.0005	0.0004	0.0005	0.0004	0.0003	0.0003
Zinc	mg/L	0.03	< 0.005	< 0.005	< 0.005	0.014	<0.005	0.009	<0.005	0.057	0.008	0.076	0.008	0.008	<0.005	<0.005	<0.005
Cyanide	mg/L	0.005		< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Turbidity	NTU	-		3.3	3.7	2.8	1.6	2.9	2.4	1.5	1.7	6.3	6.6	3.9	1.6	2.6	1.4
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	Scg-Down (Dup)	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up
			9-Oct-25	28-Apr-16	14-Jun-16	9-Aug-16	12-Oct-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	1-Mar-18	23-Apr-18	9-May-18	26-Jun-18	28-Aug-18	10-Oct-18
pH -Lab	pH units	6.5-8.5	7.89	8.39	8.43	8.02	8.22	8.24	8.17	8.09	8.08	8.23	8.41	8.16	8.12	8.03	8.11
Conductivity	uS/cm	-	596	480	409	368	476	465	471	391	388	528	506	414	423	356	457
BOD	mg/L	-	<3	<2	6	<3	<3	<2	<3	<3	<3	<3	<3	<3	<3	<2	2
COD	mg/L	-	30	24	21	34	26	26	33	35	34	10	12	34	25	32	39
Total Dissolved Solids	mg/L	-	306	257	214	185	244	235	240	207	207	278	263	231	223	199	238
Total Suspended Solids	mg/L	-	<3	<3	5	5	<3	4	3	4	6	3	3	7	6	22	<3
Alkalinity	mg/L	-	149	182	122	117	154	155	186	134	117	230	228	156	129	103	168
Hardness	mg/L	-	173	218	149	140	199	192	212	168	175	270	230	188	152	130	210
Ammonia	mg/L	-	0.32	0.06	0.05	0.04	0.07	0.04	0.05	0.03	0.06	0.03	0.03	0.05	0.03	0.12	0.04
Un-ionized Ammonia	mg/L	0.02	0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Calcium	mg/L	-	50.5	72.1	43.9	37.6	56.2	57	69.8	57.8	52.6	90.8	84.4	61	43.4	51.8	64.1
Chloride	mg/L	-	87.2	31.1	47.1	35.8	42.8	35	24.7	30.1	37	15.1	12.3	34.9	51.4	41	35.3
DOC	mg/L	-	9	8.3	8.7	8.9	9	8.2	11.8	10.9	8.7	5	5.1	8.1	9.3	8	11.2
Fluoride	mg/L	-	<0.1	0.2	0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Iron	mg/L	0.3	0.025	0.056	0.194	0.088	0.068	0.044	0.109	0.149	0.077	0.041	0.031	0.121	0.067	0.547	0.068
Magnesium	mg/L	-	11.4	9.19	9.48	11.2	14.2	7.98	8.45	10.2	10.7	6.2	4.65	8.01	8.79	8.89	12
Manganese	mg/L	-	0.03	0.028	0.031	0.03	0.03	0.014	0.017	0.107	0.035	0.008	0.003	0.035	0.026	0.065	0.016
Nitrate	mg/L	-	0.16	0.9	0.1	<0.1	0.1	1	0.63	<0.05	0.06	1.84	2.79	0.55	<0.05	0.1	<0.05
Nitrite	mg/L	-	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TKN	mg/L	-	1.4	0.7	0.9	0.9	0.9	0.7	0.9	0.8	0.8	0.4	0.4	0.8	0.8	0.8	0.8
Sodium	mg/L	-	43.9	17.9	25.6	18.4	24.4	16.9	16.8	18.1	22.7	13.7	11.1	17.7	30.4	23.9	20.2
Sulphate	mg/L	-	17	12	14	12	20	19	8	9	12	12	12	10	11	9	10
Phenols	mg/L	0.001	<0.001	<0.001	<0.001	0.002	0.004	0.003	0.005	0.006	0.002	<0.001	<0.001	<0.001	<0.001	0.002	0.003
Phosphorus	mg/L	0.03	0.04	0.06	0.04	0.04	0.04	0.02	0.03	0.05	0.03	0.05	<0.01	0.04	0.03	0.06	0.03
Potassium	mg/L	-	5.6	1.9	0.7	0.2	2.5	1.4	0.5	1.2	2.1	1.4	1.5	1.9	0.8	1.9	2.2
Aluminum	mg/L	0.075	0.04	0.03	0.03	0.04	0.04	0.05	0.06	0.1	0.05	0.07	0.06	0.07	0.03	0.35	0.05
Antimony	mg/L	-	0.0004	<0.0001	0.0001	0.0003	0.0001	<0.0001	0.0002	0.0002	<0.0001	<0.0001	<0.0001	0.0003	0.0001	0.0003	<0.0001
Arsenic	mg/L	0.1	0.0003	0.0003	0.0003	0.0005	0.0005	0.0003	0.0005	0.0005	0.0005	0.0006	0.0002	0.0003	0.0006	0.0005	0.0004
Barium	mg/L	-	0.045	0.026	0.02	0.034	0.049	0.027	0.046	0.064	0.05	0.037	0.027	0.041	0.031	0.048	0.051
Beryllium	mg/L	1.1	<0.0001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Boron	mg/L	0.2	0.032	<0.005	0.014	0.013	0.017	0.006	0.011	0.016	0.019	0.006	0.007	0.009	0.013	0.029	0.012
Cadmium	mg/L	0.0002	<0.000015	<0.00002	<0.00002	<0.00002	<0.00002	<0.000014	<0.000014	0.000066	0.00006	<0.000014	<0.000014	<0.000015	<0.000015	0.000049	0.000033
Chromium	mg/L	0.1	0.001	<0.0002	0.0004	0.0005	0.0005	<0.001	<0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001	0.003	<0.001
Cobalt	mg/L	0.0006	0.0002	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.0001	0.0002	0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0003	<0.0001
Copper	mg/L	0.005	0.0008	0.0005	0.0004	0.0005	0.0008	<0.0001	0.0004	0.0056	0.0064	0.0004	0.0018	0.0007	0.0007	0.0029	0.0065
Lead	mg/L	0.025	0.00007	0.00008	0.00042	0.0003	0.00027	0.00003	0.00012	0.00063	0.00054	0.00004	0.00006	0.00033	0.0001	0.00169	0.00033
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04	0.0007	0.0003	0.0002	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0002
Nickel	mg/L	0.025	0.0014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	0.00002	0.00006	<0.00002	0.00009	0.00014	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	-	0.196	0.212	0.189	0.164	0.217	0.164	0.227	0.217	0.176	0.228	0.196	0.186	0.181	0.193	0.218
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	-	0.0003	0.0004	0.0006	0.0007	0.0003	0.0004	0.0005	0.0003	0.0004	0.0005	0.0004	0.0007	0.0005	0.0014	0.0003
Zinc	mg/L	0.03	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.092	0.041	0.031	<0.005	0.018	0.005	0.045	0.014
Cyanide	mg/L	0.005	<0.005														
Turbidity	NTU	-	1.4														
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up
			25-Apr-19	18-Jul-19	12-Aug-19	8-Oct-19	8-Oct-19	27-Apr-20	24-Jun-20	10-Aug-20	22-Oct-20	26-Apr-21	15-Jun-21	10-Aug-21	12-Oct-21	26-Apr-22	21-Jun-22
pH -Lab	pH units	6.5-8.5	8.19	7.98	8.09	7.96	7.99	8.11	7.96	8.07	8.16	8.22	8.06	8.15	7.97	7.97	8.09
Conductivity	uS/cm	-	449	417	442	418	420	508	414	428	485	508	423	391	376	544	381
BOD	mg/L	-	< 3	4	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	4	< 3	< 3	< 3	< 3
COD	mg/L	-	26	35	38	54	20	22	32	27	13	24	34	40	47	44	33
Total Dissolved Solids	mg/L	-	235	201	223	220	224	267	220	219	259	277	226	217	208	286	204
Total Suspended Solids	mg/L	-	8	7	4	3	3	4	6	6	5	3	9	11	21	6	11
Alkalinity	mg/L	-	164	131	153	133	132	182	114	114	185	181	126	125	115	208	132
Hardness	mg/L	-	204	167	183	165	175	251	161	172	247	224	178	161	141	242	162
Ammonia	mg/L	-	0.06	0.06	0.07	0.03	0.03	0.04	0.17	0.03	0.03	0.02	0.05	0.02	0.05	0.96	0.09
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.04	0.12
Calcium	mg/L	-	72.8	47.7	57.2	47.9	50.7	80.5	51.2	50.2	71.6	78.9	44.8	47.6	41.5	82.2	47.8
Chloride	mg/L	-	28.2	37.2	37.8	47.5	47.4	32.9	48.7	54.8	30.3	39.2	53.4	46	49.7	32.7	37.3
DOC	mg/L	-	9.4	9.9	11.1	8	7.8	8.3	8.9	8.8	8.6	9.2	11	9.7	6.5	8.9	12.3
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.173	0.107	0.092	0.075	0.076	0.071	0.235	0.161	0.055	0.088	0.187	0.151	0.101	0.106	0.09
Magnesium	mg/L	-	6.87	7.08	9.63	11.1	11.8	8.14	10.3	11.4	12.3	9.2	9.98	10.3	9.1	8.83	8
Manganese	mg/L	-	0.018	0.037	0.032	0.017	0.018	0.014	0.095	0.043	0.007	0.02	0.049	0.086	0.051	0.02	0.028
Nitrate	mg/L	-	1.96	< 0.05	0.08	< 0.05	< 0.05	2.26	0.16	0.09	0.24	1.26	0.08	0.05	0.09	1.79	0.36
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	0.2	0.9	0.8	0.6	0.6	0.5	1	1	0.6	0.8	1.2	1	1.2	1.3	1
Sodium	mg/L	-	13.8	22.2	18.2	21.1	22.5	14.8	24.9	20.3	14.5	20.4	26.3	24.6	22.4	17.5	19
Sulphate	mg/L	-	12	7	8	10	9	20	15	14	17	19	14	11	14	15	10
Phenols	mg/L	0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	0.03	0.02	0.05	0.02	0.04	0.03	0.03	0.07	0.04	0.01	0.12	0.1	0.04	0.05	0.03	0.05
Potassium	mg/L	-	2.3	1.2	0.3	2.3	2.4	1.5	1.1	0.5	2.1	1.9	1.2	1.8	2.2	1.8	1.2
Aluminum	mg/L	0.075	0.05	0.03	0.03	0.03	0.04	0.05	0.03	0.03	0.06	0.05	0.04	0.01	0.03	0.05	0.03
Antimony	mg/L	-	0.0001	0.0001	0.0002	< 0.0001	0.0001	0.0001	0.0005	0.0003	0.0003	0.0004	0.0004	0.0007	0.0003	0.0003	< 0.0001
Arsenic	mg/L	0.1	0.0002	0.0004	0.0005	0.0003	0.0003	0.0002	0.0005	0.0005	0.0002	0.0003	0.0006	0.0004	0.0003	0.0002	< 0.0001
Barium	mg/L	-	0.036	0.032	0.039	0.04	0.042	0.031	0.044	0.049	0.049	0.04	0.029	0.034	0.033	0.042	0.027
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.007	0.014	0.015	0.013	0.013	0.008	0.088	0.086	0.011	0.011	0.015	< 0.005	0.012	0.012	0.007
Cadmium	mg/L	0.0002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.1	< 0.001	< 0.001	< 0.001	0.002	0.002	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	0.001
Cobalt	mg/L	0.0006	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0002	0.0002	< 0.0001	< 0.0001
Copper	mg/L	0.005	0.0012	0.0016	0.0009	0.0009	0.0008	0.0011	0.0005	0.0005	0.0003	0.0007	0.0008	0.0004	0.0003	0.0007	0.0001
Lead	mg/L	0.025	0.00016	0.00055	0.0004	0.00013	0.00017	0.00011	0.00025	0.0003	0.00008	0.00023	0.00045	0.00029	0.00034	0.00016	0.00002
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0004	0.0002	0.0002	0.0002	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002	0.0002	0.0003	< 0.0001
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.183	0.163	0.208	0.172	0.183	0.203	0.199	0.194	0.22	0.223	0.169	0.184	0.15	0.242	0.162
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0005	0.0005	0.0007	0.0002	0.0002	0.0005	0.0007	0.0007	0.0003	0.0004	0.0007	0.0006	0.0006	0.0005	< 0.0001
Zinc	mg/L	0.03	0.018	0.008	0.006	0.006	0.005	< 0.005	0.017	0.016	< 0.005	0.006	< 0.005	0.012	0.007	< 0.005	0.005
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	Scg-Up	SW1
			24-Aug-22	17-Oct-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25	20-Apr-16
pH -Lab	pH units	6.5-8.5	7.99	8.06	8.11	7.93	7.48	8.14	8.27	7.67	7.66	8.17	8.3	7.86	8.06	7.89	8.05
Conductivity	uS/cm	-	418	466	495	444	445	508	496	444	462	459	494	461	348	495	1100
BOD	mg/L	-	< 3	< 3	< 3	< 3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	4
COD	mg/L	-	26	23	21	19	26	29	35	31	34	27	20	30	25	25	106
Total Dissolved Solids	mg/L	-	214	248	260	227	234	287	271	244	255	250	270	243	169	256	645
Total Suspended Solids	mg/L	-	5	3	3	7	4	<3		4	<3	3	8	7	5	<3	352
Alkalinity	mg/L	-	127	185	179	159	141	207	180	155	202	159	181	173	100	156	311
Hardness	mg/L	-	154	213	196	173	154	225	216	195	234	194	222	194	113	181	463
Ammonia	mg/L	-	0.08	0.21	0.2	0.08	0.21	0.08	0.53	0.06	<0.05	0.35	0.23	0.05	<0.05	0.13	0.05
Un-ionized Ammonia	mg/L	0.02	< 0.01	0.01	< 0.01	< 0.01	0.01	<0.01	0.07	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	< 0.01
Calcium	mg/L	-	47.2	58.8	66.1	51.3	48	68.5	71.3	62.3	80.3	60.3	73.2	61.7	33.8	52.4	170
Chloride	mg/L	-	47.7	32.3	42.5	39	52.2	45.2	40.6	42.5	19.8	45.6	39	36.9	40.7	53.8	157
DOC	mg/L	-	7.2	7.3	5.4	5.3	7.8	2.3	7.1	9.5	13.4	9.9	10.4	9.1	13.4	9	3.8
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Iron	mg/L	0.3	0.183	0.059	0.07	0.133	0.087	0.089	0.127	0.079	0.06	0.05	0.054	0.195	0.1	0.073	2.45
Magnesium	mg/L	-	8.79	12.2	7.93	8.6	8.32	13.1	9.21	9.54	8.12	10.5	9.38	9.64	6.91	12.1	9.15
Manganese	mg/L	-	0.03	0.008	0.031	0.035	0.037	0.03	0.034	0.037	0.014	0.019	0.074	0.05	0.018	0.024	0.952
Nitrate	mg/L	-	0.09	0.08	0.97	0.1	0.12	0.11	1.14	0.19	0.1	0.09	1.08	0.27	0.1	<0.05	0.2
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.1
TKN	mg/L	-	0.8	0.8	0.8	1.2	0.9	0.8	1.3	0.8	0.8	1	0.9	0.9	0.7	0.9	0.7
Sodium	mg/L	-	26.4	14.4	19.8	20.5	26.3	20.7	21.9	23.2	11.9	23.8	20.8	19.9	19.5	24.8	95.4
Sulphate	mg/L	-	9	17	14	11	11	11	13	11	10	11	11	9	7	16	14
Phenols	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001
Phosphorus	mg/L	0.03	0.04	0.02	0.04	0.08	0.03	0.03	0.04	0.03	0.02	0.02	0.02	0.04	0.04	0.04	0.12
Potassium	mg/L	-	1.1	2.3	2	0.5	1.7	2.7	2.1	1	2.5	3.2	2.5	0.7	0.9	3	9.6
Aluminum	mg/L	0.075	0.01	0.02	0.02	0.02	0.04	0.03	0.08	0.03	0.03	0.03	0.06	0.05	0.09	0.04	1.05
Antimony	mg/L	-	0.0004	0.0004	0.0003	0.0004	0.0002	0.0004	0.0004	0.0004	0.0004	0.0003	0.0004	0.0005	0.0009	0.0004	< 0.0001
Arsenic	mg/L	0.1	0.0004	0.0003	0.0003	0.0004	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0002	0.0004	0.0004	0.0003	0.0007
Barium	mg/L	-	0.034	0.042	0.032	0.028	0.037	0.049	0.034	0.037	0.046	0.04	0.037	0.039	0.03	0.044	0.108
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.002
Boron	mg/L	0.2	0.009	0.009	0.01	0.011	0.013	0.016	0.01	0.011	0.016	0.013	0.011	0.012	0.012	0.015	0.009
Cadmium	mg/L	0.0002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.00012
Chromium	mg/L	0.1	< 0.001	< 0.001	0.002	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001
Cobalt	mg/L	0.0006	< 0.0001	0.0001	0.0001	< 0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0003	0.0001	0.0002	< 0.005
Copper	mg/L	0.005	0.0009	0.0004	0.0004	0.0005	0.0007	0.0008	0.0008	0.0005	0.0004	0.0003	0.0006	0.0004	0.0014	0.0007	0.0034
Lead	mg/L	0.025	0.00016	0.00008	0.00012	0.0003	0.00032	0.00014	0.00033	0.00013	0.00005	0.00007	0.00011	0.00016	0.00037	0.0001	0.00441
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00007	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002
Molybdenum	mg/L	0.04	0.0002	0.0002	0.0003	0.0003	0.0003	0.0001	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002	0.0001
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	0.0005	0.0008	0.0008	0.0006	0.0003	<0.0002	0.0007	0.0006	0.0006	0.0006	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.00002
Strontium	mg/L	-	0.187	0.214	0.185	0.176	0.168	0.247	0.2	0.206	0.234	0.197	0.206	0.213	0.13	0.198	0.416
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.00005
Vanadium	mg/L	-	0.0005	0.0003	0.0005	0.0006	0.0004	0.0003	0.0005	0.0004	0.0003	0.0004	0.0004	0.0005	0.0007	0.0003	0.0025
Zinc	mg/L	0.03	< 0.005	0.006	0.015	< 0.005	<0.005	<0.005	0.007	<0.005	<0.005	0.008	0.029	0.008	0.005	0.005	0.077
Cyanide	mg/L	0.005			< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Turbidity	NTU	-			3.5	6.4	3.8	1.9	5.4	2.5	1.2	1.8	2.7	5.7	3.3	1.3	
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1
			24-Apr-17	25-Apr-18	24-Apr-19	30-Apr-20	20-Apr-21	26-Apr-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25
pH -Lab	pH units	6.5-8.5	8.18	8.32	8.13	8.03	8.18	8.08	8.22	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Conductivity	uS/cm	-	1110	877	894	976	982	1120	964								
BOD	mg/L	-	<3	< 3	< 3	4	< 3	< 3	< 3								
COD	mg/L	-	15	24	33	21	8	28	12								
Total Dissolved Solids	mg/L	-	570	464	471	530	555	592	522								
Total Suspended Solids	mg/L	-	<3	6	4	14	36	53	8								
Alkalinity	mg/L	-	278	277	270	246	298	303	320								
Hardness	mg/L	-	318	283	293	289	339	327	342								
Ammonia	mg/L	-	< 0.01	0.03	0.22	0.03	0.02	0.28	0.02								
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01								
Calcium	mg/L	-	108	101	105	105	123	118	115								
Chloride	mg/L	-	170	107	109	145	132	166	121								
DOC	mg/L	-	4.3	7.1	7.7	4.4	4.8	3.2	3.3								
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1								
Iron	mg/L	0.3	0.023	0.093	0.081	0.238	0.075	0.609	0.258								
Magnesium	mg/L	-	6.45	7.52	6.49	6.41	7.61	7.86	7.58								
Manganese	mg/L	-	0.003	0.021	0.049	0.052	0.034	0.139	0.06								
Nitrate	mg/L	-	< 0.1	0.12	0.27	0.2	< 0.05	< 0.05	0.08								
Nitrite	mg/L	-	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05								
TKN	mg/L	-	0.5	0.7	1.1	0.6	0.4	0.8	1								
Sodium	mg/L	-	91.8	62.1	64.3	83	89	99.4	67								
Sulphate	mg/L	-	16	8	11	14	16	9	11								
Phenols	mg/L	0.001	< 0.001	< 0.001	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001								
Phosphorus	mg/L	0.03	0.01	0.08	0.07	0.05	0.07	0.04	0.05								
Potassium	mg/L	-	9.4	11.9	13.1	9.2	7.8	8.6	7.1								
Aluminum	mg/L	0.075	0.04	0.08	0.07	0.07	0.08	0.07	0.03								
Antimony	mg/L	-	0.0001	< 0.0001	0.0003	0.0004	0.0001	0.0003	0.0002								
Arsenic	mg/L	0.1	0.0009	0.0003	0.0003	0.0004	0.0002	0.0004	0.0004								
Barium	mg/L	-	0.055	0.053	0.053	0.056	0.06	0.063	0.057								
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002								
Boron	mg/L	0.2	0.013	0.012	0.007	0.013	0.013	0.017	0.017								
Cadmium	mg/L	0.0002	< 0.000014	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.000038								
Chromium	mg/L	0.1	< 0.0015	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002								
Cobalt	mg/L	0.0006	< 0.0001	< 0.0001	0.0003	0.0003	0.0001	0.0003	0.0002								
Copper	mg/L	0.005	0.0012	0.0012	0.0015	0.0013	0.0009	0.0013	0.0008								
Lead	mg/L	0.025	< 0.00002	0.0001	0.00006	0.0003	0.00007	0.00046	0.00026								
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002								
Molybdenum	mg/L	0.04	0.0004	0.0004	0.0005	0.0004	0.0003	0.0002	0.0002								
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01								
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001								
Silver	mg/L	0.0001	0.00047	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001								
Strontium	mg/L	-	0.273	0.264	0.246	0.255	0.302	0.321	0.295								
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005								
Vanadium	mg/L	-	0.0003	0.0003	0.0004	0.0006	0.0003	0.0006	0.0004								
Zinc	mg/L	0.03	< 0.005	0.019	0.011	0.022	0.019	0.008	0.009								
Cyanide	mg/L	0.005							< 0.005								
Turbidity	NTU	-							14.3								
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW1	SW1	SW1	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2
			17-Jun-25	21-Aug-25	9-Oct-25	20-Apr-16	25-May-16	8-Jun-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	25-Apr-18	28-Jun-18	22-Aug-18	9-Oct-18	24-Apr-19
pH -Lab	pH units	6.5-8.5	Dry	Dry	Dry	7.97	8.02	8.03	7.93	7.53	7.75	7.79	8.12	7.75	7.89	7.54	8.17
Conductivity	uS/cm	-				955	949	942	861	764	923	1020	867	1010	1090	1130	847
BOD	mg/L	-				< 2	3	3	<3	<3	<3	<3	< 3	< 3	< 2	2	< 3
COD	mg/L	-				5	13	23	11	13	9	7	28	< 5	13	6	24
Total Dissolved Solids	mg/L	-				552	541	546	467	397	486	534	477	576	597	602	452
Total Suspended Solids	mg/L	-				17	36	30	12	<3	5	8	4	4	25	< 3	3
Alkalinity	mg/L	-				335	347	369	272	281	296	298	315	319	294	286	307
Hardness	mg/L	-				423	433	431	330	294	369	383	304	362	369	417	372
Ammonia	mg/L	-				0.05	0.09	0.16	0.02	< 0.01	0.09	0.06	0.02	0.17	0.1	0.03	0.04
Un-ionized Ammonia	mg/L	0.02				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	mg/L	-				150	152	152	120	105	126	129	109	120	131	136	130
Chloride	mg/L	-				82	63.9	67.9	85.9	49	89.2	103	95.9	137	149	149	62.1
DOC	mg/L	-				3	3	4.1	3.7	5.4	3.1	2.7	8.2	1.9	2.1	2.6	11.3
Fluoride	mg/L	-				0.1	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3				0.432	1.72	2.09	0.191	0.081	0.071	0.114	0.069	0.058	0.412	0.078	0.058
Magnesium	mg/L	-				11.7	12.8	12.6	9.79	9.04	12.1	14.6	7.72	15	17.1	18.7	8.89
Manganese	mg/L	-				0.105	0.54	0.625	0.03	0.087	0.105	0.119	0.011	0.061	0.085	0.061	0.015
Nitrate	mg/L	-				0.1	0.2	0.2	1.4	1.05	0.6	0.55	1.17	0.97	0.35	0.46	5.03
Nitrite	mg/L	-				< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	< 0.05
TKN	mg/L	-				0.3	0.4	0.6	0.4	0.4	0.3	0.3	0.7	0.7	0.4	0.3	1.1
Sodium	mg/L	-				53.5	44.8	47.7	48.1	43.4	55.2	65.1	53.9	78.1	74	81.4	40.3
Sulphate	mg/L	-				50	54	39	32	20	23	41	15	32	47	49	21
Phenols	mg/L	0.001				< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.004	0.005	< 0.001	< 0.001	0.006	< 0.002	< 0.002
Phosphorus	mg/L	0.03				0.03	0.05	0.11	0.02	0.01	0.03	0.01	0.02	0.01	0.03	0.01	0.02
Potassium	mg/L	-				1.8	1.9	1.3	1.8	1.4	2.3	2.3	5.5	2.7	2.9	2.8	5.7
Aluminum	mg/L	0.075				0.13	0.13	0.27	0.21	0.06	0.08	0.08	0.08	0.08	0.22	0.07	0.06
Antimony	mg/L	-				< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0002	< 0.0001	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.1				0.0002	0.0004	0.0003	0.0004	0.0004	0.0004	0.0006	0.0003	0.0002	0.0003	0.0002	0.0003
Barium	mg/L	-				0.072	0.092	0.08	0.078	0.072	0.107	0.112	0.053	0.107	0.128	0.125	0.066
Beryllium	mg/L	1.1				< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2				0.011	0.033	0.022	0.015	0.024	0.032	0.035	0.016	0.03	0.034	0.034	0.013
Cadmium	mg/L	0.0002				< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	< 0.000014	0.000047	< 0.000015	0.000041	0.000119	< 0.000015	< 0.000015
Chromium	mg/L	0.1				0.0002	0.0004	0.0003	< 0.0015	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	0.002	0.001
Cobalt	mg/L	0.0006				< 0.005	< 0.005	< 0.005	0.0001	0.0002	0.0004	0.0002	< 0.0001	0.0005	0.0005	0.0002	0.0002
Copper	mg/L	0.005				0.0007	0.0014	0.001	0.0011	0.0019	0.0011	0.006	0.0022	0.0071	0.0092	0.0008	0.0025
Lead	mg/L	0.025				0.00025	0.00017	0.00089	0.00006	0.00004	0.00002	0.00035	0.00006	0.00029	0.00105	0.00004	0.00003
Mercury	mg/L	-				< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04				0.0001	0.0002	< 0.0001	0.0002	0.0002	0.0003	0.0003	0.0005	0.0003	0.0004	0.0003	0.0006
Nickel	mg/L	0.025				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001				< 0.00002	< 0.00002	< 0.00002	0.00038	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-				0.409	0.411	0.407	0.314	0.322	0.381	0.363	0.276	0.433	0.485	0.485	0.328
Thallium	mg/L	-				< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-				0.0003	0.0003	0.0006	0.0003	0.0001	< 0.0001	0.0001	0.0003	0.0002	0.0005	0.0002	0.0005
Zinc	mg/L	0.03				0.016	0.014	0.03	0.053	0.01	0.015	0.012	0.007	0.015	0.037	0.03	0.01
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2
			17-Jul-19	13-Aug-19	30-Apr-20	24-Jun-20	22-Oct-20	20-Apr-21	15-Jun-21	20-Oct-21	26-Oct-21	26-Apr-22	21-Jun-22	24-Aug-22	17-Oct-22	24-Apr-23	8-Jun-23
pH -Lab	pH units	6.5-8.5	7.74	8.05	7.88	7.83	8.09	8.06	7.72	7.88	7.97	8.18	7.6	7.69	7.81	8.05	7.79
Conductivity	uS/cm	-	967	968	883	1140	1110	923	1260	815	1160	946	1030	1250	1120	947	1190
BOD	mg/L	-	< 3	< 3	< 3	6	7	< 3	< 6	3	<2	< 3	< 3	17	< 3	< 3	11
COD	mg/L	-	9	14	10	21	< 5	< 5	< 5	74	62	17	21	28	11	10	566
Total Dissolved Solids	mg/L	-	501	532	481	661	621	522	702	461	689	521	536	673	659	517	634
Total Suspended Solids	mg/L	-	10	24	4	160	14	16	189	37	11	38	46	50	206	6	260
Alkalinity	mg/L	-	288	280	262	267	276	293	278	329	480	334	315	286	384	317	315
Hardness	mg/L	-	387	383	367	380	421	376	420	340	580	418	389	391	471	362	389
Ammonia	mg/L	-	0.07	0.05	< 0.01	0.25	0.02	0.03	0.1	0.04	0.07	0.92	0.03	0.2	0.06	0.04	1.47
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	0.02	< 0.01	< 0.01	< 0.01	< 0.01	0.02
Calcium	mg/L	-	127	130	128	183	141	130	143	150	220	150	133	130	169	122	133
Chloride	mg/L	-	97.4	121	97.1	180	166	107	213	39	66	78.6	115	201	102	108	179
DOC	mg/L	-	2.8	2.5	2.5	2	1.1	2.7	2.4	21.7	24.3	7.2	2.7	1.5	1.5	3.9	8.4
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.056	0.609	0.134	0.283	1.11	0.092	0.784	1.1	0.5	0.808	0.184	0.14	6.41	0.317	0.468
Magnesium	mg/L	-	12.8	14	11.5	16.1	16.7	12.3	15.3	10	16	10.4	13.9	16.1	13.9	9.9	14
Manganese	mg/L	-	0.087	0.144	0.035	0.688	0.134	0.025	0.107	0.13	0.19	0.043	0.049	0.082	0.908	0.049	0.07
Nitrate	mg/L	-	1	0.9	0.94	0.72	0.53	1.2	0.83	1.9	0.6	3.89	0.46	0.07	0.14	0.67	< 0.05
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.02	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	0.3	0.2	0.2	0.7	0.4	0.3	0.4	3	1.7	1.2	0.4	6	0.4	0.7	5
Sodium	mg/L	-	60.9	58.6	51.3	86.7	82.7	55.6	156	23	39	51.6	58.1	102	53.6	55.9	84.5
Sulphate	mg/L	-	27	37	32	31	44	33	37	39	55	24	27	48	81	28	30
Phenols	mg/L	0.001	0.004	< 0.002	< 0.002	< 0.001	< 0.002	< 0.002	< 0.002	0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	0.03	< 0.01	0.02	< 0.01	0.04	0.08	0.03	0.08	0.18	0.035	0.05	0.02	0.28	0.02	0.04	0.11
Potassium	mg/L	-	2.5	2.3	1.3	2.3	2.4	1.3	2.1	14	7.9	4.1	1.9	2.7	1.4	3	2.1
Aluminum	mg/L	0.075	0.07	0.06	0.08	0.07	0.05	0.09	0.09	0.73	0.16	0.07	0.04	0.04	0.05	0.03	0.04
Antimony	mg/L	-	0.0004	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0005	< 0.0005	0.0003	0.0004	0.0004	0.0007	0.0002	0.0003
Arsenic	mg/L	0.1	0.0002	0.0003	0.0001	0.0003	0.0005	0.0001	0.0003	< 0.001	< 0.001	0.0004	0.0002	0.0003	0.0007	0.0003	0.0002
Barium	mg/L	-	0.107	0.11	0.081	0.157	0.122	0.088	0.121	0.095	0.12	0.072	0.104	0.177	0.091	0.132	0.221
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0005	< 0.0005	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.028	0.031	0.015	0.107	0.037	0.015	0.027	0.04	0.05	0.025	0.021	0.027	0.026	0.023	0.021
Cadmium	mg/L	0.0002	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.0001	< 0.0001	< 0.000015	< 0.000015	< 0.000028	< 0.000028	< 0.000015	< 0.000015
Chromium	mg/L	0.1	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.005	< 0.005	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001
Cobalt	mg/L	0.0006	0.0002	0.0004	0.0002	0.0005	0.0005	0.0001	0.0006	0.0007	< 0.0005	0.0004	0.0002	0.0006	0.0011	0.0002	0.0002
Copper	mg/L	0.005	0.001	0.0015	0.001	0.0012	0.0012	0.0007	0.0019	0.005	0.003	0.0028	0.0012	0.0014	0.0014	0.0015	0.0013
Lead	mg/L	0.025	0.00004	0.00031	0.00005	0.00017	0.00027	0.00005	0.0005	0.0012	< 0.0005	0.00054	0.00008	0.00007	0.0008	0.00007	0.00018
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00001	< 0.00001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0003	0.0004	0.0002	0.0002	0.0003	0.0002	0.0002	0.0015	0.0007	0.0005	0.0002	0.0003	< 0.0002	0.0002	0.0002
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.002	0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.002	< 0.001	< 0.001	< 0.002	< 0.002	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.414	0.406	0.346	0.48	0.491	0.376	0.454	0.37	0.59	0.41	0.432	0.495	0.438	0.36	0.451
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.0001	< 0.0001	< 0.00005
Vanadium	mg/L	-	0.0001	0.0004	0.0002	0.0003	0.0007	0.0001	0.0007	0.0018	0.0012	0.001	0.0002	0.0002	0.0011	0.0003	0.0003
Zinc	mg/L	0.03	0.032	0.028	0.006	0.057	0.016	0.018	0.035	0.009	0.007	0.018	0.013	0.027	0.016	0.031	0.056
Cyanide	mg/L	0.005														< 0.005	< 0.005
Turbidity	NTU	-														3.6	17.6
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW2 16-Aug-23	SW2 5-Oct-23	SW2 25-Apr-24	SW2 11-Jun-24	SW2 15-Aug-24	SW2 10-Oct-24	SW2 28-Apr-25	SW2 17-Jun-25	SW2 (Dup) 17-Jun-25	SW2 21-Aug-25	SW2 9-Oct-25	SW3 20-Apr-16	SW3 16-May-16	SW3 8-Jun-16	SW3 24-Apr-17
pH -Lab	pH units	6.5-8.5	7.58	7.82	7.96	7.85	8.09	7.95	8.05	7.99	7.92	Dry	7.87	8.23	8.19	8.22	8.2
Conductivity	uS/cm	-	1060	1170	886	1110	1030	1000	1000	1130	1140		1540	759	850	979	817
BOD	mg/L	-	<3	7	<3	6	3	<3	4	<3	<3		<3	< 2	< 2	4	<3
COD	mg/L	-	9	64	19	54	11	9	16	23	21		41	7	6	11	11
Total Dissolved Solids	mg/L	-	565	672	487	611	582	583	548	670	681		883	429	433	526	431
Total Suspended Solids	mg/L	-	15	58	4	29	35	61	10	25	13		190	< 3	10	17	3
Alkalinity	mg/L	-	318	301	311	317	322	333	325	388	394		237	278	267	292	275
Hardness	mg/L	-	353	427	360	420	399	442	370	493	499		595	344	289	361	321
Ammonia	mg/L	-	0.81	0.23	0.17	0.94	0.86	0.16	0.09	0.24	0.34		0.08	0.02	0.05	0.1	< 0.01
Un-ionized Ammonia	mg/L	0.02	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	mg/L	-	119	141	126	145	138	151	128	172	174		208	120	99.5	123	105
Chloride	mg/L	-	140	194	83.8	151	129	117	114	89	91.7		324	60.9	97.1	134	73.2
DOC	mg/L	-	2.1	0.8	3.6	3.1	2.9	3.6	7.1	2.3	3.7		1.3	3.4	2.5	2.6	4.5
Fluoride	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1		<0.1	0.2	0.1	0.1	0.1
Iron	mg/L	0.3	0.135	0.375	0.096	0.814	0.818	0.456	0.186	2.88	3.3		2.07	0.129	0.084	0.575	0.068
Magnesium	mg/L	-	13.6	18.3	11.2	13.8	13.2	15.6	11.9	15.5	15.6		18.2	10.5	9.86	13.1	8
Manganese	mg/L	-	0.049	0.109	0.045	0.076	0.129	0.094	0.04	0.848	0.856		0.15	0.01	0.01	0.078	0.003
Nitrate	mg/L	-	0.34	0.31	0.26	0.08	<0.05	0.08	0.33	<0.05	<0.05		<0.05	0.8	0.4	0.2	0.3
Nitrite	mg/L	-	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05		<0.05	< 0.1	< 0.1	< 0.1	< 0.1
TKN	mg/L	-	0.3	4.2	0.4	1.8	0.3	0.5	0.9	0.9	0.9		0.6	0.4	0.3	0.5	0.3
Sodium	mg/L	-	67.4	95.4	47.9	79.2	74.5	67	66.6	65.6	65.1		141	37.2	41.2	61.7	39.8
Sulphate	mg/L	-	30	36	29	27	28	28	27	89	92		59	27	22	16	36
Phenols	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001		<0.001	< 0.001	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	0.03	0.02	0.63	0.02	0.11	0.06	0.02	0.02	0.04	0.03		0.23	0.01	0.05	0.03	< 0.01
Potassium	mg/L	-	1.8	4	1.8	2.9	4	3.4	2.8	1.8	1.7		3.3	2	1.2	0.9	2.3
Aluminum	mg/L	0.075	0.08	0.09	0.05	0.14	0.12	0.08	0.09	0.1	0.1		1.37	0.06	0.03	0.08	0.06
Antimony	mg/L	-	0.0001	0.0003	0.0004	0.0006	0.0002	0.0003	0.0004	0.0005	0.0006		0.0005	< 0.0001	< 0.0004	< 0.0001	< 0.0001
Arsenic	mg/L	0.1	0.0002	0.0006	0.0001	0.0004	0.0007	0.0004	0.0002	0.0004	0.0004		0.0006	0.0002	< 0.0012	0.0002	0.0004
Barium	mg/L	-	0.105	0.608	0.084	0.297	0.121	0.122	0.1	0.105	0.107		0.127	0.073	0.056	0.065	0.062
Beryllium	mg/L	1.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.025	0.032	0.019	0.025	0.034	0.031	0.018	0.034	0.036		0.031	0.013	< 0.005	0.014	0.018
Cadmium	mg/L	0.0002	<0.000015	0.000032	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015		0.000025	< 0.00002	< 0.001	< 0.00002	< 0.000014
Chromium	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		0.002	< 0.0002	< 0.0005	0.0002	< 0.0015
Cobalt	mg/L	0.0006	0.0003	0.0008	0.0003	0.0005	0.0009	0.001	0.0003	0.0008	0.0008		0.0017	< 0.005	< 0.005	< 0.005	< 0.0001
Copper	mg/L	0.005	0.0011	0.0038	0.0009	0.0017	0.0008	0.0009	0.0012	0.0005	0.0004		0.0032	0.0006	< 0.001	0.0004	0.0008
Lead	mg/L	0.025	0.00005	0.00021	0.00005	0.00021	0.00023	0.00014	0.0001	0.00018	0.00014		0.00229	0.00004	< 0.0006	0.00019	< 0.00002
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0003	0.0002	0.0002	0.0004	0.0002	0.0002	0.0001	0.0001	0.0001		0.0005	0.0002	< 0.001	0.0001	0.0005
Nickel	mg/L	0.025	0.0008	0.001	0.0006	0.0008	0.0009	0.0008	0.0007	0.0016	0.0018		0.0024	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	< 0.001	< 0.0008	< 0.001	< 0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	< 0.00002	< 0.0005	< 0.00002	0.00037
Strontium	mg/L	-	0.439	0.524	0.377	0.466	0.442	0.483	0.387	0.499	0.505		0.62	0.374	0.329	0.4	0.285
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	< 0.00005	< 0.0006	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0002	0.0004	0.0001	0.0004	0.0003	0.0002	0.0002	0.0002	0.0002		0.0026	0.0003		0.0003	0.0004
Zinc	mg/L	0.03	0.021	0.073	0.02	0.034	0.017	0.021	0.046	0.136	0.124		0.026	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005				
Turbidity	NTU	-	6.8	8.8	2.3	12.9	11	29.7	7.2	27.2	2.6		136				
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3
			22-Jun-17	24-Aug-17	17-Oct-17	25-Apr-18	28-Jun-18	9-Oct-18	24-Apr-19	17-Jul-19	30-Apr-20	24-Jun-20	22-Oct-20	20-Apr-21	15-Jun-21	11-Aug-21	15-Oct-21
pH -Lab	pH units	6.5-8.5	8.03	8.03	8.25	8.36	8.19	8.14	8.21	8.08	8.06	7.91	8.21	8.27	8.11	8.23	8.21
Conductivity	uS/cm	-	789	882	982	793	1010	1120	842	984	780	1260	1080	837	1260	1050	1030
BOD	mg/L	-	<3	<3	<3	< 3	< 3	2	< 3	< 3	< 3	22	< 3	< 3	< 3	3	4
COD	mg/L	-	12	14	9	25	< 5	6	28	40	12	12	6	< 5	16	19	20
Total Dissolved Solids	mg/L	-	424	480	531	431	571	592	447	531	434	664	597	480	720	558	576
Total Suspended Solids	mg/L	-	7	310	7	4	6	45	< 3	256	3	520	555	< 3	85	380	570
Alkalinity	mg/L	-	325	320	310	281	324	291	322	330	259	334	287	289	362	373	353
Hardness	mg/L	-	337	381	403	312	381	423	359	409	338	455	402	364	464	372	410
Ammonia	mg/L	-	< 0.01	0.02	0.01	0.02	0.03	0.01	0.04	0.05	< 0.01	0.03	0.02	< 0.01	0.02	0.15	0.04
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	mg/L	-	120	136	137	110	129	144	124	156	120	156	138	127	162	128	141
Chloride	mg/L	-	42.7	78.8	100	77.1	144	149	58.9	98.5	74.5	202	162	87.6	202	128	131
DOC	mg/L	-	5.8	5.6	4	6.6	3.5	3.4	10.3	6.9	3.5	3.7	1.9	3.3	4.2	4.7	4.1
Fluoride	mg/L	-	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.22	0.574	0.372	0.132	0.205	0.115	0.084	3.99	0.055	0.302	0.411	0.045	0.695	0.509	1.08
Magnesium	mg/L	-	10.6	12.7	14.6	9.1	14.2	15.3	8.44	12.4	9.36	15.1	13.9	11.2	14.3	12.9	14.1
Manganese	mg/L	-	0.126	0.194	0.09	0.022	0.053	0.018	0.012	1.66	0.006	0.441	0.135	0.009	0.333	0.293	0.434
Nitrate	mg/L	-	0.07	< 0.05	< 0.05	0.85	0.07	< 0.05	4.3	0.06	0.12	< 0.05	< 0.05	< 0.05	0.15	0.14	< 0.05
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06
TKN	mg/L	-	0.5	0.5	0.4	0.6	0.4	0.5	1.1	2.1	0.3	0.6	0.5	0.2	0.6	0.7	0.5
Sodium	mg/L	-	39.1	49.1	62.6	46.2	79.2	77	37.5	58	39.3	85.5	76.3	47.9	80.9	60.7	65.3
Sulphate	mg/L	-	15	9	28	16	9	34	20	1	29	2	28	27	2	2	8
Phenols	mg/L	0.001	0.002	0.004	0.003	< 0.001	< 0.001		< 0.002	< 0.002	< 0.002	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Phosphorus	mg/L	0.03	0.01	0.08	0.03	0.02	0.03	0.04	0.01	0.35	< 0.01	0.03	0.05	0.05	0.08	0.03	0.06
Potassium	mg/L	-	1.1	2	2.8	3.9	1.2	2.5	5.2	1.9	1.9	1.4	1.9	1.6	1.3	1.7	2.6
Aluminum	mg/L	0.075	0.1	0.18	0.16	0.09	0.09	0.08	0.07	0.07	0.07	0.07	0.05	0.09	0.05	0.04	0.04
Antimony	mg/L	-	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0004	0.0004
Arsenic	mg/L	0.1	0.0006	0.0008	0.0008	0.0003	0.0004	0.0002	0.0003	0.0016	0.0002	0.0007	0.0003	0.0002	0.0006	0.0007	0.0007
Barium	mg/L	-	0.089	0.089	0.089	0.065	0.075	0.093	0.066	0.112	0.07	0.098	0.073	0.067	0.08	0.052	0.079
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.027	0.03	0.028	0.015	0.026	0.025	0.011	0.027	0.018	0.105	0.018	0.016	0.02	0.026	0.027
Cadmium	mg/L	0.0002	< 0.000014	0.000094	0.000048	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.000039	< 0.000015	< 0.000015	< 0.000015	< 0.000015	0.000021	< 0.000015	< 0.000015
Chromium	mg/L	0.1	< 0.001	< 0.001	0.001	< 0.001	< 0.001	0.003	0.001	0.002	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001	< 0.001
Cobalt	mg/L	0.0006	0.0002	0.0005	< 0.0001	< 0.0001	0.0004	0.0001	0.0001	0.0014	0.0002	0.0003	0.0003	< 0.0001	0.0005	0.0006	0.0005
Copper	mg/L	0.005	0.0009	0.0067	0.0067	0.0015	0.0006	0.0009	0.0026	0.0025	0.0009	0.0006	0.0007	0.0005	0.0012	0.0004	0.0006
Lead	mg/L	0.025	0.00007	0.00069	0.00005	0.000005	0.00006	0.00015	0.00006	0.00221	0.00005	0.00008	0.0003	< 0.00002	0.00047	0.00016	0.00048
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0007	0.0007	0.0003	0.0004	0.0004	0.0002	0.0004	0.0005	0.0004	0.001	0.0004	0.0002	0.0006	0.0004	0.0002
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	< 0.0001
Strontium	mg/L	-	0.379	0.398	0.378	0.304	0.422	0.418	0.311	0.428	0.303	0.455	0.374	0.353	0.457	0.406	0.444
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0003	0.0003	0.0003	0.0002	0.0003	0.0005	0.0004	0.0025	0.0004	0.0003	0.0007	0.0002	0.0009	0.0004	0.0008
Zinc	mg/L	0.03	0.024	0.044	0.19	0.017	0.022	0.02	0.007	0.033	< 0.005	0.014	< 0.005	0.014	0.019	0.014	0.005
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3
			26-Apr-22	21-Jun-22	17-Oct-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25
pH -Lab	pH units	6.5-8.5	8.23	8.18	8.01	8.19	Dry	8.13	8.21	8.21	Dry	8.23	8.17	8.33	8.1	Dry	Dry
Conductivity	uS/cm	-	858	891	1190	851		1010	1020	795		944	903	828	974		
BOD	mg/L	-	< 3	< 3	< 3	< 3		<3	<3	<3		<3	<3	<3	<3		
COD	mg/L	-	45	16	48	14		16	<5	20		100	16	8	21		
Total Dissolved Solids	mg/L	-	462	472	628	465		549	599	435		531	538	461	511		
Total Suspended Solids	mg/L	-	4	65	62	3		31	<3	3		14	64	6	19		
Alkalinity	mg/L	-	316	319	297	315		338	298	310		332	320	307	322		
Hardness	mg/L	-	358	375	390	322		364	395	316		384	418	341	359		
Ammonia	mg/L	-	0.66	0.03	0.05	0.09		0.21	0.35	0.16		0.26	0.18	0.08	0.1		
Un-ionized Ammonia	mg/L	0.02	0.02	< 0.01	< 0.01	< 0.01		0.03	0.01	<0.01		0.01	<0.01	<0.01	<0.01		
Calcium	mg/L	-	128	131	119	116		126	133	112		134	145	119	125		
Chloride	mg/L	-	66.1	85.1	199	82.2		132	166	67.3		113	106	78.9	117		
DOC	mg/L	-	7	4.9	0.6	4.6		3.3	2.9	4.2		4.1	4.5	7.6	2.8		
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1		
Iron	mg/L	0.3	0.164	0.239	1.27	0.252		0.766	0.138	0.143		0.578	3.32	0.1	0.33		
Magnesium	mg/L	-	9.31	11.4	13.9	8.99		12	15	8.78		12.2	13.4	10.4	11.2		
Manganese	mg/L	-	0.024	0.083	0.227	0.025		0.239	0.059	0.033		0.157	0.702	0.033	0.088		
Nitrate	mg/L	-	2.66	< 0.05	0.1	0.34		0.06	0.06	<0.05		<0.05	<0.05	0.05	0.05		
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05		<0.05	<0.05	<0.05		0.06	<0.05	<0.05	<0.05		
TKN	mg/L	-	1.2	0.4	1.4	0.6		0.4	0.7	0.4		0.6	0.6	0.4	0.5		
Sodium	mg/L	-	44.3	48.4	87.4	45.1		65.1	76.1	40.1		62.8	61	45.6	59.8		
Sulphate	mg/L	-	20	9	26	21		8	26	18		5	13	20	2		
Phenols	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001		<0.001	<0.001	<0.001		0.002	<0.001	<0.001	<0.001		
Phosphorus	mg/L	0.03	0.01	0.02	0.19	0.03		0.03	<0.01	0.02		0.02	0.04	<0.01	0.02		
Potassium	mg/L	-	3.6	1.5	2.5	2.7		2	2.6	2.2		2.6	3.4	2.1	1.8		
Aluminum	mg/L	0.075	0.07	0.04	0.04	0.03		0.2	0.05	0.06		0.08	0.35	0.04	0.07		
Antimony	mg/L	-	0.0003	0.0005	0.0003	0.0003		<0.0001	0.0004	0.0003		0.0004	0.0003	0.0003	0.0004		
Arsenic	mg/L	0.1	0.0003	0.0003	0.0005	0.0003		0.0006	0.0002	0.0002		0.0004	0.0007	0.0002	0.0003		
Barium	mg/L	-	0.062	0.062	0.068	0.061		0.068	0.062	0.047		0.063	0.075	0.058	0.062		
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001		
Boron	mg/L	0.2	0.021	0.023	0.022	0.019		0.025	0.025	0.017		0.027	0.023	0.016	0.019		
Cadmium	mg/L	0.0002	0.000029	< 0.000015	< 0.000028	< 0.000015		<0.000015	<0.000015	<0.000015		<0.000015	0.000015	<0.000015	<0.000015		
Chromium	mg/L	0.1	< 0.001	< 0.001	< 0.001	0.002		<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001		
Cobalt	mg/L	0.0006	0.0002	0.0002	0.0005	0.0002		0.0005	0.0004	0.0002		0.0003	0.0007	0.0003	0.0004		
Copper	mg/L	0.005	0.0021	0.0004	0.0008	0.001		0.0007	0.0004	0.0007		0.0009	0.0008	0.0039	0.0003		
Lead	mg/L	0.025	0.00014	0.00006	0.00068	0.00007		0.00032	0.00006	0.00007		0.00023	0.00084	<0.00002	0.00016		
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002		<0.00002	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002	<0.00002		
Molybdenum	mg/L	0.04	0.0004	0.0002	< 0.0002	0.0003		0.0002	0.0001	0.0002		0.0001	<0.0001	0.0002	0.0001		
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01		0.0009	0.0041	0.0004		0.0005	0.0008	0.0004	0.0006		
Selenium	mg/L	-	< 0.001	< 0.001	< 0.002	< 0.001		<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001		
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001		<0.0001	<0.0001	<0.0001		0.0003	<0.0001	<0.0001	<0.0001		
Strontium	mg/L	-	0.357	0.376	0.4	0.331		0.39	0.402	0.295		0.388	0.392	0.328	0.364		
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.0001	< 0.00005		<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005	<0.00005		
Vanadium	mg/L	-	0.0003	0.0002	0.0007	0.0002		0.0005	0.0001	0.0002		0.0002	0.0009	0.0001	0.0002		
Zinc	mg/L	0.03	0.009	< 0.005	0.007	0.028		0.006	0.013	0.008		<0.005	0.009	0.018	0.006		
Cyanide	mg/L	0.005				< 0.005		<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005		
Turbidity	NTU	-				10.4		6.9	2.1	3.3		4.6	7.3	1.4	6.1		
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4
			20-Apr-16	25-May-16	8-Jun-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	25-Apr-18	24-Apr-19	31-Oct-19	30-Apr-20	20-Apr-21	15-Oct-21	26-Apr-22	21-Jun-22
pH -Lab	pH units	6.5-8.5	8.21	8.16	8.11	8.12	7.83	8	8.24	8.31	8.19	8.01	8.17	8.24	8.16	8.33	8.25
Conductivity	uS/cm	-	618	813	1180	501	653	643	720	508	557	447	550	575	720	638	774
BOD	mg/L	-	3	< 2	< 2	<3	<3	5	<3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
COD	mg/L	-	11	17	21	8	6	15	9	18	19	22	14	7	31	6	18
Total Dissolved Solids	mg/L	-	347	438	639	269	350	363	407	269	293	247	304	328	415	342	406
Total Suspended Solids	mg/L	-	5	17	22	3	6	22	<3	5	12	< 3	< 3	< 3	6	< 3	3
Alkalinity	mg/L	-	249	327	385	251	346	328	366	232	230	132	225	264	326	268	290
Hardness	mg/L	-	299	362	433	261	347	404	409	246	282	195	265	290	360	300	324
Ammonia	mg/L	-	0.03	0.06	0.06	< 0.01	< 0.01	0.02	0.01	0.02	0.04	0.15	< 0.01	0.01	0.05	0.12	0.12
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	mg/L	-	109	130	153	93.3	123	135	149	88.6	101	69.1	96.7	106	129	108	117
Chloride	mg/L	-	34.2	52.5	148	6.6	3.7	7.5	8.8	12.7	19.2	16.2	24.2	19.5	39	29.6	51.2
DOC	mg/L	-	4.2	5.3	5.2	4.1	4.2	5.4	3.5	5.7	6.5	8.4	6.4	5.7	10.8	6.9	7.2
Fluoride	mg/L	-	0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.047	0.569	1.14	0.024	0.067	0.128	0.079	0.056	0.04	< 0.005	0.056	0.049	0.156	0.029	0.029
Magnesium	mg/L	-	6.67	8.78	12.3	4.85	6.55	7.95	8.79	5.86	5.25	5.31	5.71	6.13	9.1	7.2	7.92
Manganese	mg/L	-	0.019	0.375	0.87	0.004	0.065	0.036	0.025	0.01	0.004	0.004	0.02	0.013	0.022	0.003	0.006
Nitrate	mg/L	-	1.6	0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	1.32	2.65	< 0.05	0.85	0.69	< 0.05	1.89	4.24
Nitrite	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	0.4	0.6	0.7	0.2	0.4	0.4	0.2	0.4	0.6	0.6	0.5	0.3	0.8	0.5	0.8
Sodium	mg/L	-	23.1	34.7	78.7	3.8	4.6	5	5.8	10.5	10.6	6	15.2	13	22.9	18.6	20.9
Sulphate	mg/L	-	16	13	13	9	4	9	14	10	17	60	17	15	17	15	17
Phenols	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.004	0.004	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001
Phosphorus	mg/L	0.03	0.01	0.03	0.05	< 0.01	0.02	0.04	0.02	0.02	0.01	0.03	0.02	0.04	0.05	0.01	0.03
Potassium	mg/L	-	1.8	0.5	0.4	0.6	0.6	1.3	1.3	1.5	1.8	4.8	1.5	1.2	1.9	2.1	1.5
Aluminum	mg/L	0.075	0.04	0.1	0.16	0.05	0.06	0.12	0.12	0.08	0.05	0.05	0.06	0.07	0.04	0.07	0.03
Antimony	mg/L	-	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002	0.0005	0.0001	< 0.0001	0.0003	0.0004	0.0004	< 0.0001	0.0003	0.0003	0.0004
Arsenic	mg/L	0.1	0.0002	0.0005	0.0005	0.0001	0.0003	0.0004	0.0002	0.0004	0.0002	0.0003	0.0002	0.0001	0.0004	0.0002	0.0003
Barium	mg/L	-	0.037	0.053	0.057	0.024	0.035	0.039	0.048	0.037	0.037	0.021	0.035	0.034	0.051	0.042	0.045
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	< 0.005	0.024	0.013	0.006	0.016	0.022	0.017	0.007	0.006	0.007	0.011	0.009	0.022	0.014	0.017
Cadmium	mg/L	0.0002	< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.00012	0.000041	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.1	0.0003	0.0003	0.0003	< 0.0015	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	0.0006	< 0.005	< 0.005	< 0.005	< 0.0001	0.0001	0.0003	< 0.0001	< 0.0001	0.0001	0.0003	0.0001	< 0.0001	0.0002	0.0001	0.0002
Copper	mg/L	0.005	0.0005	0.001	0.0006	< 0.0001	0.0004	0.0103	0.0056	0.0005	0.0008	0.0015	0.0007	0.0006	0.0006	0.0008	0.0007
Lead	mg/L	0.025	< 0.00002	< 0.00002	0.00023	< 0.00002	0.00002	0.00059	0.00039	0.00005	0.00003	0.00003	0.00006	0.00003	0.00009	0.00017	0.00004
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0001	0.0002	0.0002	0.0001	0.0001	0.0003	0.0001	0.0001	0.0003	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.00002	< 0.00002	< 0.00002	0.00026	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.288	0.359	0.439	0.232	0.341	0.347	0.352	0.225	0.234	0.17	0.228	0.261	0.359	0.307	0.317
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.000005	< 0.000005	< 0.000005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0002	0.0006	0.0005	0.0002	0.0002	0.0005	0.0004	0.0003	0.0004	0.0004	0.0004	0.0003	0.0005	0.0004	0.0006
Zinc	mg/L	0.03	< 0.005	< 0.005	< 0.005	0.091	0.014	0.027	0.016	0.024	0.006	0.012	< 0.005	0.014	< 0.005	< 0.005	< 0.005
Cyanide	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Turbidity	NTU	-	40.7	9.6	26.9	3.1	0.9	4.7	1.2	357	74.8	1.5	3.4	4.3	5.4		
Tannins & Lignins	mg/L	-							0.6			0.7					

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW13	SW13	SW13	SW13
			24-Apr-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25	21-Apr-16	26-May-16	8-Jun-16	11-Oct-16
pH -Lab	pH units	6.5-8.5	8.23	8.18	8.15	8.25	8.24	Dry	8.19	8.31	8.15	Dry	Dry	7.87	7.86	7.9	8.18
Conductivity	uS/cm	-	608	837	854	636	751		833	670	775			1490	1430	1360	1200
BOD	mg/L	-	< 3	<3	<3	<3	3		<3	<3	<3			5	27	32.4	6
COD	mg/L	-	11	24	23	17	18		15	18	27			23	1720	2780	69
Total Dissolved Solids	mg/L	-	322	494	520	364	423		483	375	414			806	772	764	647
Total Suspended Solids	mg/L	-	4	4	10	6	25		<3	3	<3			10	670	4600	88
Alkalinity	mg/L	-	267	347	363	293	305		406	289	292			224	221	222	191
Hardness	mg/L	-	292	414	445	321	353		438	309	314			390	365	382	242
Ammonia	mg/L	-	0.35	0.24	0.62	<0.05	0.07		0.21	0.07	0.06			1.23	0.29	0.28	0.29
Un-ionized Ammonia	mg/L	0.02	0.03	0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01			0.05	< 0.01	< 0.01	< 0.01
Calcium	mg/L	-	92.8	149	160	117	128		156	111	112			130	119	125	70.8
Chloride	mg/L	-	31.7	60.2	64.8	24.3	51.7		35.1	41	63.3			272	265	231	180
DOC	mg/L	-	4	6.6	8.2	5	5.4		7.4	10.7	5			3.2	3	4.1	4.6
Fluoride	mg/L	-	< 0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1			0.1	0.1	0.1	0.1
Iron	mg/L	0.3	0.058	0.134	0.082	0.039	0.224		0.152	0.056	0.151			0.789	0.585	2.92	0.077
Magnesium	mg/L	-	5.92	10.1	10.9	7.23	8.23		11.9	7.48	8.15			15.7	16.6	16.6	15.7
Manganese	mg/L	-	0.012	0.038	0.02	0.013	0.085		0.034	0.02	0.066			0.2	0.141	0.171	0.034
Nitrate	mg/L	-	1.22	0.54	<0.05	2.14	1.2		<0.05	1.75	1.27			3.4	3.4	0.2	7.5
Nitrite	mg/L	-	< 0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05			< 0.1	< 0.1	< 0.1	< 0.1
TKN	mg/L	-	1	0.7	0.7	0.4	0.6		0.6	0.6	0.6			9.8	5.7	23.1	1.7
Sodium	mg/L	-	16	37.8	31.2	16.5	30.2		23.6	21.8	33.8			170	159	153	124
Sulphate	mg/L	-	14	23	33	12	15		10	10	15			56	52	88	95
Phenols	mg/L	0.001	< 0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001			< 0.001	< 0.001	< 0.001	0.009
Phosphorus	mg/L	0.03	0.02	0.02	0.03	0.02	0.04		0.01	0.01	0.03			1.84	1.15	2.82	0.05
Potassium	mg/L	-	1.7	2.8	2.1	1.5	1.3		2.4	1.8	0.7			11	12.7	12	13.7
Aluminum	mg/L	0.075	0.03	0.14	0.08	0.06	0.14		0.06	0.06	0.07			25.5	14.8	68.1	0.28
Antimony	mg/L	-	0.0002	0.0002	0.0004	0.0002	0.0005		0.0002	0.0003	0.0005			0.0002	0.0002	0.0001	0.0003
Arsenic	mg/L	0.1	0.0002	0.0004	0.0003	0.0002	0.0004		0.0003	0.0002	0.0004			0.0006	0.0006	0.001	0.0004
Barium	mg/L	-	0.035	0.067	0.063	0.035	0.043		0.051	0.043	0.038			0.173	0.112	0.304	0.035
Beryllium	mg/L	1.1	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001			< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.012	0.027	0.018	0.01	0.009		0.018	0.014	0.014			0.086	0.138	0.152	0.121
Cadmium	mg/L	0.0002	< 0.000015	<0.000015	<0.000015	<0.000015	<0.000015		<0.000015	<0.000015	<0.000015			0.00014	0.00006	0.00035	0.00003
Chromium	mg/L	0.1	0.002	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001			0.0031	0.0038	0.0136	< 0.0002
Cobalt	mg/L	0.0006	0.0001	0.0004	0.0004	0.0002	0.0005		0.0004	0.0003	0.0004			< 0.005	< 0.005	< 0.005	< 0.0001
Copper	mg/L	0.005	0.0007	0.0011	0.0008	0.0007	0.0008		0.0005	0.0007	0.0006			0.0219	0.0133	0.0101	0.0018
Lead	mg/L	0.025	0.00007	0.00015	0.00006	0.00004	0.00016		0.00003	0.00004	0.00005			0.00291	0.00239	0.0116	0.00055
Mercury	mg/L	-	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002			< 0.00002	< 0.00002	0.00019	< 0.00002
Molybdenum	mg/L	0.04	0.0001	0.0003	0.0001	0.0001	0.0001		0.0001	0.0001	0.0001			0.0005	0.0003	0.0002	0.0008
Nickel	mg/L	0.025	< 0.01	0.001	0.0005	0.0003	0.0005		0.0005	0.0004	0.0005			< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001			< 0.001	0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001			< 0.00002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	-	0.252	0.418	0.397	0.291	0.34		0.413	0.294	0.326			0.511	0.459	0.804	0.254
Thallium	mg/L	-	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005			< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0004	0.0007	0.0005	0.0003	0.0006		0.0003	0.0004	0.0004			0.0012	0.0014	0.0054	0.0002
Zinc	mg/L	0.03	< 0.005	0.007	0.006	0.007	<0.005		0.005	0.022	0.007			0.081	0.075	0.196	0.033
Cyanide	mg/L	0.005	< 0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005						
Turbidity	NTU	-	3.5	3.7	22.2	1.9	4.4		1.3	1	2.2						
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13
			24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	25-Apr-18	28-Jun-18	22-Aug-18	11-Oct-18	24-Apr-19	17-Jul-19	13-Aug-19	16-Oct-19	30-Apr-20	20-Apr-21	26-Apr-22
pH -Lab	pH units	6.5-8.5	8.12	7.74	7.46	7.67	8.11	7.98	7.73	7.89	7.98	7.77	8.26	7.98	7.86	8.06	7.78
Conductivity	uS/cm	-	470	597	472	635	520	1370	964	739	474	1350	839	594	1460	621	685
BOD	mg/L	-	<3	5	9	<3	< 3	5	17	103	4	13	< 3	< 3	8	16	38
COD	mg/L	-	21	106	274	2460	27	44	559	554	200	183	38	47	48	107	74
Total Dissolved Solids	mg/L	-	250	336	356	1145	283	757	530	406	239	681	463	340	839	348	357
Total Suspended Solids	mg/L	-	31	114	330	3700	28	10	1010	3700	4	105	9	38	36	270	90
Alkalinity	mg/L	-	228	298	313	275	216	257	236	288	210	229	271	169	231	289	249
Hardness	mg/L	-	233	291	291	376	233	281	265	320	229	306	317	197	351	337	249
Ammonia	mg/L	-	0.09	0.12	0.67	0.41	0.03	15.8	0.17	0.2	0.04	1.96	0.17	0.08	0.56	0.16	0.38
Un-ionized Ammonia	mg/L	0.02	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.4	< 0.01	< 0.01	< 0.01	0.07	< 0.01	< 0.01	< 0.01	0.01	< 0.01
Calcium	mg/L	-	81.6	118	109	753	82.7	88.8	101	127	80.2	101	110	87.9	117	121	86.6
Chloride	mg/L	-	8.2	11.3	14.4	29.2	27.4	239	146	55.9	13.1	202	99.1	62.2	314	25.6	58.4
DOC	mg/L	-	7.1	10	20.9	11.5	5.9	7	17.8	42	8.1	9	10.2	13.6	4	15.9	8.4
Fluoride	mg/L	-	0.1	0.1	0.1	0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.337	3.04	11	97.4	0.089	0.128	1.15	6.91	0.191	0.874	0.94	0.634	0.121	2.1	0.137
Magnesium	mg/L	-	4.32	7.95	8.1	30.1	6.49	14.4	11	11.6	5	13.2	10.3	15	14.3	8.33	7.94
Manganese	mg/L	-	0.134	0.69	1.43	23.1	0.023	0.098	0.704	6.49	0.26	0.164	1.04	0.335	0.04	0.632	0.12
Nitrate	mg/L	-	0.3	0.08	0.21	0.19	< 0.05	0.44	< 0.05	< 0.05	< 0.05	0.67	0.22	2.4	2.67	< 0.05	0.43
Nitrite	mg/L	-	< 0.1	< 0.05	0.1	< 0.05	< 0.05	0.27	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	0.3	< 0.05	0.06
TKN	mg/L	-	1.9	6.8	6.8	43.7	0.7	20.2	22.7	11.4	0.9	9.5	1.1	1.3	2.5	3	1.8
Sodium	mg/L	-	8.4	14.4	16.1	26.7	22.3	159	88.9	29.5	9	158	56.8	55.3	168	19.6	46.7
Sulphate	mg/L	-	9	1	4	9	12	68	34	7	5	51	18	13	52	5	5
Phenols	mg/L	0.001	< 0.001	0.005	0.011	0.007	< 0.001	< 0.001	0.005	0.019	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001
Phosphorus	mg/L	0.03	0.19	0.95	1.48	3.5	0.07	0.14	3.05	1.84	0.1	1.48	0.05	< 0.01	0.23	0.43	0.19
Potassium	mg/L	-	0.4	0.4	2.8	10.9	1.8	12.9	5.4	9.1	0.7	14.8	3.7	4.6	15.1	1.8	2.3
Aluminum	mg/L	0.075	0.09	0.24	0.9	37.1	0.06	0.56	1.03	0.31	0.03	0.07	0.06	0.05	0.13	0.07	0.06
Antimony	mg/L	-	< 0.0001	0.0004	0.0002	0.0008	< 0.0001	0.0002	0.0002	0.0001	0.0001	0.0002	< 0.0001	< 0.0001	0.0004	0.0003	0.0004
Arsenic	mg/L	0.1	0.0003	0.0004	0.0014	0.0118	0.0002	0.0004	0.0005	0.001	0.0001	0.0007	0.0007	0.0005	0.0002	0.0003	0.0002
Barium	mg/L	-	0.015	0.053	0.092	1.18	0.027	0.065	0.08	0.123	0.02	0.301	0.038	0.033	0.054	0.041	0.03
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.015	0.025	0.045	0.514	0.02	0.136	0.107	0.052	0.015	0.16	0.057	0.103	0.11	0.02	0.046
Cadmium	mg/L	0.0002	< 0.000014	0.000027	0.000142	0.00322	0.000038	0.000052	0.000172	0.000086	< 0.000015	0.000108	< 0.000015	0.00002	0.000045	0.000015	< 0.000015
Chromium	mg/L	0.1	< 0.0015	< 0.001	0.004	0.076	< 0.001	0.001	0.002	0.001	< 0.001	0.008	< 0.001	0.001	< 0.001	0.001	< 0.001
Cobalt	mg/L	0.0006	< 0.0001	0.0002	0.0011	0.0119	< 0.0001	0.0004	0.0008	0.0006	< 0.0001	0.0004	0.0003	0.0005	0.0002	0.0003	0.0002
Copper	mg/L	0.005	< 0.0001	0.0011	0.0128	0.0764	0.0061	0.0084	0.0138	0.0085	0.001	0.0177	0.0007	0.0014	0.0034	0.0014	0.0007
Lead	mg/L	0.025	0.00007	0.00076	0.0028	0.141	0.00121	0.00064	0.00215	0.00168	0.00019	0.00506	0.00021	0.00031	0.0008	0.00042	0.00007
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00005	0.0002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0002	0.0001	0.0005	0.0029	0.0002	0.0018	0.0009	0.0001	0.0001	0.0031	0.0003	0.0002	0.0009	0.0001	0.0003
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	0.12	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	0.00046	< 0.00002	< 0.00002	0.00041	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0004	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.18	0.309	0.263	1.3	0.195	0.307	0.318	0.326	0.172	0.395	0.32	0.364	0.335	0.269	0.236
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	0.0004	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0004	0.0005	0.0021	0.0447	0.0001	0.0004	0.0019	0.0008	0.0001	0.0026	0.0003	0.0006	0.0004	0.0005	0.0003
Zinc	mg/L	0.03	0.186	0.035	0.065	0.762	0.019	0.038	0.055	0.027	0.007	0.083	0.01	0.014	0.036	0.02	< 0.005
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW14	SW14
			21-Jun-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25	21-Apr-16	26-May-16
pH -Lab	pH units	6.5-8.5	7.79	8.08	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	8.2	7.75
Conductivity	uS/cm	-	1640	1520												651	1190
BOD	mg/L	-	18	< 3												< 2	26
COD	mg/L	-	173	17												9	88
Total Dissolved Solids	mg/L	-	815	781												363	685
Total Suspended Solids	mg/L	-	60	4												< 3	260
Alkalinity	mg/L	-	286	218												239	479
Hardness	mg/L	-	354	317												289	518
Ammonia	mg/L	-	9.23	0.15												0.09	0.65
Un-ionized Ammonia	mg/L	0.02	0.09	< 0.01												< 0.01	< 0.01
Calcium	mg/L	-	118	101												104	181
Chloride	mg/L	-	262	309												51.9	91.2
DOC	mg/L	-	5.8	2.1												6.1	8.4
Fluoride	mg/L	-	< 0.1	< 1												0.1	0.2
Iron	mg/L	0.3	0.61	0.029												0.047	2.73
Magnesium	mg/L	-	14.4	12.5												7.32	16
Manganese	mg/L	-	0.402	0.007												0.028	13.6
Nitrate	mg/L	-	0.96	9.09												1	0.1
Nitrite	mg/L	-	< 0.05	< 0.5												< 0.1	< 0.1
TKN	mg/L	-	18.5	1.1												0.5	3.4
Sodium	mg/L	-	169	164												32.6	73.3
Sulphate	mg/L	-	50	54												16	17
Phenols	mg/L	0.001	< 0.001	< 0.001												< 0.001	< 0.001
Phosphorus	mg/L	0.03	0.79	0.07												0.01	0.31
Potassium	mg/L	-	9.8	9.7												2.7	2
Aluminum	mg/L	0.075	0.1	0.11												0.04	0.18
Antimony	mg/L	-	0.0004	0.0005												< 0.0001	0.0001
Arsenic	mg/L	0.1	0.0004	< 0.0002												0.0002	0.0016
Barium	mg/L	-	0.089	0.054												0.034	0.121
Beryllium	mg/L	1.1	< 0.002	< 0.002												< 0.002	< 0.002
Boron	mg/L	0.2	0.141	0.162												0.006	0.07
Cadmium	mg/L	0.0002	0.000045	< 0.000028												< 0.00002	< 0.00002
Chromium	mg/L	0.1	0.004	0.002												0.0002	0.0003
Cobalt	mg/L	0.0006	0.0005	0.0002												< 0.005	< 0.005
Copper	mg/L	0.005	0.007	0.0057												0.0005	0.0017
Lead	mg/L	0.025	0.00144	0.00044												< 0.00002	0.00018
Mercury	mg/L	-	< 0.00002	< 0.00002												< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0019	0.0013												0.0002	0.0003
Nickel	mg/L	0.025	< 0.01	< 0.01												< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.002												< 0.001	0.001
Silver	mg/L	0.0001	0.0001	< 0.0001												< 0.00002	< 0.00002
Strontium	mg/L	-	0.391	0.345												0.293	0.494
Thallium	mg/L	-	< 0.00005	< 0.0001												< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0008	0.0003												0.0002	0.0009
Zinc	mg/L	0.03	0.028	0.027												< 0.005	0.009
Cyanide	mg/L	0.005		< 0.005													
Turbidity	NTU	-		1.8													
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	SW14 8-Jun-16	SW14 24-Apr-17	SW14 23-May-17	SW14 22-Jun-17	SW14 24-Aug-17	SW14 17-Oct-17	SW14 25-Apr-18	SW14 28-Jun-18	SW14 17-Jul-18	SW14 22-Aug-18	SW14 11-Oct-18	SW14 24-Apr-19	SW14 5-Jun-19	SW14 17-Jul-19	SW14 6-Aug-19
pH -Lab	pH units	6.5-8.5	7.82	8.21	7.95	7.91	7.92	8.12	8.24	8.05	7.3	7.68	7.93	8.07	8.15	7.87	7.7
Conductivity	uS/cm	-	1110	683	532	537	498	783	438	457		722	871	449		938	
BOD	mg/L	-	>18	<3	<3	<3	<3	17	<3	<3		8	10	4		8	
COD	mg/L	-	389	26	25	33	32	23	16	34		65	61	30		44	
Total Dissolved Solids	mg/L	-	752	358	262	284	252	415	233	250		377	460	229		494	
Total Suspended Solids	mg/L	-	3000	6	104	4	6	6	5	16		30	20	16		85	
Alkalinity	mg/L	-	444	202	212	216	190	296	175	155		188	212	168		281	
Hardness	mg/L	-	725	233	206	225	210	332	190	180		193	253	202		370	
Ammonia	mg/L	-	1.97	0.03	0.11	0.02	0.04	0.06	0.03	0.11	0.09	0.54	0.05	0.04	0.02	1.02	0.23
Un-ionized Ammonia	mg/L	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01		<0.01	
Calcium	mg/L	-	260	85.2	72.1	85.4	67.2	119	67.9	59.9		67.8	94.7	71.4		121	
Chloride	mg/L	-	98.7	75	26.4	29.7	33.9	38.9	26.6	50.6		115	142	24.9		84.8	
DOC	mg/L	-	7.5	7.9	9	10.4	11.9	8	5.1	12.3		12.2	11.5	6.9		11.6	
Fluoride	mg/L	-	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	
Iron	mg/L	0.3	22.5	0.129	0.176	0.254	0.322	0.159	0.071	0.771		1.6	0.847	0.147		3.18	
Magnesium	mg/L	-	18.6	6.11	6.18	7.02	5.76	8.43	4.97	7.48		7.88	11	4.04		10.8	
Manganese	mg/L	-	3.86	0.041	0.161	0.105	0.047	0.084	0.01	0.075		0.491	0.342	0.019		2.71	
Nitrate	mg/L	-	0.1	0.7	0.2	0.06	<0.05	0.63	0.67	0.08		<0.05	<0.05	0.66		0.12	
Nitrite	mg/L	-	<0.1	<0.1	0.14	<0.05	<0.05	0.24	<0.05	<0.05		<0.05	<0.05	<0.05		<0.05	
TKN	mg/L	-	21	0.8	0.9	0.9	0.9	0.6	0.5	1.3		2.7	1.7	1.1		2.2	
Sodium	mg/L	-	73.3	44.4	19.1	24.1	24	34.2	16.2	34.7		62.3	83.5	13.9		65	
Sulphate	mg/L	-	4	19	9	6	4	33	11	1		2	5	11		33	
Phenols	mg/L	0.001	<0.001	<0.001	0.011	0.008	0.009	0.009	<0.001	<0.001		0.005	0.004	<0.002		<0.002	
Phosphorus	mg/L	0.03	5.36	0.04	0.05	0.05	0.04	0.03	0.03	0.06		0.31	0.16	0.05	0.06	0.13	
Potassium	mg/L	-	1.6	2.8	1.7	1.8	2.1	3.6	2	2		6	6.7	2.4		4.4	
Aluminum	mg/L	0.075	4.59	0.11	0.09	0.1	0.04	0.06	0.07	0.04		0.05	0.09	0.05		0.07	
Antimony	mg/L	-	0.0001	<0.0001	0.0004	0.0005	0.0003	<0.0001	<0.0001	0.0002		<0.0001	0.0001	0.0006		0.0003	
Arsenic	mg/L	0.1	0.0023	0.0005	0.0004	0.0006	0.0006	0.0005	<0.0001	0.0009		0.0006	0.0005	0.0002		0.0011	
Barium	mg/L	-	0.263	0.036	0.036	0.043	0.026	0.047	0.03	0.033		0.048	0.072	0.029		0.072	
Beryllium	mg/L	1.1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002		<0.002	
Boron	mg/L	0.2	0.088	0.016	0.007	0.023	0.025	0.027	0.01	0.025		0.045	0.053	0.006		0.063	
Cadmium	mg/L	0.0002	0.0004	<0.000014	<0.000014	<0.000014	<0.000014	0.00003	0.000029	<0.000015		0.000125	0.000042	<0.000015		<0.000015	
Chromium	mg/L	0.1	0.0037	<0.0015	<0.001	<0.001	0.002	<0.001	<0.001	<0.001		0.001	<0.001	<0.001		<0.001	
Cobalt	mg/L	0.0006	0.008	<0.0001	0.0002	0.0001	0.0002	<0.0001	<0.0001	0.0003		0.0003	0.0002	<0.0001		0.0007	
Copper	mg/L	0.005	0.0131	0.0005	0.0008	0.0007	0.0002	0.0051	0.0012	0.0004		0.0063	0.0047	0.0014		0.0008	
Lead	mg/L	0.025	0.0102	<0.00002	0.00004	0.00005	<0.00002	0.00038	0.00091	0.00005		0.00074	0.00031	0.00019		0.00009	
Mercury	mg/L	-	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002		<0.00002	
Molybdenum	mg/L	0.04	0.0001	0.0004	0.0002	0.0002	<0.0001	0.0003	0.0002	0.0002		0.0001	0.0001	0.0002		0.0002	
Nickel	mg/L	0.025	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01		<0.01	
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001		<0.001	
Silver	mg/L	0.0001	<0.00002	0.00046	<0.00002	<0.00002	<0.00002	<0.00002	0.00057	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001	
Strontium	mg/L	-	0.602	0.239	0.219	0.282	0.203	0.295	0.184	0.227		0.262	0.344	0.17		0.373	
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005		<0.00005	
Vanadium	mg/L	-	0.0146	0.0003	0.0003	0.0003	<0.0001	0.0002	0.0002	0.0003		0.0002	0.0002	0.0003		0.0006	
Zinc	mg/L	0.03	0.158	0.023	0.04	0.065	<0.005	<0.005	0.013	0.016		0.022	0.021	0.01		0.018	
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14
			13-Aug-19	27-Aug-19	2-Oct-19	16-Oct-19	31-Oct-19	30-Apr-20	10-Jun-20	15-Oct-20	22-Oct-20	30-Nov-20	20-Apr-21	4-May-21	8-Jul-21	23-Sep-21	15-Oct-21
pH -Lab	pH units	6.5-8.5	8.14	7.47	7.96	7.95	8.01	8.01	7.84	7.64	8.09	8.07	8.32	8.13	8.09	7.91	8.03
Conductivity	uS/cm	-	749			739		647			1150		676				931
BOD	mg/L	-	< 3			9		< 3			< 3		< 3				< 3
COD	mg/L	-	50			155		21			27		8				57
Total Dissolved Solids	mg/L	-	421			535		358			638		389				513
Total Suspended Solids	mg/L	-	12			1210		16			14		3				44
Alkalinity	mg/L	-	242			199		221			191		269				297
Hardness	mg/L	-	261			270		265			339		308				348
Ammonia	mg/L	-	0.09	0.27	0.09	0.46	0.13	0.03	0.56	0.23	0.04	0.05	0.02	0.03	0.06	0.09	0.05
Un-ionized Ammonia	mg/L	0.02	< 0.01			< 0.01		< 0.01			< 0.01		< 0.01				< 0.01
Calcium	mg/L	-	90.4			195		95.6			118		112				123
Chloride	mg/L	-	102			76.8		57.9			196		50.2				111
DOC	mg/L	-	11.3			13.4		6.2			5.5		6.1				9.2
Fluoride	mg/L	-	< 0.1			< 0.1		< 0.1			< 0.1		< 0.1				< 0.1
Iron	mg/L	0.3	1.23			24.1		0.431			0.083		0.13				0.341
Magnesium	mg/L	-	8.52			13.2		6.44			10.7		6.86				9.79
Manganese	mg/L	-	0.715			2.75		0.257			0.011		0.086				0.275
Nitrate	mg/L	-	0.09			0.1		0.56			< 0.05		0.63				< 0.05
Nitrite	mg/L	-	< 0.05			< 0.05		< 0.05			< 0.05		< 0.05				0.07
TKN	mg/L	-	1.5			3.3		0.6			1.5		0.4				1
Sodium	mg/L	-	55.8			43.4		31			94.2		29.7				56.9
Sulphate	mg/L	-	12			50		17			87		19				26
Phenols	mg/L	0.001	< 0.002			< 0.002		< 0.002			< 0.002		< 0.002				< 0.002
Phosphorus	mg/L	0.03	0.13			0.64		0.05			0.12		0.06				0.06
Potassium	mg/L	-	4.6			9.8		2.5			9.8		1.7				6.6
Aluminum	mg/L	0.075	0.05			0.06		0.06			0.05		0.07				0.03
Antimony	mg/L	-	< 0.0001			0.0001		0.0004			0.0001		0.0003				0.0003
Arsenic	mg/L	0.1	0.0008			0.0029		0.0003			0.0005		0.0002				0.0006
Barium	mg/L	-	0.037			0.181		0.04			0.069		0.039				0.06
Beryllium	mg/L	1.1	< 0.002			< 0.002		< 0.002			< 0.002		< 0.002				< 0.002
Boron	mg/L	0.2	0.055			0.079		0.02			0.04		0.011				0.041
Cadmium	mg/L	0.0002	< 0.000015			0.000256		< 0.000015			< 0.000015		< 0.000015				< 0.000015
Chromium	mg/L	0.1	< 0.001			0.014		< 0.001			< 0.001		0.001				< 0.001
Cobalt	mg/L	0.0006	0.0003			0.0064		0.0003			0.0001		0.0002				0.0003
Copper	mg/L	0.005	0.0009			0.0129		0.0007			0.0011		0.0009				0.0005
Lead	mg/L	0.025	0.00021			0.00975		0.0001			0.00003		0.00007				0.00008
Mercury	mg/L	-	< 0.00002			< 0.00002		< 0.00002			< 0.00002		< 0.00002				< 0.00002
Molybdenum	mg/L	0.04	0.0002			0.0002		0.0002			0.0006		0.0002				0.0003
Nickel	mg/L	0.025	< 0.01			0.01		< 0.01			< 0.01		< 0.01				< 0.01
Selenium	mg/L	-	< 0.001			< 0.001		< 0.001			< 0.001		< 0.001				< 0.001
Silver	mg/L	0.0001	< 0.0001			< 0.0001		< 0.0001			< 0.0001		< 0.0001				< 0.0001
Strontium	mg/L	-	0.279			0.467		0.241			0.332		0.276				0.374
Thallium	mg/L	-	< 0.00005			0.00011		< 0.00005			< 0.00005		< 0.00005				< 0.00005
Vanadium	mg/L	-	0.0006			0.0172		0.0006			0.0005		0.0004				0.0004
Zinc	mg/L	0.03	0.01			0.101		< 0.005			0.006		0.013				0.005
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14
			25-Oct-21	26-Apr-22	7-Jun-22	21-Jun-22	24-Apr-23	1-May-23	8-Jun-23	26-Jun-23	15-Aug-23	16-Aug-23	5-Oct-23	27-Mar-24	10-Apr-24	25-Apr-24	1-May-24
pH -Lab	pH units	6.5-8.5	7.98	8.22	8.06	8.08	8.21	8.11	7.93	8.07	7.97	7.95	8.13	8.12	8.23	8.19	7.94
Conductivity	uS/cm	-		620		768	624		1150			840	872			593	
BOD	mg/L	-		< 3		< 3	11		< 3			<3	<3			<3	
COD	mg/L	-		22		18	10		14			23	40			30	
Total Dissolved Solids	mg/L	-		333		418	340		617			467	491			337	
Total Suspended Solids	mg/L	-		< 3		7	< 3		4			3	62			5	
Alkalinity	mg/L	-		248		255	241		434			301	243			260	
Hardness	mg/L	-		277		293	260		435			337	283			287	
Ammonia	mg/L	-	0.04	0.05	0.05	0.06	0.03	0.12	0.15	0.08	<0.05	0.14	0.21	<0.05	<0.05	<0.05	0.09
Un-ionized Ammonia	mg/L	0.02		< 0.01		< 0.01	< 0.01		< 0.01			<0.01	<0.01			<0.01	
Calcium	mg/L	-		99.6		103	91.3		143			120	97.8			103	
Chloride	mg/L	-		37.2		92.4	52.4		123			86.9	139			31	
DOC	mg/L	-		6.2		7.7	3.5		4.8			7.8	9.3			5.4	
Fluoride	mg/L	-		< 0.1		< 0.1	< 0.1		0.1			<0.1	<0.1			<0.1	
Iron	mg/L	0.3		0.063		0.126	0.044		1.9			0.198	0.14			0.058	
Magnesium	mg/L	-		6.84		8.87	6.34		14.4			9.04	9.35			7.19	
Manganese	mg/L	-		0.021		0.065	0.019		5.47			0.412	0.024			0.014	
Nitrate	mg/L	-		0.86		1.56	0.46		< 0.05			0.07	0.17			1.07	
Nitrite	mg/L	-		< 0.05		< 0.05	< 0.05		< 0.05			<0.05	<0.05			<0.05	
TKN	mg/L	-		0.5		1	0.5		1			0.9	1.4			0.6	
Sodium	mg/L	-		25		45.4	28.5		63.8			50.6	60.4			21.5	
Sulphate	mg/L	-		13		11	14		3			12	27			12	
Phenols	mg/L	0.001		< 0.001		< 0.001	< 0.001		< 0.001			<0.001	<0.001			<0.001	
Phosphorus	mg/L	0.03		0.02		0.05	0.03		0.03			0.04	0.06			0.04	
Potassium	mg/L	-		2.5		3.4	2.9		2.1			7.1	10.9			2.2	
Aluminum	mg/L	0.075		0.05		0.02	0.02		0.06			0.1	0.07			0.06	
Antimony	mg/L	-		0.0002		0.0003	0.0003		0.0002			0.0001	0.0004			0.0003	
Arsenic	mg/L	0.1		0.0002		0.0004	0.0002		0.0012			0.0006	0.0004			0.0002	
Barium	mg/L	-		0.037		0.036	0.034		0.068			0.061	0.061			0.035	
Beryllium	mg/L	1.1		< 0.002		< 0.002	< 0.002		< 0.002			<0.0001	<0.0001			<0.0001	
Boron	mg/L	0.2		0.015		0.033	0.019		0.073			0.041	0.053			0.013	
Cadmium	mg/L	0.0002		< 0.000015		< 0.000015	< 0.000015		< 0.000015			<0.000015	<0.000015			<0.000015	
Chromium	mg/L	0.1		< 0.001		0.001	0.002		< 0.001			<0.001	<0.001			0.001	
Cobalt	mg/L	0.0006		0.0001		0.0001	0.0001		0.0016			0.0004	0.0003			0.0002	
Copper	mg/L	0.005		0.0007		0.0006	0.0005		0.0004			0.0008	0.0007			0.0014	
Lead	mg/L	0.025		0.00003		0.00003	< 0.00002		0.00008			0.00007	0.00005			0.00006	
Mercury	mg/L	-		< 0.00002		< 0.00002	< 0.00002		< 0.00002			<0.00002	<0.00002			<0.00002	
Molybdenum	mg/L	0.04		0.0001		0.0002	0.0002		0.0002			0.0002	0.0003			0.0003	
Nickel	mg/L	0.025		< 0.01		< 0.01	< 0.01		< 0.01			0.001	0.0008			0.0004	
Selenium	mg/L	-		< 0.001		< 0.001	< 0.001		< 0.001			<0.001	<0.001			<0.001	
Silver	mg/L	0.0001		< 0.0001		< 0.0001	< 0.0001		< 0.0001			<0.0001	<0.0001			0.0001	
Strontium	mg/L	-		0.285		0.314	0.254		0.394			0.347	0.285			0.28	
Thallium	mg/L	-		< 0.00005		< 0.00005	< 0.00005		< 0.00005			<0.00005	<0.00005			<0.00005	
Vanadium	mg/L	-		0.0003		0.0003	0.0002		0.0006			0.0003	0.0005			0.0003	
Zinc	mg/L	0.03		0.007		< 0.005	< 0.005		< 0.005			<0.005	<0.005			0.012	
Cyanide	mg/L	0.005					< 0.005		< 0.005			<0.005	<0.005			<0.005	
Turbidity	NTU	-					0.9		12.3			1.6	4			1	
Tannins & Lignins	mg/L	-					0.6		1.2			0.6	0.8			<0.5	

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW15	SW15	SW15	SW15	SW15
			11-Jun-24	29-Jul-24	15-Aug-24	10-Oct-24	22-Apr-25	28-Apr-25	22-May-25	17-Jun-25	21-Aug-25	9-Oct-25	11-Oct-16	24-Apr-17	25-May-17	22-Jun-17	24-Aug-17
pH -Lab	pH units	6.5-8.5	7.9	7.63	8.03	8.15	8.21	8.23	7.75	8.05	Dry	Dry	8.32	8.4	8.24	8.05	7.62
Conductivity	uS/cm	-	754		637	856		717		767			641	1660	730	1030	536
BOD	mg/L	-	4		<3	<3		<3		<3			12	<3	<3	<3	6
COD	mg/L	-	40		41	40		21		45			11	35	27	29	63
Total Dissolved Solids	mg/L	-	406		351	498		408		410			361	793	351	562	459
Total Suspended Solids	mg/L	-	14		9	42		6		23			40	9	64	28	640
Alkalinity	mg/L	-	244		217	326		267		242			185	107	215	312	203
Hardness	mg/L	-	264		241	385		314		270			200	149	173	273	642
Ammonia	mg/L	-	0.22	0.1	0.08	0.16	<0.05	0.05	0.15	0.29			0.07	0.02	0.04	< 0.01	0.13
Un-ionized Ammonia	mg/L	0.02	<0.01		<0.01	<0.01		<0.01		<0.01			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	mg/L	-	91		82.9	134		111		92.3			65	43	58.9	110	237
Chloride	mg/L	-	91.3		72.7	81.4		68.3		93.4			36.8	385	75.1	95.6	28
DOC	mg/L	-	9.9		12.2	10.6		11.6		8			4.6	4.6	5.4	8.3	16.9
Fluoride	mg/L	-	<0.1		<0.1	<0.1		<0.1		0.7			0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.594		0.331	0.756		0.114		1.06			0.048	0.114	0.513	0.486	8.24
Magnesium	mg/L	-	8.86		8.11	12.1		8.53		9.59			11.8	8.82	6.35	10.4	12.4
Manganese	mg/L	-	0.629		0.198	0.194		0.071		0.865			0.027	0.005	0.106	0.281	0.611
Nitrate	mg/L	-	0.12		<0.05	<0.05		0.84		0.11			< 0.1	0.1	0.05	0.05	0.11
Nitrite	mg/L	-	<0.05		<0.05	<0.05		<0.05		<0.05			< 0.1	< 0.1	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	1.2		1	1.1		0.7		1.4			0.8	1.2	0.5	0.8	2.3
Sodium	mg/L	-	56.8		46.1	51.9		40.8		59.4			49.7	247	61.2	119	14.5
Sulphate	mg/L	-	6		5	12		11		5			85	38	19	37	16
Phenols	mg/L	0.001	<0.001		0.002	<0.001		<0.001		0.002			0.006	0.002	0.002	0.008	0.015
Phosphorus	mg/L	0.03	0.07		0.06	0.08		0.02		0.11	0.08		0.05	0.02	0.03	0.05	0.47
Potassium	mg/L	-	4.1		4.4	9.1		4.2		2.1			1.7	5.9	1.2	1.9	20.4
Aluminum	mg/L	0.075	0.18		0.11	0.37		0.07		0.38			0.04	0.03	0.11	0.24	4.4
Antimony	mg/L	-	0.0005		0.0003	0.0003		0.0003		0.0002			0.0001	0.0003	0.0001	0.0005	0.0003
Arsenic	mg/L	0.1	0.0005		0.0005	0.0004		0.0003		0.0007			0.0004	0.0019	0.0006	0.001	0.0025
Barium	mg/L	-	0.047		0.039	0.058		0.043		0.04			0.076	0.046	0.032	0.066	0.155
Beryllium	mg/L	1.1	<0.0001		<0.0001	<0.0001		<0.0001		<0.0001			< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.048		0.06	0.045		0.029		0.036			< 0.005	0.073	0.018	0.067	0.072
Cadmium	mg/L	0.0002	<0.000015		<0.000015	<0.000015		<0.000015		<0.000015			0.00002	< 0.000014	< 0.000014	0.000016	0.000157
Chromium	mg/L	0.1	<0.001		<0.001	<0.001		<0.001		<0.001			< 0.0002	< 0.0015	< 0.001	< 0.001	0.008
Cobalt	mg/L	0.0006	0.0005		0.0003	0.0005		0.0003		0.0006			< 0.0001	0.0002	0.0003	0.0005	0.0041
Copper	mg/L	0.005	0.0008		0.0007	0.0009		0.0006		0.0013			0.0006	0.0023	0.0014	0.0024	0.0174
Lead	mg/L	0.025	0.00015		0.00009	0.00028		0.00003		0.0003			0.00225	< 0.00002	0.00018	0.00034	0.00812
Mercury	mg/L	-	<0.00002		<0.00002	<0.00002		<0.00002		<0.00002			< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003
Molybdenum	mg/L	0.04	<0.0001		0.0001	0.0002		0.0001		0.0001			0.0002	0.0008	0.0006	0.0007	0.0009
Nickel	mg/L	0.025	0.0009		0.0007	0.001		0.0005		0.001			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	<0.001		<0.001	<0.001		<0.001		<0.001			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	<0.0001		0.0004	<0.0001		<0.0001		<0.0001			< 0.00002	0.00043	0.00002	0.00002	0.00004
Strontium	mg/L	-	0.289		0.272	0.397		0.313		0.309			0.216	0.286	0.195	0.417	0.497
Thallium	mg/L	-	<0.00005		<0.00005	<0.00005		<0.00005		<0.00005			< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00008
Vanadium	mg/L	-	0.0006		0.0005	0.0009		0.0003		0.001			0.0002	< 0.0001	0.0002	0.0006	0.0082
Zinc	mg/L	0.03	<0.005		0.005	0.007		0.022		0.006			< 0.005	< 0.005	0.011	0.103	0.085
Cyanide	mg/L	0.005	<0.005		<0.005	<0.005		<0.005		<0.005							
Turbidity	NTU	-	8		8.9	21.7		2		22.2							
Tannins & Lignins	mg/L	-	1		0.7			<0.5		0.9							

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15
			17-Oct-17	25-Apr-18	28-Jun-18	22-Aug-18	10-Oct-18	24-Apr-19	5-Jun-19	17-Jul-19	9-Oct-19	31-Oct-19	30-Apr-20	24-Jun-20	22-Oct-20	30-Nov-20	20-Apr-21
pH -Lab	pH units	6.5-8.5	7.87	8.22	7.73	7.68	7.99	8.09	7.96	7.84	7.87	8.14	7.88	7.73	8.09	7.8	8
Conductivity	uS/cm	-	1360	948	1100	1450	944	958		752	1110		1060	1340	1010		1810
BOD	mg/L	-	<3	<3	<3	8	3	<3		12	<3		5	6	4		<3
COD	mg/L	-	47	42	60	93	33	36		83	76		56	65	53		54
Total Dissolved Solids	mg/L	-	814	531	579	948	487	493		359	626		585	665	552		1003
Total Suspended Solids	mg/L	-	172	7	50	165	6	4		80	62		150	340	19		28
Alkalinity	mg/L	-	312	215	99	189	129	163		111	268		293	141	147		331
Hardness	mg/L	-	589	230	120	288	171	208		87	386		344	163	239		491
Ammonia	mg/L	-	0.07	0.05	0.07	0.1	0.09	0.04	0.45	0.08	0.07	0.09	0.03	0.18	0.05	0.12	0.26
Un-ionized Ammonia	mg/L	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01		0.01
Calcium	mg/L	-	211	77.9	32.1	171	53.2	76.1		20.6	133		107	44.3	78.3		171
Chloride	mg/L	-	120	164	271	330	197	183		135	190		141	309	185		342
DOC	mg/L	-	8.7	7.1	10.8	8.9	6	6.1		11.5	8.5		5.4	6.1	4.9		6.8
Fluoride	mg/L	-	<0.1	0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1		0.1	<0.1	<0.1		<0.1
Iron	mg/L	0.3	4.75	0.096	0.446	9.76	0.302	0.191		0.15	0.022		2.16	1.1	0.406		2.53
Magnesium	mg/L	-	14.9	8.64	9.6	16.1	9.24	5.84		7.58	13		18.6	11.8	10.5		15.5
Manganese	mg/L	-	1.98	0.004	0.168	0.754	0.038	0.046		0.075	0.003		0.105	0.073	0.044		0.552
Nitrate	mg/L	-	0.05	1.01	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		0.09	0.21	<0.05		<0.05
Nitrite	mg/L	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	<0.05		<0.05
TKN	mg/L	-	1.2	1	1.9	11.1	0.9	1		1.5	2.5		1.6	2.4	1.5		2.3
Sodium	mg/L	-	106	98.2	191	232	126	108		118	96.9		92	193	109		203
Sulphate	mg/L	-	162	39	6	73	15	15		4	19		30	12	67		55
Phenols	mg/L	0.001	0.004	<0.001	<0.001	0.01	0.006	<0.002		<0.002	<0.002		<0.002	<0.001	<0.002		<0.002
Phosphorus	mg/L	0.03	0.24	0.03	0.06	0.81	0.03	0.05		0.04	0.37		0.22	0.06	0.07		0.21
Potassium	mg/L	-	6.3	15.2	9.4	2.4	5.1	7.3		8.3	12.9		2.6	7.8	8.1		8.3
Aluminum	mg/L	0.075	0.63	0.1	0.03	2.38	0.04	0.05		0.02	0.09		0.07	0.03	0.02		0.09
Antimony	mg/L	-	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002		0.0002	0.0001		0.0003	0.0002	0.0001		0.0004
Arsenic	mg/L	0.1	0.0022	0.0007	0.0012	0.0027	0.0008	0.0005		0.0008	0.0016		0.0006	0.0023	0.0008		0.0012
Barium	mg/L	-	0.124	0.053	0.037	0.16	0.056	0.052		0.024	0.069		0.054	0.055	0.059		0.111
Beryllium	mg/L	1.1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002	<0.002		<0.002
Boron	mg/L	0.2	0.106	0.142	0.111	0.144	0.09	0.047		0.203	0.089		0.055	0.281	0.149		0.265
Cadmium	mg/L	0.0002	0.000071	<0.000015	0.000071	0.000255	0.000037	<0.000015		<0.000015	0.000049		<0.000015	<0.000015	<0.000015		<0.000015
Chromium	mg/L	0.1	0.001	<0.001	<0.001	0.006	<0.001	0.001		<0.001	<0.001		<0.001	<0.001	0.001		0.001
Cobalt	mg/L	0.0006	0.0037	0.0001	0.0004	0.0026	0.0001	0.0002		0.0002	0.002		0.0005	0.0002	0.0002		0.0021
Copper	mg/L	0.005	0.0098	0.0021	0.0096	0.0164	0.0054	0.0021		0.0017	0.0055		0.0011	0.0007	0.0004		0.001
Lead	mg/L	0.025	0.00161	0.00012	0.0004	0.00479	0.00033	0.00014		0.00012	0.00329		0.00059	0.00023	0.00022		0.00035
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	<0.00002		<0.00002	<0.00002	<0.00002		<0.00002
Molybdenum	mg/L	0.04	0.0015	0.0007	0.0002	0.0007	0.0004	0.0005		0.0001	0.0005		0.0003	0.0006	0.0005		0.0006
Nickel	mg/L	0.025	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01		<0.01
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001	<0.001	<0.001		0.001
Silver	mg/L	0.0001	0.00002	<0.00002	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001
Strontium	mg/L	-	0.518	0.252	0.199	0.551	0.247	0.227		0.131	0.404		0.414	0.237	0.324		0.578
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005		<0.00005	<0.00005	<0.00005		<0.00005
Vanadium	mg/L	-	0.0012	0.0001	0.0002	0.0055	0.0001	0.0002		<0.0001	0.0032		0.0008	0.0005	0.0002		0.0007
Zinc	mg/L	0.03	0.063	0.005	0.037	0.072	0.032	0.023		0.01	<0.005		0.01	0.011	<0.005		0.012
Cyanide	mg/L	0.005					<0.005	<0.005									
Turbidity	NTU	-					2.6	330									
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15	SW15
			4-May-21	15-Jun-21	8-Jul-21	23-Sep-21	15-Oct-21	26-Apr-22	7-Jun-22	24-Apr-23	1-May-23	8-Jun-23	26-Jun-23	27-Mar-24	10-Apr-24	25-Apr-24	1-May-24
pH -Lab	pH units	6.5-8.5	8.11	7.7	8.13	8.02	7.72	8.03	7.79	8.06	8.15	Dry	7.84	8.23	8.23	Dry	8.27
Conductivity	uS/cm	-		854			873	2140		2090							
BOD	mg/L	-		24			5	< 3		22							
COD	mg/L	-		101			89	34		147							
Total Dissolved Solids	mg/L	-		484			469	1226		1187							
Total Suspended Solids	mg/L	-		89			84	285		3900							
Alkalinity	mg/L	-		225			142	233		319							
Hardness	mg/L	-		234			161	523		607							
Ammonia	mg/L	-	1.11	0.15	0.17	0.06	0.08	1.35	0.08	0.19	2.58		<0.05	5.55	0.07		0.06
Un-ionized Ammonia	mg/L	0.02		< 0.01			< 0.01	0.03		< 0.01							
Calcium	mg/L	-		71.3			48.5	191		367							
Chloride	mg/L	-		143			182	497		328							
DOC	mg/L	-		31.5			7.9	2.5		3.5							
Fluoride	mg/L	-		< 0.1			< 0.1	< 0.1		< 1							
Iron	mg/L	0.3		2.75			7.59	4.04		7.69							
Magnesium	mg/L	-		13.6			9.74	11		28.8							
Manganese	mg/L	-		0.266			0.219	0.184		0.476							
Nitrate	mg/L	-		0.1			< 0.05	1.45		14							
Nitrite	mg/L	-		< 0.05			0.1	< 0.05		< 0.5							
TKN	mg/L	-		3.1			3.4	1.9		5							
Sodium	mg/L	-		90.1			110	311		167							
Sulphate	mg/L	-		5			13	63		219							
Phenols	mg/L	0.001		< 0.002			< 0.002	< 0.001		< 0.001							
Phosphorus	mg/L	0.03		0.44			0.23	0.39		0.62							
Potassium	mg/L	-		9			11.8	7		42.2							
Aluminum	mg/L	0.075		0.06			0.01	0.09		0.06							
Antimony	mg/L	-		0.0001			0.0005	0.0006		0.0008							
Arsenic	mg/L	0.1		0.0016			0.0034	0.0011		0.0024							
Barium	mg/L	-		0.042			0.05	0.122		0.267							
Beryllium	mg/L	1.1		< 0.002			< 0.002	< 0.002		< 0.002							
Boron	mg/L	0.2		0.145			0.215	0.137		0.999							
Cadmium	mg/L	0.0002		< 0.000015			0.000025	0.000069		0.000175							
Chromium	mg/L	0.1		0.002			0.001	0.003		0.011							
Cobalt	mg/L	0.0006		0.0003			0.0009	0.0017		0.0045							
Copper	mg/L	0.005		0.002			0.002	0.0057		0.0182							
Lead	mg/L	0.025		0.00036			0.00082	0.00437		0.0104							
Mercury	mg/L	-		< 0.00002			< 0.00002	< 0.00002		< 0.00002							
Molybdenum	mg/L	0.04		0.0001			0.0005	0.0006		0.0008							
Nickel	mg/L	0.025		< 0.01			< 0.01	< 0.01		0.01							
Selenium	mg/L	-		< 0.001			< 0.001	< 0.002		< 0.002							
Silver	mg/L	0.0001		< 0.0001			< 0.0001	< 0.0001		< 0.0001							
Strontium	mg/L	-		0.308			0.282	0.656		1.1							
Thallium	mg/L	-		< 0.00005			< 0.00005	< 0.0001		< 0.0001							
Vanadium	mg/L	-		0.0006			0.0015	0.003		0.0082							
Zinc	mg/L	0.03		0.021			0.012	0.029		0.162							
Cyanide	mg/L	0.005								< 0.005							
Turbidity	NTU	-								576							
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW15 11-Jun-24	SW15 29-Jul-24	SW15 15-Aug-24	SW15 10-Oct-24	SW15 22-Apr-25	SW15 28-Apr-25	SW15 22-May-25	SW15 17-Jun-25	SW15 21-Aug-25	SW15 9-Oct-25	SW16 11-Oct-16	SW16 24-Apr-17	SW16 22-Jun-17	SW16 24-Aug-17	SW16 17-Oct-17
pH -Lab	pH units	6.5-8.5	Dry	7.88	7.85	7.82	8.3	8.14	8.15	8.59	7.71	7.86	8.23	8.03	7.77	7.67	8.2
Conductivity	uS/cm	-			448	630		983		807	1060	1590	644	1230	740	561	757
BOD	mg/L	-			<3	<3		<3		3	7	<3	10	<3	18	7	<3
COD	mg/L	-			23	32		35		56	54	72	28	32	55	77	29
Total Dissolved Solids	mg/L	-			247	358		536		416	611	829	393	610	372	278	369
Total Suspended Solids	mg/L	-			11	11		9		8	11	12	490	40	21	26	42
Alkalinity	mg/L	-			100	139		168		86	90	156	185	268	229	86	137
Hardness	mg/L	-			127	187		224		86.1	291	239	215	380	253	100	195
Ammonia	mg/L	-		0.1	0.31	0.34	<0.05	0.21	0.05	0.06	0.57	0.15	0.04	0.02	< 0.01	0.03	0.03
Un-ionized Ammonia	mg/L	0.02			0.03	<0.01		<0.01		<0.01	<0.01	<0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	mg/L	-			41.2	61.6		70.6		20	104	72.9	93.6	134	91.3	35.9	61.7
Chloride	mg/L	-			62.7	100		199		190	166	366	36.8	207	76.1	103	115
DOC	mg/L	-			7.4	10.3		11.7		7.9	12.1	8.6	5.4	6.7	11.8	10.7	7.2
Fluoride	mg/L	-			<0.1	<0.1		<0.1		0.4	<0.1	<0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3			0.361	0.479		0.83		1.29	0.258	0.583	0.779	0.157	1	2.99	0.321
Magnesium	mg/L	-			5.84	7.99		11.5		8.77	7.52	13.9	12.8	8.98	8.48	6.86	9.92
Manganese	mg/L	-			0.021	0.019		0.08		0.051	0.135	0.1	0.089	0.064	0.509	0.155	0.026
Nitrate	mg/L	-			0.1	0.14		0.05		<0.05	0.72	0.06	0.1	< 0.1	< 0.05	< 0.05	< 0.05
Nitrite	mg/L	-			<0.05	<0.05		<0.05		<0.05	0.07	<0.05	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05
TKN	mg/L	-			1	1.5		1.3		1.2	3.2	2.8	0.7	1	1.3	1.5	0.9
Sodium	mg/L	-			44.2	63.5		124		132	100	188	49.8	81.6	50.2	69.6	73.5
Sulphate	mg/L	-			26	32		23		6	167	115	85	15	2	5	21
Phenols	mg/L	0.001			0.002	<0.001		<0.001		0.002	<0.001	<0.001	0.008	0.002	0.012	0.011	0.005
Phosphorus	mg/L	0.03			0.05	0.04		0.04		0.05	0.2	0.07	0.09	0.07	0.12	0.14	0.05
Potassium	mg/L	-			6.1	8.9		6.4		5.6	9.2	9.4	2.2	2.8	4.5	2.3	5
Aluminum	mg/L	0.075			0.27	0.33		0.1		0.19	0.32	0.1	0.48	0.17	0.06	0.13	0.06
Antimony	mg/L	-			0.0006	0.0006		0.0004		0.0008	0.0012	0.0006	0.0001	0.0002	0.0003	0.0002	0.0002
Arsenic	mg/L	0.1			0.0005	0.0007		0.001		0.003	0.0017	0.0034	0.0006	0.0016	0.0015	0.0009	0.001
Barium	mg/L	-			0.036	0.06		0.07		0.021	0.098	0.073	0.059	0.055	0.067	0.044	0.058
Beryllium	mg/L	1.1			<0.0001	<0.0001		<0.0001		<0.0001	<0.0001	<0.0001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2			0.088	0.082		0.071		0.088	0.073	0.089	< 0.005	0.019	0.037	0.045	0.061
Cadmium	mg/L	0.0002			<0.000015	<0.000015		<0.000015		<0.000015	<0.000015	<0.000015	0.00009	0.000015	< 0.000014	0.000078	0.000046
Chromium	mg/L	0.1			<0.001	<0.001		<0.001		0.001	<0.001	0.003	0.0009	< 0.0015	< 0.001	< 0.001	0.001
Cobalt	mg/L	0.0006			0.0003	0.0004		0.0003		0.0005	0.0005	0.0006	0.0005	0.0002	0.0002	0.0004	< 0.0001
Copper	mg/L	0.005			0.003	0.0027		0.0011		0.0009	0.0063	0.0009	0.0031	0.001	0.0007	0.0097	0.0071
Lead	mg/L	0.025			0.00037	0.00044		0.0003		0.00049	0.00029	0.00045	0.0025	0.0001	0.00003	0.00062	0.00045
Mercury	mg/L	-			<0.00002	<0.00002		<0.00002		<0.00002	<0.00002	<0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04			0.0006	0.0008		0.0007		0.0008	0.002	0.0012	0.0002	0.001	0.0002	0.0003	0.0005
Nickel	mg/L	0.025			0.0014	0.0015		0.0017		0.0016	0.0017	0.0025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-			<0.001	<0.001		<0.001		<0.001	<0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001			0.0003	<0.0001		<0.0001		<0.0001	<0.0001	<0.0001	0.00002	0.00043	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	-			0.254	0.326		0.361		0.163	0.411	0.413	0.268	0.384	0.334	0.171	0.231
Thallium	mg/L	-			<0.00005	<0.00005		<0.00005		<0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-			0.0005	0.0006		0.0005		0.0007	0.0005	0.0006	0.0011	0.0004	0.0001	0.0002	0.0002
Zinc	mg/L	0.03			0.007	0.01		0.022		<0.005	0.006	<0.005	0.022	0.034	0.019	0.046	0.062
Cyanide	mg/L	0.005			<0.005	<0.005		<0.005		<0.005	<0.005	<0.005		< 0.005		< 0.005	
Turbidity	NTU	-			17.1	19		6.6		12.3	7.8	24.5		3.1		8.9	
Tannins & Lignins	mg/L	-												1.4		0.9	

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW16 25-Apr-18	SW16 28-Jun-18	SW16 22-Aug-18	SW16 10-Oct-18	SW16 24-Apr-19	SW16 17-Jul-19	SW16 9-Oct-19	SW16 20-Apr-21	SW16 15-Oct-21	SW16 26-Apr-22	SW16 24-Apr-23	SW16 8-Jun-23	SW16 16-Aug-23	SW16 5-Oct-23	SW16 25-Apr-24
pH -Lab	pH units	6.5-8.5	8.22	7.98	7.62	7.43	7.98	7.85	7.64	8.19	7.81	8.03	8.06	Dry	Dry	Dry	Dry
Conductivity	uS/cm	-	544	2470	1110	1380	464	1870	1160	1230	1720	2320	2060				
BOD	mg/L	-	< 3	< 3	8	22	< 3	33	22	< 3	7	< 3	< 3				
COD	mg/L	-	23	56	345	296	30	95	132	9	70	36	36				
Total Dissolved Solids	mg/L	-	285	1353	635	724	235	921	660	697	1051	1262	1130				
Total Suspended Solids	mg/L	-	12	40	140	700	8	85	700	< 3	200	39	110				
Alkalinity	mg/L	-	145	334	155	300	133	174	270	289	334	228	212				
Hardness	mg/L	-	169	474	172	488	162	185	386	384	626	374	245				
Ammonia	mg/L	-	0.02	0.45	0.08	0.13	0.03	0.16	0.06	0.02	0.2	1.33	0.03				
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01				
Calcium	mg/L	-	60	166	68.5	167	55.9	62.5	135	132	217	135	91.2				
Chloride	mg/L	-	77.2	608	263	237	53.5	420	232	211	356	552	563				
DOC	mg/L	-	5	7.4	9.1	8.9	6.9	22.3	9.4	5.7	8	2.1	1.4				
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1				
Iron	mg/L	0.3	0.099	0.462	10.8	3.9	0.15	0.922	4.36	0.212	36	1.25	1.51				
Magnesium	mg/L	-	4.68	14.3	9.56	17.1	3.77	7.92	11.7	13.1	20.2	8.94	7.19				
Manganese	mg/L	-	0.013	2	0.255	0.583	0.045	0.752	0.481	0.008	1.04	0.084	0.165				
Nitrate	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05	< 0.05	0.34	< 0.5				
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.09	< 0.05	< 0.5				
TKN	mg/L	-	0.6	2.1	10.1	8	0.7	2.3	5.8	0.6	1.9	1.8	1.1				
Sodium	mg/L	-	39.2	348	158	98.2	29.2	312	107	119	119	368	298				
Sulphate	mg/L	-	13	2	29	24	8	5	5	37	98	54	40				
Phenols	mg/L	0.001	< 0.001	< 0.001	0.004	0.011	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001				
Phosphorus	mg/L	0.03	0.05	0.11	0.62	0.7	0.05	0.21	0.48	0.06	0.56	0.13	0.15				
Potassium	mg/L	-	3.4	11.2	3	1.7	4.3	7.2	2.4	1.5	3.3	4.3	3.2				
Aluminum	mg/L	0.075	0.05	0.09	0.73	0.14	0.04	0.03	0.08	0.08	0.06	0.06	0.04				
Antimony	mg/L	-	< 0.0001	0.0003	0.0003	< 0.0001	0.0002	0.0003	0.0001	0.0003	0.0005	0.0005	0.0008				
Arsenic	mg/L	0.1	0.0004	0.0018	0.0031	0.0009	0.0002	0.0018	0.0014	0.0004	0.01	0.0006	0.0009				
Barium	mg/L	-	0.028	0.111	0.106	0.156	0.029	0.138	0.077	0.069	0.158	0.106	0.078				
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002				
Boron	mg/L	0.2	0.021	0.066	0.101	0.062	0.015	0.046	0.039	0.023	0.07	0.083	0.054				
Cadmium	mg/L	0.0002	< 0.000015	0.000017	0.000135	0.000055	< 0.000015	< 0.000015	0.000046	< 0.000015	< 0.000028	0.000031	0.000032				
Chromium	mg/L	0.1	< 0.001	0.001	0.003	0.001	< 0.001	0.015	0.002	< 0.001	0.001	0.001	0.004				
Cobalt	mg/L	0.0006	< 0.0001	0.001	0.0012	0.0005	< 0.0001	0.0005	0.0006	0.0002	0.0015	0.0007	0.001				
Copper	mg/L	0.005	0.0007	0.0025	0.0105	0.0104	0.001	0.004	0.0043	0.0011	0.0006	0.0037	0.0058				
Lead	mg/L	0.025	0.00005	0.00011	0.00238	0.00079	0.00008	0.00011	0.00072	0.00005	0.00018	0.00149	0.00212				
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002				
Molybdenum	mg/L	0.04	0.0003	0.0003	0.0013	0.0002	0.0003	< 0.0001	0.0003	0.0014	0.0005	0.0007	0.0008				
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01				
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	< 0.002	< 0.002				
Silver	mg/L	0.0001	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001				
Strontium	mg/L	-	0.162	0.6	0.279	0.584	0.16	0.282	0.403	0.421	0.794	0.544	0.391				
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.0001	< 0.0001	< 0.0001				
Vanadium	mg/L	-	< 0.0001	0.0003	0.0033	0.0004	< 0.0001	0.0003	0.0006	0.0001	0.0051	0.0012	0.0021				
Zinc	mg/L	0.03	< 0.005	0.016	0.039	0.026	0.009	0.012	0.024	0.013	0.007	0.016	0.013				
Cyanide	mg/L	0.005	< 0.005										< 0.005				
Turbidity	NTU	-	194										180				
Tannins & Lignins	mg/L	-	2.7														

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	SW16	SW16	SW16	SW16	SW16	SW16	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18
			11-Jun-24	15-Aug-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25	21-Apr-16	26-May-16	8-Jun-16	24-Apr-17	23-May-17	22-Jun-17	24-Aug-17	17-Oct-17	25-Apr-18
pH -Lab	pH units	6.5-8.5	Dry	Dry	Dry	Dry	Dry	Dry	7.82	7.91	8.04	8.13	8.18	7.93	7.87	8.24	8.19
Conductivity	uS/cm	-							794	1010	1280	763	522	525	527	847	429
BOD	mg/L	-							3	5	13	<3	<3	<3	<3	<3	< 3
COD	mg/L	-							29	47	41	35	22	33	29	25	20
Total Dissolved Solids	mg/L	-							426	598	731	393	253	277	304	451	231
Total Suspended Solids	mg/L	-							4	300	170	<3	<3	3	6	3	5
Alkalinity	mg/L	-							198	310	343	182	213	223	203	324	177
Hardness	mg/L	-							241	388	548	216	193	231	291	357	179
Ammonia	mg/L	-							0.04	0.26	0.13	0.01	0.05	0.04	0.03	0.03	0.03
Un-ionized Ammonia	mg/L	0.02							< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Calcium	mg/L	-							82.9	138	200	76.5	68.9	84	105	129	64.8
Chloride	mg/L	-							121	143	189	111	24.3	24.2	35.1	44.9	27.2
DOC	mg/L	-							9.1	8.6	5.4	9.1	8.5	10.7	11.9	6.3	5.2
Fluoride	mg/L	-							0.1	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3							0.147	4.87	1.09	0.091	0.024	0.307	0.625	0.041	0.052
Magnesium	mg/L	-							8.29	10.7	11.9	6.08	4.98	6.02	7.84	8.37	4.14
Manganese	mg/L	-							0.063	1.6	0.729	0.028	0.022	0.103	0.672	0.005	0.006
Nitrate	mg/L	-							0.1	0.4	0.2	< 0.1	< 0.05	0.14	< 0.05	1.78	0.64
Nitrite	mg/L	-							< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-							0.4	2.5	1.5	0.8	1.8	1	0.8	0.5	0.5
Sodium	mg/L	-							68.7	89	90.9	64.9	17.2	20.3	25.4	37.1	15.3
Sulphate	mg/L	-							18	21	29	22	9	6	5	35	11
Phenols	mg/L	0.001							< 0.001	< 0.001	< 0.001	0.005	0.008	0.005	0.009	0.002	< 0.001
Phosphorus	mg/L	0.03							0.02	0.43	0.18	0.04	0.01	0.04	0.05	0.02	0.03
Potassium	mg/L	-							6.9	2.2	2	4	1.3	1.7	2.7	2	2
Aluminum	mg/L	0.075							0.03	1.15	0.33	0.04	0.03	0.03	0.22	0.07	0.06
Antimony	mg/L	-							0.0001	0.0001	0.0002	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001
Arsenic	mg/L	0.1							0.0004	0.001	0.0008	0.0007	0.0003	0.0007	0.0006	0.0004	0.0002
Barium	mg/L	-							0.036	0.084	0.105	0.031	0.026	0.029	0.073	0.047	0.022
Beryllium	mg/L	1.1							< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2							0.027	0.052	0.021	0.023	0.007	0.016	0.027	0.018	0.008
Cadmium	mg/L	0.0002							< 0.00002	0.00006	0.00007	< 0.000014	< 0.000014	< 0.000014	0.000076	0.000041	< 0.000015
Chromium	mg/L	0.1							0.0003	0.0017	0.0006	< 0.0015	0.012	< 0.001	0.001	< 0.001	< 0.001
Cobalt	mg/L	0.0006							< 0.005	< 0.005	< 0.005	< 0.0001	< 0.0001	0.0002	0.0006	< 0.0001	< 0.0001
Copper	mg/L	0.005							0.0007	0.0038	0.0053	0.0004	0.0008	0.0005	0.0059	0.006	0.0005
Lead	mg/L	0.025							0.00002	0.00199	0.00099	< 0.00002	0.00004	0.00003	0.00063	0.00036	0.00004
Mercury	mg/L	-							< 0.00002	< 0.00002	0.00005	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04							0.0004	< 0.0001	0.0003	0.0006	0.0002	0.0002	0.0002	0.0003	0.0002
Nickel	mg/L	0.025							< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-							< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001							< 0.00002	< 0.00002	< 0.00002	0.00037	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	-							0.279	0.377	0.523	0.223	0.199	0.249	0.298	0.291	0.158
Thallium	mg/L	-							< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-							0.0001	0.0033	0.0012	0.0002	< 0.0001	0.0002	0.0005	0.0004	0.0003
Zinc	mg/L	0.03							< 0.005	0.399	0.188	0.046	0.042	0.005	0.63	0.011	< 0.005
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW18 28-Jun-18	SW18 22-Aug-18	SW18 11-Oct-18	SW18 24-Apr-19	SW18 5-Jun-19	SW18 17-Jul-19	SW18 6-Aug-19	SW18 13-Aug-19	SW18 27-Aug-19	SW18 10-Sep-19	SW18 2-Oct-19	SW18 8-Oct-19	SW18 16-Oct-19	SW18 31-Oct-19	SW18 30-Apr-20
pH -Lab	pH units	6.5-8.5	7.96	7.79	7.73	8.14	8.16	7.92	7.76	8.08	7.4	7.84	8	7.74	7.81	8.04	7.99
Conductivity	uS/cm	-	504	690	927	436		819		691				799			643
BOD	mg/L	-	< 3	5	86	< 3		11		4				4			< 3
COD	mg/L	-	103	54	244	25		44		68				33			25
Total Dissolved Solids	mg/L	-	274	365	490	226		411		368				424			355
Total Suspended Solids	mg/L	-	10	14	400	6		300		20				16			5
Alkalinity	mg/L	-	147	180	247	164		230		155				188			222
Hardness	mg/L	-	178	193	246	197		294		190				229			254
Ammonia	mg/L	-	0.06	0.1	0.17	0.03	0.02	1.15	0.19	0.13	2.12	1.39	0.16	0.52	0.77	0.05	0.03
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01		0.02		0.02				0.02			< 0.01
Calcium	mg/L	-	58.2	68.3	257	71		94.7		62.3				77.3			91.4
Chloride	mg/L	-	68.9	112	146	25		87		124				139			56.4
DOC	mg/L	-	14.9	11.9	16.8	4.9		12.1		11.3				9.3			6.4
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1		< 0.1				< 0.1			< 0.1
Iron	mg/L	0.3	0.97	1.44	9.12	0.153		2.99		1.1				1.41			0.211
Magnesium	mg/L	-	7.81	7.51	12.4	4.04		8.08		8.27				8.8			6.18
Manganese	mg/L	-	0.26	0.628	1.16	0.023		1.91		0.341				0.748			0.114
Nitrate	mg/L	-	< 0.05	< 0.05	< 0.05	0.67		0.05		0.06				< 0.05			0.74
Nitrite	mg/L	-	< 0.05	< 0.05	< 0.05	< 0.05		0.05		< 0.05				< 0.05			< 0.05
TKN	mg/L	-	1.6	1.7	10.4	0.8		2.4		2.7				1.6			0.6
Sodium	mg/L	-	43.3	60.5	85.4	14		58.7		66.3				69.2			30
Sulphate	mg/L	-	2	1	10	10		14		4				7			16
Phenols	mg/L	0.001	0.005	0.007	0.007	< 0.002		< 0.002		< 0.002				< 0.002			< 0.002
Phosphorus	mg/L	0.03	0.14	0.18	1.58	0.04		0.14		0.09				0.09			0.03
Potassium	mg/L	-	4	5.5	7.7	2.4		4.9		9.1				7.2			2.4
Aluminum	mg/L	0.075	0.07	0.05	2.56	0.05		0.06		0.03				0.06			0.06
Antimony	mg/L	-	0.0001	< 0.0001	< 0.0001	0.0001		0.0003		0.0001				0.0002			0.0004
Arsenic	mg/L	0.1	0.0008	0.0005	0.0013	0.0002		0.0012		0.0005				0.0008			0.0002
Barium	mg/L	-	0.038	0.045	0.208	0.029		0.061		0.044				0.054			0.037
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002		< 0.002		< 0.002				< 0.002			< 0.002
Boron	mg/L	0.2	0.032	0.046	0.067	0.005		0.061		0.052				0.046			0.018
Cadmium	mg/L	0.0002	0.000072	0.000091	0.000315	< 0.000015		< 0.000015		< 0.000015				< 0.000015			< 0.000015
Chromium	mg/L	0.1	0.001	0.001	0.003	< 0.001		< 0.001		< 0.001				0.002			< 0.001
Cobalt	mg/L	0.0006	0.0004	0.0003	0.0023	< 0.0001		0.0006		0.0002				0.0004			0.0002
Copper	mg/L	0.005	0.0068	0.0069	0.0172	0.0011		0.0006		0.0009				0.0029			0.0007
Lead	mg/L	0.025	0.00038	0.00054	0.00375	0.00007		0.0001		0.00026				0.00006			0.00006
Mercury	mg/L	-	< 0.00002	< 0.00002	0.00002	< 0.00002		< 0.00002		< 0.00002				< 0.00002			< 0.00002
Molybdenum	mg/L	0.04	0.0001	0.0001	0.0004	0.0002		0.0002		< 0.0001				0.0002			0.0002
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01		< 0.01				< 0.01			< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001		< 0.001				< 0.001			< 0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001		< 0.0001				< 0.0001			< 0.0001
Strontium	mg/L	-	0.235	0.257	0.53	0.17		0.305		0.26				0.253			0.236
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005		< 0.00005				< 0.00005			< 0.00005
Vanadium	mg/L	-	0.0004	0.0001	0.0073	0.0002		0.0006		0.0007				0.0003			0.0004
Zinc	mg/L	0.03	0.03	0.02	0.228	0.008		0.026		0.022				0.103			< 0.005
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18
			15-Oct-20	22-Oct-20	30-Nov-20	20-Apr-21	4-May-21	15-Jun-21	8-Jul-21	11-Aug-21	23-Sep-21	15-Oct-21	25-Oct-21	26-Apr-22	7-Jun-22	21-Jun-22	5-Jul-22
pH -Lab	pH units	6.5-8.5	7.83	7.96	7.95	8.31	8.21	7.88	8.14	7.86	8.02	7.86	7.88	8.32	8.12	7.88	7.43
Conductivity	uS/cm	-		1140		676		1050		691		912		649		749	
BOD	mg/L	-		< 3		< 3		< 3		< 3		14		< 3		< 3	
COD	mg/L	-		< 5		9		55		42		146		23		33	
Total Dissolved Solids	mg/L	-		631		386		576		361		579		351		401	
Total Suspended Solids	mg/L	-		31		< 3		8		8		1400		< 3		10	
Alkalinity	mg/L	-		180		270		216		198		288		270		212	
Hardness	mg/L	-		331		305		274		199		401		288		207	
Ammonia	mg/L	-	0.07	0.05	0.04	0.02	0.02	0.19	0.03	0.19	0.08	0.14	0.04	0.1	2.51	0.05	0.19
Un-ionized Ammonia	mg/L	0.02		< 0.01		< 0.01		< 0.01		< 0.01		< 0.01		< 0.01		< 0.01	
Calcium	mg/L	-		112		111		90.2		65.8		142		104		69.8	
Chloride	mg/L	-		197		49		196		101		117		37		110	
DOC	mg/L	-		6		6.4		10.5		10.1		9.9		6		9.3	
Fluoride	mg/L	-		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1		< 0.1	
Iron	mg/L	0.3		0.683		0.061		1.07		1.12		21.8		0.056		0.253	
Magnesium	mg/L	-		12.3		6.79		11.7		8.32		11.3		6.75		7.81	
Manganese	mg/L	-		0.243		0.029		0.252		1		22.3		0.011		0.149	
Nitrate	mg/L	-		< 0.05		0.69		0.08		0.09		< 0.05		1.23		0.87	
Nitrite	mg/L	-		< 0.05		< 0.05		< 0.05		< 0.05		< 0.05		< 0.05		< 0.05	
TKN	mg/L	-		2.5		0.4		1.8		1.5		5.6		0.8		1.1	
Sodium	mg/L	-		96.3		29.3		103		56.6		58.2		23.7		54.9	
Sulphate	mg/L	-		87		18		11		5		26		14		7	
Phenols	mg/L	0.001		< 0.002		< 0.002		0.002		< 0.002		< 0.002		< 0.001		< 0.001	
Phosphorus	mg/L	0.03		0.25		0.04		0.12		0.1		1.06		0.02		0.06	
Potassium	mg/L	-		13.4		1.6		5.6		3.3		8.1		2.3		4.3	
Aluminum	mg/L	0.075		0.04		0.08		0.07		0.03		0.03		0.06		0.02	
Antimony	mg/L	-		0.0002		0.0001		0.0001		0.0004		0.0004		0.0003		0.0004	
Arsenic	mg/L	0.1		0.0007		0.0002		0.0009		0.0007		0.005		0.0002		0.0005	
Barium	mg/L	-		0.068		0.038		0.051		0.043		0.394		0.038		0.035	
Beryllium	mg/L	1.1		< 0.002		< 0.002		< 0.002		< 0.002		< 0.002		< 0.002		< 0.002	
Boron	mg/L	0.2		0.048		0.011		0.058		0.072		0.058		0.013		0.047	
Cadmium	mg/L	0.0002		0.000027		< 0.000015		< 0.000015		< 0.000015		0.000242		< 0.000015		< 0.000015	
Chromium	mg/L	0.1		0.001		< 0.001		0.002		< 0.001		0.006		< 0.001		< 0.001	
Cobalt	mg/L	0.0006		0.0002		< 0.0001		0.0003		0.0004		0.0109		0.0001		0.0001	
Copper	mg/L	0.005		0.0027		0.0007		0.0007		0.0003		0.0054		0.0009		0.0004	
Lead	mg/L	0.025		0.00013		0.00004		0.00009		0.00006		0.00322		0.00005		0.00002	
Mercury	mg/L	-		< 0.00002		< 0.00002		< 0.00002		< 0.00002		0.00002		< 0.00002		< 0.00002	
Molybdenum	mg/L	0.04		0.0005		0.0002		0.0002		< 0.0001		0.0004		0.0001		< 0.0001	
Nickel	mg/L	0.025		< 0.01		< 0.01		< 0.01		< 0.01		< 0.01		< 0.01		< 0.01	
Selenium	mg/L	-		< 0.001		< 0.001		< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	
Silver	mg/L	0.0001		< 0.0001		< 0.0001		< 0.0001		< 0.0001		< 0.0001		< 0.0001		< 0.0001	
Strontium	mg/L	-		0.362		0.277		0.33		0.271		0.436		0.291		0.249	
Thallium	mg/L	-		< 0.00005		< 0.00005		< 0.00005		< 0.00005		< 0.00005		< 0.00005		< 0.00005	
Vanadium	mg/L	-		0.0006		0.0004		0.0007		0.0002		0.0123		0.0004		0.0002	
Zinc	mg/L	0.03		0.053		0.009		0.047		0.059		0.112		< 0.005		< 0.005	
Cyanide	mg/L	0.005															
Turbidity	NTU	-															
Tannins & Lignins	mg/L	-															

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18
			17-Oct-22	24-Apr-23	1-May-23	8-Jun-23	26-Jun-23	15-Aug-23	16-Aug-23	5-Oct-23	27-Mar-24	10-Apr-24	25-Apr-24	1-May-24	11-Jun-24	29-Jul-24	15-Aug-24
pH -Lab	pH units	6.5-8.5	7.83	8.31	8.19	7.95	8.05	7.52	7.13	8.07	8.33	8.33	8.18	8.14	7.49	7.4	8.09
Conductivity	uS/cm	-	1200	643		1030			678	897			589		753		685
BOD	mg/L	-	< 3	< 3		< 3			3	<3			<3		3		<3
COD	mg/L	-	52	9		44			64	52			23		48		46
Total Dissolved Solids	mg/L	-	641	349		525			362	534			330		398		373
Total Suspended Solids	mg/L	-	6	< 3		64			8	10			<3		3		9
Alkalinity	mg/L	-	213	272		251			183	207			236		207		201
Hardness	mg/L	-	306	290		277			195	291			259		221		229
Ammonia	mg/L	-	0.18	0.01	0.16	0.21	0.14	0.07	0.77	0.18	0.06	<0.05	0.06	<0.05	0.1	0.13	0.17
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01		< 0.01			0.02	<0.01			<0.01		<0.01		<0.01
Calcium	mg/L	-	94.4	96.4		84.6			67.3	97.4			92		73.5		77.5
Chloride	mg/L	-	237	43.8		176			103	168			42.7		110		93.4
DOC	mg/L	-	4.1	5.6		5.7			10.4	10.6			5.9		10.6		15.2
Fluoride	mg/L	-	< 0.1	< 0.1		0.1			<0.1	<0.1			<0.1		<0.1		<0.1
Iron	mg/L	0.3	0.073	0.031		1.01			1.76	0.648			0.05		0.21		0.866
Magnesium	mg/L	-	11.2	6.12		10.3			6.43	11.7			7.12		9.03		8.46
Manganese	mg/L	-	0.023	0.011		0.5			0.82	0.24			0.009		0.24		0.476
Nitrate	mg/L	-	0.1	0.84		< 0.05			0.09	<0.05			0.08		<0.05		0.07
Nitrite	mg/L	-	< 0.05	< 0.05		< 0.05			<0.05	<0.05			<0.05		<0.05		0.05
TKN	mg/L	-	3	0.5		1.8			1.4	1.7			0.5		1.2		1.7
Sodium	mg/L	-	105	23.9		86.5			53.4	82.8			28.4		70.4		57.6
Sulphate	mg/L	-	47	14		6			4	29			14		4		7
Phenols	mg/L	0.001	< 0.001	< 0.001		< 0.001			0.004	<0.001			<0.001		<0.001		0.001
Phosphorus	mg/L	0.03	0.19	0.04		0.1			0.1	0.09			0.03		0.05		0.2
Potassium	mg/L	-	17.7	2.2		8.6			14.1	20.3			3.3		6		6.5
Aluminum	mg/L	0.075	0.04	0.02		0.03			0.03	0.11			0.04		0.02		0.07
Antimony	mg/L	-	0.0004	0.0001		0.0003			0.0001	0.0004			0.0003		0.0002		0.0004
Arsenic	mg/L	0.1	0.0004	0.0002		0.0008			0.0007	0.0005			0.0002		0.0005		0.0005
Barium	mg/L	-	0.056	0.035		0.053			0.06	0.057			0.034		0.04		0.048
Beryllium	mg/L	1.1	< 0.002	< 0.002		< 0.002			<0.0001	<0.0001			<0.0001		<0.0001		<0.0001
Boron	mg/L	0.2	0.091	0.012		0.074			0.068	0.23			0.026		0.071		0.099
Cadmium	mg/L	0.0002	< 0.000028	< 0.000015		< 0.000015			<0.000015	<0.000015			<0.000015		<0.000015		<0.000015
Chromium	mg/L	0.1	< 0.001	0.002		< 0.001			<0.001	<0.001			<0.001		<0.001		<0.001
Cobalt	mg/L	0.0006	< 0.0002	0.0001		0.0003			0.0003	0.0004			0.0002		0.0002		0.0002
Copper	mg/L	0.005	0.0003	0.0006		0.0004			0.0006	0.0007			0.0009		0.0005		0.0005
Lead	mg/L	0.025	0.00011	0.00003		0.0002			0.00006	0.00018			0.00005		<0.00002		0.00008
Mercury	mg/L	-	< 0.00002	< 0.00002		< 0.00002			<0.00002	<0.00002			<0.00002		<0.00002		<0.00002
Molybdenum	mg/L	0.04	0.0003	0.0002		< 0.0001			<0.0001	0.0003			0.0002		<0.0001		<0.0001
Nickel	mg/L	0.025	< 0.01	< 0.01		< 0.01			0.0009	0.0009			0.0006		0.0008		0.0006
Selenium	mg/L	-	< 0.002	< 0.001		< 0.001			<0.001	<0.001			<0.001		<0.001		<0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001		< 0.0001			<0.0001	<0.0001			0.0001		<0.0001		0.0003
Strontium	mg/L	-	0.35	0.255		0.316			0.224	0.32			0.274		0.269		0.285
Thallium	mg/L	-	< 0.0001	< 0.00005		< 0.00005			<0.00005	<0.00005			<0.00005		<0.00005		<0.00005
Vanadium	mg/L	-	< 0.0002	0.0003		0.0006			0.0002	0.0006			0.0002		0.0001		0.0002
Zinc	mg/L	0.03	< 0.005	< 0.005		0.007			<0.005	0.016			0.008		<0.005		<0.005
Cyanide	mg/L	0.005		< 0.005		< 0.005			<0.005	<0.005			<0.005		<0.005		<0.005
Turbidity	NTU	-		0.9		17.7			6.5	1.7			1		0.8		2.8
Tannins & Lignins	mg/L	-		0.6		1.5			1.6	1.1			<0.5		1.2		1

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	SW18	SW18	SW18	SW18	SW18	SW18	SW18	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff
			10-Oct-24	22-Apr-25	28-Apr-25	22-May-25	17-Jun-25	21-Aug-25	9-Oct-25	26-May-16	8-Jun-16	11-Aug-16	17-Oct-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17
pH -Lab	pH units	6.5-8.5	7.9	8.16	8.19	8.1	7.79	Dry	Dry	8.02	8.03	7.82	7.82	8.11	7.85	7.84	7.97
Conductivity	uS/cm	-	687		844		747			1430	1360	1080	1220	1630	1320	1190	1100
BOD	mg/L	-	<3		<3		<3			5	4	5	7	3	3	8	4
COD	mg/L	-	33		35		63			23	22	26	18	18	21	28	30
Total Dissolved Solids	mg/L	-	382		454		387			783	713	591	664	805	658	595	548
Total Suspended Solids	mg/L	-	<3		20		32			9	10	3	18	8	12	5	8
Alkalinity	mg/L	-	202		218		168			218	196	162	335	251	268	217	203
Hardness	mg/L	-	252		247		182			361	282	217	353	341	315	286	269
Ammonia	mg/L	-	0.31	<0.05	0.11	<0.05	0.17			0.41	0.31	1.02	7.85	0.61	1.32	1.79	4.3
Un-ionized Ammonia	mg/L	0.02	0.01		<0.01		<0.01			< 0.01	< 0.01	< 0.01	0.16	0.03	0.01	0.07	0.18
Calcium	mg/L	-	85.1		84.4		58.2			117	89	63.2	113	116	107	88.7	85.4
Chloride	mg/L	-	92.9		131		128			265	222	185	149	295	182	165	144
DOC	mg/L	-	12.3		13.2		9.5			3.2	4	3.9	5.8	3.8	3.8	6.7	5.6
Fluoride	mg/L	-	<0.1		<0.1		<0.1			0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
Iron	mg/L	0.3	0.085		0.154		0.978			0.106	0.148	0.119	4.45	0.054	0.062	0.083	0.112
Magnesium	mg/L	-	9.42		8.8		8.81			16.8	14.4	14.5	17.3	12.7	11.4	13.2	13.4
Manganese	mg/L	-	0.022		0.08		0.445			0.065	0.043	0.065	0.575	0.033	0.036	0.068	0.054
Nitrate	mg/L	-	<0.05		0.07		<0.05			5.4	2.3	0.5	3.6	2.9	0.23	0.67	0.5
Nitrite	mg/L	-	<0.05		<0.05		<0.05			0.8	0.6	1.2	0.4	0.7	0.22	0.45	0.63
TKN	mg/L	-	1.1		1		1.5			1.6	1.4	2.4	9.7	1.7	2.4	2.8	5.4
Sodium	mg/L	-	53.5		75.1		81.8			160	146	121	97.4	161	135	126	109
Sulphate	mg/L	-	11		14		5			53	100	90	44	46	52	57	58
Phenols	mg/L	0.001	<0.001		<0.001		0.002			< 0.001	< 0.001	< 0.001	0.016	0.004	0.004	0.008	0.005
Phosphorus	mg/L	0.03	0.02		0.04		0.13			0.12	0.08	0.05	0.05	0.09	0.1	0.07	0.09
Potassium	mg/L	-	8.1		8.8		3.4			13	11.4	12.2	9.7	7.7	6.9	11.3	10.6
Aluminum	mg/L	0.075	0.03		0.03		0.05			0.95	0.72	0.62	0.34	0.95	1.1	0.82	0.86
Antimony	mg/L	-	0.0002		0.0004		0.0006			0.0004	0.0003	0.0003	0.0002	0.0002	0.0005	0.0002	0.0002
Arsenic	mg/L	0.1	0.0003		0.0004		0.0006			0.0004	0.0001	0.0003	0.0008	0.0012	0.0007	0.0007	0.0007
Barium	mg/L	-	0.045		0.043		0.051			0.055	0.039	0.037	0.085	0.062	0.061	0.053	0.06
Beryllium	mg/L	1.1	<0.0001		<0.0001		<0.0001			< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.084		0.076		0.064			0.134	0.123	0.146	0.117	0.086	0.082	0.133	0.128
Cadmium	mg/L	0.0002	<0.000015		<0.000015		<0.000015			0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.000014	0.000018	< 0.000014	0.000063
Chromium	mg/L	0.1	<0.001		<0.001		<0.001			0.0005	0.0003	< 0.0002	0.0003	< 0.0015	< 0.001	< 0.001	< 0.001
Cobalt	mg/L	0.0006	0.0002		0.0003		0.0003			< 0.005	< 0.005	< 0.005	0.0002	< 0.0001	0.0002	0.0003	< 0.0001
Copper	mg/L	0.005	0.0005		0.0003		0.0002			0.0038	0.0018	0.001	0.0007	0.0026	0.0023	0.0016	0.0079
Lead	mg/L	0.025	<0.00002		0.00003		0.00006			0.00092	0.00091	0.00037	0.00017	0.00038	0.0003	0.00026	0.00081
Mercury	mg/L	-	<0.00002		<0.00002		<0.00002			< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0003		0.0003		<0.0001			0.0008	0.0009	0.001	0.0003	0.0007	0.0038	0.0045	0.0015
Nickel	mg/L	0.025	0.0006		0.0008		0.0008			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	<0.001		<0.001		<0.001			< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	<0.0001		<0.0001		<0.0001			< 0.00002	< 0.00002	0.00022	< 0.00002	0.00024	< 0.00002	< 0.00002	< 0.00002
Strontium	mg/L	-	0.3		0.297		0.238			0.381	0.312	0.243	0.386	0.351	0.349	0.284	0.26
Thallium	mg/L	-	<0.00005		<0.00005		<0.00005			< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0002		0.0002		0.0003			0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	< 0.0001	0.0003
Zinc	mg/L	0.03	<0.005		0.01		<0.005			0.052	0.041	0.028	0.021	0.304	0.031	0.013	0.095
Cyanide	mg/L	0.005	<0.005		<0.005		<0.005			< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Turbidity	NTU	-	0.8		1.5		10.2			1.8	5.5		94.5	1.7	2.6	2.1	1.8
Tannins & Lignins	mg/L	-			0.8		1.3			1.1	0.9						

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff
			25-Apr-18	28-Jun-18	22-Aug-18	11-Oct-18	24-Apr-19	17-Jul-19	13-Aug-19	8-Oct-19	30-Apr-20	24-Jun-20	10-Aug-20	22-Oct-20	20-Apr-21	15-Jun-21	11-Aug-21
pH -Lab	pH units	6.5-8.5	8.14	8.07	7.77	8.02	8.01	8.03	8.12	7.91	7.93	7.86	7.94	8.12	8.09	7.78	7.91
Conductivity	uS/cm	-	1580	1400	1150	1270	1600	1290	1200	1130	1530	1400	1220	1260	1580	1550	1490
BOD	mg/L	-	< 3	6	8	> 24	< 3	7	< 3	3	3	9	< 3	3	4	8	10
COD	mg/L	-	19	26	36	120	28	32	31	27	25	27	24	14	20	75	63
Total Dissolved Solids	mg/L	-	791	765	616	711	801	626	632	638	870	751	663	670	850	871	783
Total Suspended Solids	mg/L	-	12	6	13	16	10	9	9	7	10	10	7	8	8	23	18
Alkalinity	mg/L	-	230	252	200	238	226	200	201	189	240	201	176	212	273	304	301
Hardness	mg/L	-	348	282	219	292	370	288	253	237	333	291	277	298	373	297	263
Ammonia	mg/L	-	0.08	17.6	6.8	4.12	0.46	0.68	0.41	0.39	0.56	2.12	0.28	0.43	5.46	24.3	18.8
Un-ionized Ammonia	mg/L	0.02	< 0.01	0.35	0.22	0.07	< 0.01	0.02	< 0.01	0.02	< 0.01	0.11	< 0.01	0.02	0.36	0.51	0.16
Calcium	mg/L	-	120	87.8	68.4	98.7	130	81.3	80.2	71.8	111	91.7	85.5	95.3	124	93	81.6
Chloride	mg/L	-	307	240	200	200	298	195	209	217	326	260	228	227	286	248	239
DOC	mg/L	-	2.3	6.8	6.5	16.4	3.5	6.1	7.6	6.1	3.6	3.9	4.1	3.1	4.1	6.9	5.5
Fluoride	mg/L	-	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.045	0.138	0.195	0.156	0.063	0.119	0.102	0.165	0.066	0.154	0.147	0.084	0.226	0.378	0.441
Magnesium	mg/L	-	11.7	15.1	12.4	17.1	11.4	11.9	12.8	14	13.4	15.3	15.3	14.5	15.4	15.8	14.5
Manganese	mg/L	-	0.031	0.086	0.068	0.088	0.032	0.056	0.022	0.018	0.028	0.092	0.034	0.02	0.034	0.106	0.083
Nitrate	mg/L	-	7.83	0.22	0.2	0.25	10.1	0.95	3.26	2.41	2.51	0.35	0.35	2.67	0.1	0.08	0.07
Nitrite	mg/L	-	< 0.05	0.32	0.18	0.13	0.11	0.22	0.19	< 0.05	0.51	0.15	0.28	0.22	0.21	< 0.05	< 0.05
TKN	mg/L	-	1.1	22.1	9.2	5.6	1.7	2	1.5	1.8	1.9	4.2	1.5	1.7	6.6	27.8	22.3
Sodium	mg/L	-	169	164	127	145	172	144	130	128	160	162	134	132	176	161	151
Sulphate	mg/L	-	38	70	67	94	45	59	65	68	53	82	81	54	56	89	74
Phenols	mg/L	0.001	< 0.001	< 0.001	0.004	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.002	< 0.002	< 0.002	0.003	0.004
Phosphorus	mg/L	0.03	0.1	0.12	0.13	0.17	0.1	0.06	0.03	0.1	0.1	0.12	0.06	0.1	0.14	0.53	0.49
Potassium	mg/L	-	6.7	13.3	11.4	13.8	7.9	13.5	14.1	15.1	14.6	15.6	13.3	14.5	11.8	16.1	16.7
Aluminum	mg/L	0.075	0.56	0.76	0.85	0.85	0.09	0.1	0.21	0.11	0.1	0.1	0.08	0.13	0.11	0.17	0.14
Antimony	mg/L	-	0.0002	0.0004	< 0.0005	0.0002	0.0003	0.0003	0.0002	0.0006	0.0004	0.0004	0.0005	0.0002	0.0003	0.0001	0.0004
Arsenic	mg/L	0.1	0.0005	0.0004	< 0.0005	0.0004	0.0002	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0002	0.0002	0.0004	0.0004
Barium	mg/L	-	0.073	0.056	0.057	0.063	0.076	0.049	0.04	0.039	0.05	0.059	0.059	0.054	0.09	0.073	0.068
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.059	0.137	0.122	0.134	0.069	0.14	0.157	0.16	0.101	0.21	0.236	0.134	0.127	0.177	0.148
Cadmium	mg/L	0.0002	0.000074	< 0.000015	< 0.000070	0.000035	0.000017	0.000019	0.000037	0.000034	0.000018	< 0.000015	0.000037	0.000028	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.1	< 0.001	< 0.001	0.001	0.001	0.001	< 0.001	< 0.001	0.002	0.001	< 0.001	< 0.001	0.001	< 0.001	0.001	< 0.001
Cobalt	mg/L	0.0006	< 0.0001	0.0004	< 0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	0.0001	0.0002
Copper	mg/L	0.005	0.0029	0.0018	0.0013	0.0064	0.004	0.0025	0.0021	0.004	0.0025	0.0009	0.0019	0.0024	0.0015	0.0059	0.0045
Lead	mg/L	0.025	0.00017	0.00018	0.0005	0.0007	0.00032	0.00177	0.00096	0.00107	0.00057	0.00045	0.00136	0.00098	0.0003	0.00016	0.00026
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.014	0.002	0.0018	0.0014	0.0009	0.0034	0.008	0.0021	0.0009	0.0041	0.0034	0.0016	0.0023	0.0015	0.0012
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001
Strontium	mg/L	-	0.358	0.322	0.278	0.328	0.378	0.281	0.273	0.247	0.317	0.327	0.312	0.301	0.394	0.327	0.319
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.0003	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	< 0.0001	0.0001	< 0.0005	0.0002	0.0004	0.0004	0.0005	0.0003	0.0002	0.0001	0.0005	0.0003	0.0002	0.0002	0.0002
Zinc	mg/L	0.03	0.03	0.031	0.033	0.042	0.023	0.05	0.048	0.061	0.033	0.044	0.058	0.042	0.032	0.021	0.023
Cyanide	mg/L	0.005	< 0.005	< 0.005									< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Turbidity	NTU	-	2.7	2.9	2.2	0.8			1.4	4			936	30.9	2.2	4.4	1.5
Tannins & Lignins	mg/L	-												0.9			

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff	WPCP Eff
			11-Aug-21	15-Oct-21	26-Apr-22	21-Jun-22	24-Aug-22	17-Oct-22	24-Apr-23	8-Jun-23	16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25
pH -Lab	pH units	6.5-8.5	7.97	7.68	8.1	8	7.92	7.92	7.92	7.93	7.68	7.91	7.91	7.68	8.1	7.87	7.97
Conductivity	uS/cm	-	1480	1430	1640	1690	1370	1380	1540	1580	1430	1300	1620	1360	1280	1320	1540
BOD	mg/L	-	10	16	4	6	10	4	< 3	< 3	<3	<3	<3	3	<3	<3	<3
COD	mg/L	-	64	265	42	31	26	36	47	20	22	26	28	30	30	26	32
Total Dissolved Solids	mg/L	-	810	783	839	901	720	663	800	772	803	753	896	742	694	760	900
Total Suspended Solids	mg/L	-	18	48	11	8	9	9	17	13	9	13	15	16	13	4	12
Alkalinity	mg/L	-	302	329	266	323	246	184	216	222	191	196	249	181	209	192	196
Hardness	mg/L	-	291	303	347	367	250	284	315	309	285	295	367	303	277	307	340
Ammonia	mg/L	-	18.9	14.8	10.6	14.5	13.9	2.41	0.08	0.19	0.88	0.46	0.1	0.19	0.11	0.29	0.15
Un-ionized Ammonia	mg/L	0.02	0.16	0.22	0.08	0.26	0.14	0.11	< 0.01	0.01	0.14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Calcium	mg/L	-	90.4	94.7	116	127	78.4	85.6	105	94.9	92	90.7	124	98	90	97.1	112
Chloride	mg/L	-	242	246	290	287	251	230	321	285	284	256	310	252	234	253	361
DOC	mg/L	-	5.7	24.6	2.6	4.2	3	1.9	2.1	2	2.6	1.2	3.1	3.6	3.6	5.1	6.7
Fluoride	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 1	<0.7	<0.7	<0.1	<0.1	<0.1	<0.1	<0.1
Iron	mg/L	0.3	0.401	0.392	0.052	0.166	0.094	0.044	0.048	0.069	0.033	0.095	0.032	0.064	0.042	0.068	0.046
Magnesium	mg/L	-	15.9	16.1	13.8	15.1	13.2	16	12.5	14.2	13.4	16.6	13.8	14	12.6	15.6	14.5
Manganese	mg/L	-	0.092	0.071	0.031	0.06	0.051	0.038	0.008	0.011	0.005	0.011	0.014	0.009	0.005	0.008	0.01
Nitrate	mg/L	-	0.05	< 0.05	4.86	< 0.05	0.06	17	8.59	9	13	12.2	8.39	8.37	6.29	8.33	9
Nitrite	mg/L	-	< 0.05	0.11	0.16	< 0.05	0.47	1.47	< 0.05	< 0.5	<0.40	<0.40	<0.05	<0.05	0.1	<0.05	0.06
TKN	mg/L	-	22.5	28.1	12.2	20.2	22.6	5.1	1.4	1.5	1.2	1.8	1.2	1.5	1.2	1.4	1.3
Sodium	mg/L	-	166	155	188	191	146	154	161	172	165	144	186	160	134	159	188
Sulphate	mg/L	-	72	23	47	57	47	46	61	59	58	54	63	59	56	61	54
Phenols	mg/L	0.001	< 0.002	0.011	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	0.03	0.56	2.87	0.09	0.16	0.1	0.12	0.16	0.15	0.1	0.12	0.1	0.17	0.07	0.07	0.08
Potassium	mg/L	-	18.3	32	10.9	10.9	12.8	17	9.3	14	14.5	20.6	12.2	13.7	14.3	22.2	12.2
Aluminum	mg/L	0.075	0.13	0.12	0.1	0.22	0.22	0.1	2.13	0.11	1.14	1.49	2.39	2.49	1.98	1.04	1.47
Antimony	mg/L	-	0.0005	0.0005	0.0007	0.0007	0.0005	0.0006	0.0006	0.0005	0.0004	0.0007	0.0005	0.0006	0.0005	0.0006	0.0005
Arsenic	mg/L	0.1	0.0004	0.0003	0.0002	0.0003	0.0003	0.0003	< 0.0005	0.0003	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002
Barium	mg/L	-	0.075	0.065	0.064	0.075	0.046	0.047	0.058	0.052	0.052	0.05	0.069	0.052	0.054	0.052	0.055
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	0.2	0.163	0.166	0.115	0.15	0.165	0.167	0.159	0.175	0.204	0.202	0.123	0.155	0.113	0.141	0.094
Cadmium	mg/L	0.0002	< 0.000015	< 0.000028	< 0.000015	< 0.000015	< 0.000028	< 0.000028	< 0.000070	0.000045	0.000034	0.000016	0.000026	0.000028	<0.000015	0.000017	0.000027
Chromium	mg/L	0.1	< 0.001	0.001	< 0.001	0.001	< 0.001	< 0.001	0.002	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0006	0.0003	< 0.0002	0.0002	0.0003	< 0.0002	0.0002	< 0.0005	0.0002	0.0004	0.0003	0.0004	0.0004	0.0002	0.0003	0.0003
Copper	mg/L	0.005	0.0045	0.0083	0.0021	0.0011	0.0008	0.0037	0.0072	0.0095	0.0091	0.0097	0.0058	0.0091	0.0067	0.0089	0.0069
Lead	mg/L	0.025	0.00037	0.00013	0.00025	0.00013	0.00036	0.00028	0.0004	0.00079	0.00026	0.00018	0.00046	0.00026	0.00013	0.00026	0.00035
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04	0.0014	0.0007	0.0032	0.0022	0.004	0.001	0.0011	0.0026	0.0054	0.0044	0.0014	0.0026	0.0021	0.0033	0.0016
Nickel	mg/L	0.025	< 0.01	0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.0015	0.0011	0.0019	0.001	0.0009	0.0017	0.0009
Selenium	mg/L	-	< 0.001	< 0.002	< 0.001	< 0.001	< 0.002	< 0.002	< 0.005	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001
Strontium	mg/L	-	0.348	0.324	0.401	0.406	0.296	0.32	0.346	0.327	0.328	0.32	0.388	0.32	0.301	0.319	0.368
Thallium	mg/L	-	< 0.00005	< 0.0001	< 0.00005	< 0.00005	< 0.0001	< 0.0001	< 0.0003	< 0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	-	0.0001	< 0.0002	0.0003	0.0001	< 0.0002	< 0.0002	< 0.0005	0.0003	0.0005	0.0004	0.0003	0.0003	0.0004	0.0003	0.0002
Zinc	mg/L	0.03	0.013	0.013	0.018	0.017	0.022	0.035	0.029	0.055	0.023	0.014	0.047	0.03	0.01	0.013	0.05
Cyanide	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Turbidity	NTU	-	2.6	1.5	1.9	3.2	124	3.4	5.5	4.8	2.6	3.9	3.7	4	3.1	1.9	3.4
Tannins & Lignins	mg/L	-					1.3										

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	WPCP Eff (Dup)	WPCP Eff	WPCP Eff	WPCP Eff
			28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25
pH -Lab	pH units	6.5-8.5	7.94	7.92	7.96	7.81
Conductivity	uS/cm	-	1540	1440	1170	1300
BOD	mg/L	-	<3	<3	<3	<3
COD	mg/L	-	31	35	30	22
Total Dissolved Solids	mg/L	-	869	845	621	681
Total Suspended Solids	mg/L	-	9	16	6	3
Alkalinity	mg/L	-	196	177	160	184
Hardness	mg/L	-	317	286	241	258
Ammonia	mg/L	-	0.16	0.16	0.15	0.13
Un-ionized Ammonia	mg/L	0.02	<0.01	<0.01	<0.01	<0.01
Calcium	mg/L	-	105	91.2	73.5	78.2
Chloride	mg/L	-	355	314	215	243
DOC	mg/L	-	6.8	2.5	7.1	3.8
Fluoride	mg/L	-	<0.1	<0.1	<0.1	<0.1
Iron	mg/L	0.3	0.039	0.054	0.043	0.048
Magnesium	mg/L	-	13.4	14	14	15.2
Manganese	mg/L	-	0.009	0.007	0.006	0.006
Nitrate	mg/L	-	8.91	7.59	7.94	7.56
Nitrite	mg/L	-	0.09	<0.05	<0.05	<0.05
TKN	mg/L	-	1.3	1.4	1.6	1.3
Sodium	mg/L	-	174	171	120	125
Sulphate	mg/L	-	54	52	48	56
Phenols	mg/L	0.001	<0.001	0.001	<0.001	<0.001
Phosphorus	mg/L	0.03	0.08	0.09	0.06	0.05
Potassium	mg/L	-	11.2	14.8	19.3	20.5
Aluminum	mg/L	0.075	1.36	1.56	0.51	0.54
Antimony	mg/L	-	0.0005	0.0006	0.0017	0.0007
Arsenic	mg/L	0.1	0.0002	0.0002	0.0003	0.0002
Barium	mg/L	-	0.051	0.054	0.038	0.042
Beryllium	mg/L	1.1	<0.0001	<0.0001	<0.0001	<0.0001
Boron	mg/L	0.2	0.087	0.09	0.113	0.107
Cadmium	mg/L	0.0002	0.000025	0.000029	0.00003	0.000018
Chromium	mg/L	0.1	<0.001	<0.001	<0.001	<0.001
Cobalt	mg/L	0.0006	0.0003	0.0003	0.0003	0.0003
Copper	mg/L	0.005	0.0067	0.0064	0.0095	0.0058
Lead	mg/L	0.025	0.00036	0.00054	0.00021	0.00025
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04	0.0015	0.0052	0.0134	0.0033
Nickel	mg/L	0.025	0.0009	0.0009	0.002	0.0008
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium	mg/L	-	0.341	0.33	0.261	0.275
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005
Vanadium	mg/L	-	0.0002	0.0003	0.0004	0.0002
Zinc	mg/L	0.03	0.049	0.037	0.014	0.019
Cyanide	mg/L	0.005	<0.005	<0.005	<0.005	<0.005
Turbidity	NTU	-	2.9	3	1.5	1.3
Tannins & Lignins	mg/L	-				

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A	Emb A
			14-Jun-16	12-Oct-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	26-Jun-18	28-Aug-18	10-Oct-18	25-Apr-19	18-Jul-19	12-Aug-19
1,1,1,2-Tetrachloroethane	µg/L	20												
1,1,1-Trichloroethane	µg/L	10												
1,1,2,2 Tetrachloroethane	µg/L	70												
1,1,2-Trichloroethane	µg/L	800												
1,1-Dichloroethane	µg/L	200												
1,1-Dichloroethylene	µg/L	40												
Ethylene Dibromide	µg/L	5												
1,2-Dichlorobenzene	µg/L	2.5	< 0.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	µg/L	100	< 0.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	µg/L	0.7	< 0.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Dichlorobenzene	µg/L	2.5	< 0.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	µg/L	4	< 0.5	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5
Methyl Ethyl Ketone	µg/L	400												
Methyl Isobutyl Ketone	µg/L	-												
Acetone	µg/L	-												
Benzene	µg/L	100	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	-	< 2	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 2	< 2	< 2	< 2
Bromoform	µg/L	60	< 5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 5	< 5	< 5	< 5
Bromomethane	µg/L	0.9	< 0.5	< 0.3	<0.3	<0.3	<0.3	<0.3	< 0.3	< 0.3	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	µg/L	-	< 0.2	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	µg/L	15	< 0.5	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	µg/L	-	< 1	0.6	<0.3	<0.3	<0.3	<0.3	0.7	< 0.3	1	< 1	< 1	< 1
cis 1,2-Dichloroethene	µg/L	200	< 0.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5
cis 1,3-Dichloroethene	µg/L	-	< 0.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5
Dibromochloromethane	µg/L	40	< 2	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 2	< 2	< 2	< 2
Dichlorodifluoromethane	µg/L	100	< 5	< 0.3	<0.3	<0.3	<0.3	<0.3	< 0.3	< 0.3	< 0.3	< 2	< 2	< 2
Ethylbenzene	µg/L	-	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m & p-Xylene	µg/L	-	< 1.0	< 0.4	<0.4	<0.4	<0.4	<0.4	< 0.4	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	40	< 0.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	0.8	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	-												
Methylene Chloride	µg/L	700		< 0.3	<0.3	<0.3	<0.3	<0.3	< 0.3	< 0.3	< 0.06	< 5	< 5	< 5
Vinyl Chloride	µg/L	600	< 0.5	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.5	< 0.2	< 0.2	< 0.2
Trichloroethylene	µg/L	20	< 0.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m,p,o-	µg/L	-												

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb B	Emb C
			14-Jun-16	12-Oct-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	26-Jun-18	28-Aug-18	10-Oct-18	18-Jul-19	12-Aug-19	14-Jun-16
1,1,1,2-Tetrachloroethane	µg/L	20												
1,1,1-Trichloroethane	µg/L	10												
1,1,2,2 Tetrachloroethane	µg/L	70												
1,1,2-Trichloroethane	µg/L	800												
1,1-Dichloroethane	µg/L	200												
1,1-Dichloroethylene	µg/L	40												
Ethylene Dibromide	µg/L	5												
1,2-Dichlorobenzene	µg/L	2.5			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	100			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	0.7			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	µg/L	2.5			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	4	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
Methyl Ethyl Ketone	µg/L	400												
Methyl Isobutyl Ketone	µg/L	-												
Acetone	µg/L	-												
Benzene	µg/L	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	-			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<2	<2	<2
Bromoform	µg/L	60			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<5	<5	<5
Bromomethane	µg/L	0.9	<0.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	15	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
Chloroform	µg/L	-	<1	<0.3	<0.3	<0.3	1	<0.3	<0.3	<0.3	<1	<1	1	<1
cis 1,2-Dichloroethene	µg/L	200			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5
cis 1,3-Dichloroethene	µg/L	-			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	40			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<2	<2	<2
Dichlorodifluoromethane	µg/L	100	<5	<0.3	<0.3	<0.3	1	<0.3	<0.3	<0.3	<0.3	<2	<2	<5
Ethylbenzene	µg/L	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m & p-Xylene	µg/L	-	<1.0	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0	<1.0	<1.0	<1.0
o-Xylene	µg/L	40	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl tert-Butyl Ether	µg/L	-												
Methylene Chloride	µg/L	700		<0.3	<0.3	<0.3	1	<0.3	<0.3	<0.3	<0.06	<5	<5	
Vinyl Chloride	µg/L	600	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.5
Trichloroethylene	µg/L	20	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5
Xylene, m,p,o-	µg/L	-												

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Emb C	Scg-Down
			12-Oct-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	26-Jun-18	28-Aug-18	10-Oct-18	25-Apr-19	18-Jul-19	12-Aug-19	24-Apr-17
1,1,1,2-Tetrachloroethane	µg/L	20												
1,1,1-Trichloroethane	µg/L	10												
1,1,2,2 Tetrachloroethane	µg/L	70												
1,1,2-Trichloroethane	µg/L	800												
1,1-Dichloroethane	µg/L	200												
1,1-Dichloroethylene	µg/L	40												
Ethylene Dibromide	µg/L	5												
1,2-Dichlorobenzene	µg/L	2.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
1,2-Dichloroethane	µg/L	100	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
1,2-Dichloropropane	µg/L	0.7	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
1,3-Dichlorobenzene	µg/L	2.5	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.2
1,4-Dichlorobenzene	µg/L	4	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	<0.2
Methyl Ethyl Ketone	µg/L	400												
Methyl Isobutyl Ketone	µg/L	-												
Acetone	µg/L	-												
Benzene	µg/L	100	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Bromodichloromethane	µg/L	-	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 2	< 2	< 2	< 2	<0.2
Bromoform	µg/L	60	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 5	< 5	< 5	< 5	<0.1
Bromomethane	µg/L	0.9	< 0.3	<0.3	<0.3	<0.3	<0.3	< 0.3	< 0.3	< 0.5	< 0.5	< 0.5	< 0.5	<0.3
Carbon Tetrachloride	µg/L	-	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2
Chlorobenzene	µg/L	15	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	<0.2
Chloroform	µg/L	-	< 0.3	<0.3	<0.3	<0.3	<0.3	< 0.3	0.8	< 1	< 1	< 1	< 1	<0.3
cis 1,2-Dichloroethene	µg/L	200	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
cis 1,3-Dichloroethene	µg/L	-	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
Dibromochloromethane	µg/L	40	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 2	< 2	< 2	< 2	<0.1
Dichlorodifluoromethane	µg/L	100	< 0.3	<0.3	<0.3	<0.3	<0.3	< 0.3	< 0.3	< 0.3	< 2	< 2	< 2	<0.3
Ethylbenzene	µg/L	-	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
m & p-Xylene	µg/L	-	< 0.4	<0.4	<0.4	<0.4	<0.4	< 0.4	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	<0.4
o-Xylene	µg/L	40	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
Toluene	µg/L	0.8	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Methyl tert-Butyl Ether	µg/L	-												
Methylene Chloride	µg/L	700	< 0.3	<0.3	<0.3	<0.3	<0.3	< 0.3	< 0.3	< 0.06	< 5	< 5	< 5	<0.3
Vinyl Chloride	µg/L	600	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.5	< 0.2	< 0.2	< 0.2	<0.2
Trichloroethylene	µg/L	20	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
Xylene, m,p,o-	µg/L	-												

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	Scg-Down 24-Aug-17	Scg-Down 17-Oct-17	Scg-Down 28-Aug-18	Scg-Down 25-Apr-19	Scg-Down 12-Aug-19	Scg-Down 26-Apr-21	Scg-Down 15-Jun-21	Scg-Down 10-Aug-21	Scg-Down 12-Oct-21	Scg-Down 24-Apr-23	Scg-Down 5-Oct-23	Scg-Down 28-Apr-25
1,1,1,2-Tetrachloroethane	µg/L	20						< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	10						< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1,2,2 Tetrachloroethane	µg/L	70						< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	800						< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1-Dichloroethane	µg/L	200						< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1-Dichloroethylene	µg/L	40						< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Ethylene Dibromide	µg/L	5						< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2
1,2-Dichlorobenzene	µg/L	2.5	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	100	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	0.7	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,3-Dichlorobenzene	µg/L	2.5	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	4	<0.2	<0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Methyl Ethyl Ketone	µg/L	400						< 20	< 20	< 20	< 20	< 20	<20	<2
Methyl Isobutyl Ketone	µg/L	-						< 20	< 20	< 20	< 20	< 20	<20	<20
Acetone	µg/L	-						< 30	< 30	< 30	< 30	< 30	<30	<30
Benzene	µg/L	100	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Bromodichloromethane	µg/L	-	<0.1	<0.1	< 0.1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2
Bromoform	µg/L	60	<0.1	<0.1	< 0.1	< 5	< 5	< 5	< 5	< 5	< 5	< 5	<5	<5
Bromomethane	µg/L	0.9	<0.3	<0.3	< 0.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	-	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2
Chlorobenzene	µg/L	15	<0.2	<0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Chloroform	µg/L	-	<0.3	<0.3	< 0.3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	<1	<1
cis 1,2-Dichloroethene	µg/L	200	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
cis 1,3-Dichloroethene	µg/L	-	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Dibromochloromethane	µg/L	40	<0.1	<0.1	< 0.1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2
Dichlorodifluoromethane	µg/L	100	<0.3	<0.3	< 0.3	< 2	< 2	< 5	< 5	< 5	< 5			
Ethylbenzene	µg/L	-	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
m & p-Xylene	µg/L	-	<0.4	<0.4	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1
o-Xylene	µg/L	40	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Toluene	µg/L	0.8	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.8	< 0.5	<0.5	0.6
Methyl tert-Butyl Ether	µg/L	-						< 2	< 2	< 2	< 2	< 2	<2	<2
Methylene Chloride	µg/L	700	<0.3	<0.3	< 0.3	< 5	< 5					< 5	<5	<5
Vinyl Chloride	µg/L	600	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2
Trichloroethylene	µg/L	20	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Xylene, m,p,o-	µg/L	-						< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	Scg-Down 21-Aug-25	Scg-Up 24-Apr-17	Scg-Up 24-Aug-17	Scg-Up 28-Aug-18	Scg-Up 25-Apr-19	Scg-Up 25-Apr-19	Scg-Up 12-Aug-19	Scg-Up 26-Apr-21	Scg-Up 15-Jun-21	Scg-Up 10-Aug-21	Scg-Up 12-Oct-21	Scg-Up 24-Apr-23
1,1,1,2-Tetrachloroethane	µg/L	20	<0.5							< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,1-Trichloroethane	µg/L	10	<0.5							< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2 Tetrachloroethane	µg/L	70	<0.5							< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	µg/L	800	<0.5							< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane	µg/L	200	<0.5							< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	µg/L	40	<0.5							< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylene Dibromide	µg/L	5	<0.2							< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	µg/L	2.5	<0.5	<0.1	<0.2	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	µg/L	100	<0.5	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	µg/L	0.7	<0.5	<0.1	<0.3	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Dichlorobenzene	µg/L	2.5	<0.5	<0.1	<0.4	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	µg/L	4	<0.5	<0.2	<0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl Ethyl Ketone	µg/L	400	<2							< 20	< 20	< 20	< 20	< 20
Methyl Isobutyl Ketone	µg/L	-	<20							< 20	< 20	< 20	< 20	< 20
Acetone	µg/L	-	<30							< 30	< 30	< 30	< 30	< 30
Benzene	µg/L	100	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	-	<2	<0.1	<0.4	< 0.1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromoform	µg/L	60	<5	<0.1	<0.3	< 0.1	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane	µg/L	0.9	<0.5	<0.3	<0.3	< 0.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	µg/L	-	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	µg/L	15	<0.5	<0.2	<0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	µg/L	-	<1	<0.3	<0.3	< 0.3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis 1,2-Dichloroethene	µg/L	200	<0.5	<0.1	<0.3	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis 1,3-Dichloroethene	µg/L	-	<0.5	<0.1	<0.3	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromochloromethane	µg/L	40	<2	<0.1	<0.3	< 0.1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dichlorodifluoromethane	µg/L	100		<0.3	<0.3	< 0.3	< 2	< 2	< 2	< 5	< 5	< 5	< 5	
Ethylbenzene	µg/L	-	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m & p-Xylene	µg/L	-	<1	<0.4	<0.4	< 0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	40	<0.5	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	0.8	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5
Methyl tert-Butyl Ether	µg/L	-	<2							< 2	< 2	< 2	< 2	< 2
Methylene Chloride	µg/L	700	<5	<0.3	<0.3	< 0.3	< 5	< 5	< 5					< 5
Vinyl Chloride	µg/L	600	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Trichloroethylene	µg/L	20	<0.5	<0.1	<0.1	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m,p,o-	µg/L	-	<1.1							< 1.1	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	Scg-Up 16-Aug-23	Scg-Up 5-Oct-23	Scg-Up 28-Apr-25	Scg-Up 21-Aug-25	SW3 24-Apr-17	SW3 17-Oct-17	SW3 24-Apr-19	SW3 20-Apr-21	SW3 15-Jun-21	SW3 10-Aug-21	SW3 15-Oct-21	SW3 24-Apr-23
1,1,1,2-Tetrachloroethane	µg/L	20	<0.5	<0.5	<0.5	<0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,1-Trichloroethane	µg/L	10	<0.5	<0.5	<0.5	<0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2 Tetrachloroethane	µg/L	70	<0.5	<0.5	<0.5	<0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	µg/L	800	<0.5	<0.5	<0.5	<0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane	µg/L	200	<0.5	<0.5	<0.5	<0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	µg/L	40	<0.5	<0.5	<0.5	<0.5				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylene Dibromide	µg/L	5	<0.2	<0.2	<0.2	<0.2				< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	µg/L	2.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	µg/L	100	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	µg/L	0.7	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Dichlorobenzene	µg/L	2.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	µg/L	4	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl Ethyl Ketone	µg/L	400	<20	<20	<2	<2				< 20	< 20	< 20	< 20	< 20
Methyl Isobutyl Ketone	µg/L	-	<20	<20	<20	<20				< 20	< 20	< 20	< 20	< 20
Acetone	µg/L	-	<30	<30	<30	<30				< 30	< 30	< 30	< 30	< 30
Benzene	µg/L	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	-	<2	<2	<2	<2	<0.1	<0.1	< 2	< 2	< 2	< 2	< 2	< 2
Bromoform	µg/L	60	<5	<5	<5	<5	<0.1	<0.1	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane	µg/L	0.9	<0.5	<0.5	<0.5	<0.5	<0.3	<0.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	µg/L	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	µg/L	15	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	µg/L	-	<1	<1	<1	<1	<0.3	<0.3	< 1	< 1	< 1	< 1	< 1	< 1
cis 1,2-Dichloroethene	µg/L	200	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis 1,3-Dichloroethene	µg/L	-	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromochloromethane	µg/L	40	<2	<2	<2	<2	<0.1	<0.1	< 2	< 2	< 2	< 2	< 2	< 2
Dichlorodifluoromethane	µg/L	100					<0.3	<0.3	< 0.2	< 5	< 5	< 5	< 5	
Ethylbenzene	µg/L	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m & p-Xylene	µg/L	-	<1	<1	<1	<1	<0.4	<0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	40	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	-	<2	<2	<2	<2				< 2	< 2	< 2	< 2	< 2
Methylene Chloride	µg/L	700	<5	<5	<5	<5	<0.3	<0.3	< 5					< 5
Vinyl Chloride	µg/L	600	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Trichloroethylene	µg/L	20	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m,p,o-	µg/L	-	<1.1	<1.1	<1.1	<1.1				< 1.1	< 1.1	< 1.1	< 1.1	< 1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	SW3	SW3	SW3	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW13	SW14
			16-Aug-23	19-Oct-23	28-Apr-25	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	24-Apr-19	16-Oct-19	20-Apr-21	24-Apr-23	24-Apr-17
1,1,1,2-Tetrachloroethane	µg/L	20	<0.5	<0.5	<0.5							< 0.5	< 0.5	
1,1,1-Trichloroethane	µg/L	10	<0.5	<0.5	<0.5							< 0.5	< 0.5	
1,1,2,2 Tetrachloroethane	µg/L	70	<0.5	<0.5	<0.5							< 0.5	< 0.5	
1,1,2-Trichloroethane	µg/L	800	<0.5	<0.5	<0.5							< 0.5	< 0.5	
1,1-Dichloroethane	µg/L	200	<0.5	<0.5	<0.5							< 0.5	< 0.5	
1,1-Dichloroethylene	µg/L	40	<0.5	<0.5	<0.5							< 0.5	< 0.5	
Ethylene Dibromide	µg/L	5	<0.2	<0.2	<0.2							< 0.2	< 0.2	
1,2-Dichlorobenzene	µg/L	2.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
1,2-Dichloroethane	µg/L	100	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
1,2-Dichloropropane	µg/L	0.7	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
1,3-Dichlorobenzene	µg/L	2.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
1,4-Dichlorobenzene	µg/L	4	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	< 0.5	< 0.5	< 0.5	< 0.5	<0.2
Methyl Ethyl Ketone	µg/L	400	<20	<20	<2							< 20	< 20	
Methyl Isobutyl Ketone	µg/L	-	<20	<20	<20							< 20	< 20	
Acetone	µg/L	-	<30	<30	<30							< 30	< 30	
Benzene	µg/L	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Bromodichloromethane	µg/L	-	<2	<2	<2	<0.1	<0.1	<0.1	<0.1	< 2	< 2	< 2	< 2	<0.1
Bromoform	µg/L	60	<5	<5	<5	<0.1	<0.1	<0.1	<0.1	< 5	< 5	< 5	< 5	<0.1
Bromomethane	µg/L	0.9	<0.5	<0.5	<0.5	<0.3	<0.3	<0.3	<0.3	< 0.5	< 0.5	< 0.5	< 0.5	<0.3
Carbon Tetrachloride	µg/L	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2
Chlorobenzene	µg/L	15	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	< 0.5	< 0.5	< 0.5	< 0.5	<0.2
Chloroform	µg/L	-	<1	<1	<1	<0.3	<0.3	<0.3	<0.3	< 1	< 1	< 1	1	<0.3
cis 1,2-Dichloroethene	µg/L	200	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
cis 1,3-Dichloroethene	µg/L	-	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
Dibromochloromethane	µg/L	40	<2	<2	<2	<0.1	<0.1	<0.1	<0.1	< 2	< 2	< 2	< 2	<0.1
Dichlorodifluoromethane	µg/L	100				<0.3	<0.3	<0.3	<0.3	< 0.2	< 2	< 5		<0.3
Ethylbenzene	µg/L	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
m & p-Xylene	µg/L	-	<1	<1	<1	<0.4	<0.4	<0.4	<0.4	< 1.0	< 1.0	< 1.0	< 1.0	<0.4
o-Xylene	µg/L	40	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
Toluene	µg/L	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5
Methyl tert-Butyl Ether	µg/L	-	<2	<2	<2							< 2	< 2	
Methylene Chloride	µg/L	700	<5	<5	<5	<0.3	<0.3	<0.3	<0.3	< 5	< 5		< 5	<0.3
Vinyl Chloride	µg/L	600	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2
Trichloroethylene	µg/L	20	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	<0.1
Xylene, m,p,o-	µg/L	-	<1.1	<1.1	<1.1							< 1.1	< 1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW18
			23-May-17	24-Aug-17	17-Oct-17	24-Apr-19	16-Oct-19	20-Apr-21	15-Oct-21	24-Apr-23	16-Aug-23	19-Oct-23	28-Apr-25	24-Apr-17
1,1,1,2-Tetrachloroethane	µg/L	20						< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	
1,1,1-Trichloroethane	µg/L	10						< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	
1,1,2,2 Tetrachloroethane	µg/L	70						< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	
1,1,2-Trichloroethane	µg/L	800						< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	
1,1-Dichloroethane	µg/L	200						< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	
1,1-Dichloroethylene	µg/L	40						< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	
Ethylene Dibromide	µg/L	5						< 0.2	< 0.2	< 0.2	<0.2	<0.2	<0.2	
1,2-Dichlorobenzene	µg/L	2.5	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.1
1,2-Dichloroethane	µg/L	100	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.1
1,2-Dichloropropane	µg/L	0.7	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.1
1,3-Dichlorobenzene	µg/L	2.5	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.1
1,4-Dichlorobenzene	µg/L	4	<0.2	<0.2	<0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.2
Methyl Ethyl Ketone	µg/L	400						< 20	< 20	< 20	<20	<20	<2	
Methyl Isobutyl Ketone	µg/L	-						< 20	< 20	< 20	<20	<20	<20	
Acetone	µg/L	-						< 30	< 30	< 30	<30	<30	<30	
Benzene	µg/L	100	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	-	<0.1	<0.1	<0.1	< 2	< 2	< 2	< 2	< 2	<2	<2	<2	<0.1
Bromoform	µg/L	60	<0.1	<0.1	<0.1	< 5	< 5	< 5	< 5	< 5	<5	<5	<5	<0.1
Bromomethane	µg/L	0.9	<0.3	<0.3	<0.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.3
Carbon Tetrachloride	µg/L	-	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	15	<0.2	<0.2	<0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.2
Chloroform	µg/L	-	<0.3	<0.3	<0.3	< 1	< 1	< 1	< 1	< 1	<1	<1	<1	<0.3
cis 1,2-Dichloroethene	µg/L	200	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.1
cis 1,3-Dichloroethene	µg/L	-	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.1
Dibromochloromethane	µg/L	40	<0.1	<0.1	<0.1	< 2	< 2	< 2	< 2	< 2	<2	<2	<2	<0.1
Dichlorodifluoromethane	µg/L	100	<0.3	<0.3	<0.3	< 0.2	< 2	< 5	< 5					<0.3
Ethylbenzene	µg/L	-	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5
m & p-Xylene	µg/L	-	<0.4	<0.4	<0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<0.4
o-Xylene	µg/L	40	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.1
Toluene	µg/L	0.8	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5
Methyl tert-Butyl Ether	µg/L	-						< 2	< 2	< 2	<2	<2	<2	
Methylene Chloride	µg/L	700	<0.3	<0.3	<0.3	< 5	< 5			< 5	<5	<5	<5	<0.3
Vinyl Chloride	µg/L	600	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2	<0.2	<0.2
Trichloroethylene	µg/L	20	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.1
Xylene, m,p,o-	µg/L	-						< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1	

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18
			23-May-17	24-Aug-17	17-Oct-17	24-Apr-19	20-Apr-21	15-Jun-21	10-Aug-21	15-Oct-21	24-Apr-23	16-Aug-23	19-Oct-23	28-Apr-25
1,1,1,2-Tetrachloroethane	µg/L	20					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	10					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,1,2,2 Tetrachloroethane	µg/L	70					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	800					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	µg/L	200					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,1-Dichloroethylene	µg/L	40					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
Ethylene Dibromide	µg/L	5					< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2	<0.2
1,2-Dichlorobenzene	µg/L	2.5	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	100	<0.1	<0.1	<0.1	< 0.5	1	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	0.7	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	µg/L	2.5	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	4	<0.2	<0.2	<0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
Methyl Ethyl Ketone	µg/L	400					< 20	< 20	< 20	< 20	< 20	<20	<20	<2
Methyl Isobutyl Ketone	µg/L	-					< 20	< 20	< 20	< 20	< 20	<20	<20	<20
Acetone	µg/L	-					< 30	< 30	< 30	< 30	< 30	<30	<30	<30
Benzene	µg/L	100	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	-	<0.1	<0.1	<0.1	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2	<2
Bromoform	µg/L	60	<0.1	<0.1	<0.1	< 5	< 5	< 5	< 5	< 5	< 5	<5	<5	<5
Bromomethane	µg/L	0.9	<0.3	<0.3	<0.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	-	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	15	<0.2	<0.2	<0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
Chloroform	µg/L	-	<0.3	<0.3	<0.3	< 1	< 1	< 1	< 1	< 1	< 1	<1	<1	<1
cis 1,2-Dichloroethene	µg/L	200	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
cis 1,3-Dichloroethene	µg/L	-	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	40	<0.1	<0.1	<0.1	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2	<2
Dichlorodifluoromethane	µg/L	100	<0.3	<0.3	<0.3	< 0.2	< 5	< 5	< 5	< 5				
Ethylbenzene	µg/L	-	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
m & p-Xylene	µg/L	-	<0.4	<0.4	<0.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1
o-Xylene	µg/L	40	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.8	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	3	<0.5	<0.5
Methyl tert-Butyl Ether	µg/L	-					< 2	< 2	< 2	< 2	< 2	<2	<2	<2
Methylene Chloride	µg/L	700	<0.3	<0.3	<0.3	< 5					< 5	<5	<5	<5
Vinyl Chloride	µg/L	600	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2	<0.2
Trichloroethylene	µg/L	20	<0.1	<0.1	<0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
Xylene, m,p,o-	µg/L	-					< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	WPCP Eff 26-May-16	WPCP Eff 8-Jun-16	WPCP Eff 11-Aug-16	WPCP Eff 17-Oct-16	WPCP Eff 24-Apr-17	WPCP Eff 22-Jun-17	WPCP Eff 24-Aug-17	WPCP Eff 17-Oct-17	WPCP Eff 25-Apr-18	WPCP Eff 28-Jun-18	WPCP Eff 22-Aug-18	WPCP Eff 11-Oct-18
1,1,1,2-Tetrachloroethane	µg/L	20												
1,1,1-Trichloroethane	µg/L	10												
1,1,2,2 Tetrachloroethane	µg/L	70												
1,1,2-Trichloroethane	µg/L	800												
1,1-Dichloroethane	µg/L	200												
1,1-Dichloroethylene	µg/L	40												
Ethylene Dibromide	µg/L	5												
1,2-Dichlorobenzene	µg/L	2.5	< 0.5	< 0.5	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.5
1,2-Dichloroethane	µg/L	100	< 0.5	< 0.5	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.5
1,2-Dichloropropane	µg/L	0.7	< 0.5	< 0.5	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.5
1,3-Dichlorobenzene	µg/L	2.5	< 0.5	< 0.5	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.5
1,4-Dichlorobenzene	µg/L	4	< 0.5	< 0.5	< 0.2	< 0.2	<0.2	0.3	<0.2	0.5	< 0.2	< 0.2	0.2	< 0.5
Methyl Ethyl Ketone	µg/L	400												
Methyl Isobutyl Ketone	µg/L	-												
Acetone	µg/L	-												
Benzene	µg/L	100	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	-	< 2	< 2	0.1	< 0.1	0.5	0.2	<0.1	<0.1	< 0.1	< 0.1	0.1	< 2
Bromoform	µg/L	60	< 5	< 5	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 5
Bromomethane	µg/L	0.9	< 0.5	< 0.5	< 0.3	< 0.3	<0.3	<0.3	<0.3	<0.3	< 0.3	< 0.3	< 0.3	< 0.5
Carbon Tetrachloride	µg/L	-	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	µg/L	15	< 0.5	< 0.5	< 0.2	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.5
Chloroform	µg/L	-	2	2	1.3	0.4	1.5	1.3	1	1.3	0.4	1.9	1.6	3
cis 1,2-Dichloroethene	µg/L	200	< 0.5	< 0.5	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.5
cis 1,3-Dichloroethene	µg/L	-	< 0.5	< 0.5	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.5
Dibromochloromethane	µg/L	40	< 2	< 2	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 2
Dichlorodifluoromethane	µg/L	100	< 5	< 5	< 0.3	< 0.3	<0.3	<0.3	<0.3	<0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	µg/L	-	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5
m & p-Xylene	µg/L	-	< 1.0	< 1.0	< 0.4	< 0.4	<0.4	<0.4	<0.4	<0.4	< 0.4	< 0.4	< 0.4	< 1.0
o-Xylene	µg/L	40	< 0.5	< 0.5	< 0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.5
Toluene	µg/L	0.8	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether	µg/L	-												
Methylene Chloride	µg/L	700			< 0.3	< 0.3	<0.3	<0.3	<0.3	<0.3		< 0.3	< 0.3	< 0.06
Vinyl Chloride	µg/L	600	< 0.5	< 0.5	< 0.2	< 0.2	<0.2	<0.2	<0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.5
Trichloroethylene	µg/L	20	< 0.5	< 0.5	0.8	< 0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.5
Xylene, m,p,o-	µg/L	-												

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	WPCP Eff 24-Apr-19	WPCP Eff 17-Jul-19	WPCP Eff 13-Aug-19	WPCP Eff 20-Apr-21	WPCP Eff 15-Jun-21	WPCP Eff 10-Aug-21	WPCP Eff 10-Aug-21	WPCP Eff 15-Oct-21	WPCP Eff 26-Apr-22	WPCP Eff 24-Apr-23	WPCP Eff 5-Oct-23	WPCP Eff 28-Apr-25
1,1,1,2-Tetrachloroethane	µg/L	20				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	10				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1,2,2 Tetrachloroethane	µg/L	70				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	800				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1-Dichloroethane	µg/L	200				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,1-Dichloroethylene	µg/L	40				< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Ethylene Dibromide	µg/L	5				< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2
1,2-Dichlorobenzene	µg/L	2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	0.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,3-Dichlorobenzene	µg/L	2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Methyl Ethyl Ketone	µg/L	400				< 20	< 20	< 20	< 20	< 20	< 20	< 20	<20	<2
Methyl Isobutyl Ketone	µg/L	-				< 20	< 20	< 20	< 20	< 20	< 20	< 20	<20	<20
Acetone	µg/L	-				< 30	80	50	50	50	< 30	< 30	<30	<30
Benzene	µg/L	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Bromodichloromethane	µg/L	-	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2
Bromoform	µg/L	60	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	<5	<5
Bromomethane	µg/L	0.9	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2
Chlorobenzene	µg/L	15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Chloroform	µg/L	-	1	1	2	< 1	2	3	3	1	1	1	<1	2
cis 1,2-Dichloroethene	µg/L	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
cis 1,3-Dichloroethene	µg/L	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Dibromochloromethane	µg/L	40	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2
Dichlorodifluoromethane	µg/L	100	< 0.2	< 2	< 2	< 5	< 5	< 5	< 5	< 5				
Ethylbenzene	µg/L	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	<0.5	<0.5
m & p-Xylene	µg/L	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1
o-Xylene	µg/L	40	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Toluene	µg/L	0.8	< 0.5	< 0.5	< 0.5	< 0.5	0.5	< 0.5	< 0.5	1.5	< 0.5	< 0.5	<0.5	<0.5
Methyl tert-Butyl Ether	µg/L	-				< 2	< 2	< 2	< 2	< 2	< 2	< 2	<2	<2
Methylene Chloride	µg/L	700	< 5	< 5	< 5							< 5	<5	<5
Vinyl Chloride	µg/L	600	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.2	<0.2
Trichloroethylene	µg/L	20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5
Xylene, m,p,o-	µg/L	-				< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water Chemistry Summary - VOC

Parameters	Units	PWQO	WPCP Eff (DUP)	WPCP Eff
			28-Apr-25	21-Aug-25
1,1,1,2-Tetrachloroethane	µg/L	20	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	10	<0.5	<0.5
1,1,2,2 Tetrachloroethane	µg/L	70	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	800	<0.5	<0.5
1,1-Dichloroethane	µg/L	200	<0.5	<0.5
1,1-Dichloroethylene	µg/L	40	<0.5	<0.5
Ethylene Dibromide	µg/L	5	<0.2	<0.2
1,2-Dichlorobenzene	µg/L	2.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	100	<0.5	<0.5
1,2-Dichloropropane	µg/L	0.7	<0.5	<0.5
1,3-Dichlorobenzene	µg/L	2.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	4	<0.5	<0.5
Methyl Ethyl Ketone	µg/L	400	<2	<2
Methyl Isobutyl Ketone	µg/L	-	<20	<20
Acetone	µg/L	-	<30	<30
Benzene	µg/L	100	<0.5	<0.5
Bromodichloromethane	µg/L	-	<2	<2
Bromoform	µg/L	60	<5	<5
Bromomethane	µg/L	0.9	<0.5	<0.5
Carbon Tetrachloride	µg/L	-	<0.2	<0.2
Chlorobenzene	µg/L	15	<0.5	<0.5
Chloroform	µg/L	-	1	1
cis 1,2-Dichloroethene	µg/L	200	<0.5	<0.5
cis 1,3-Dichloroethene	µg/L	-	<0.5	<0.5
Dibromochloromethane	µg/L	40	<2	<2
Dichlorodifluoromethane	µg/L	100		
Ethylbenzene	µg/L	-	<0.5	<0.5
m & p-Xylene	µg/L	-	<1	<1
o-Xylene	µg/L	40	<0.5	<0.5
Toluene	µg/L	0.8	<0.5	<0.5
Methyl tert-Butyl Ether	µg/L	-	<2	<2
Methylene Chloride	µg/L	700	<5	<5
Vinyl Chloride	µg/L	600	<0.2	<0.2
Trichloroethylene	µg/L	20	<0.5	<0.5
Xylene, m,p,o-	µg/L	-	<1.1	<1.1

ODWQS - Ontario Drinking Water Quality

Standards

Bold & Highlighted - ODWQS exceedance

Bold - Detection

Surface Water - PCBs

Location	Sample Date	PCB ug/L 0.001
SW1	26-Apr-07	<0.001
SW1	14-Apr-08	<0.001
SW1	19-Jun-08	<0.001
SW1	21-Oct-08	<0.001
SW1	7-May-09	<0.001
SW1	29-Oct-09	<0.001
SW1	30-Mar-10	< 0.001
SW1	3-May-10	< 0.001
SW1	25-Oct-10	< 0.001
SW1	27-May-13	<0.05
SW1	27-Apr-15	< 0.05
SW1	10-Jun-15	< 0.05
SW1	17-Nov-15	< 0.05
SW1	25-Apr-18	< 0.05
SW1	20-Apr-21	< 0.05
SW2	31-Mar-05	0.100
SW2	13-Mar-06	<0.0001
SW2	10-May-06	<0.04
SW2	10-Apr-07	<0.001
SW2	26-Apr-07	<0.001
SW2	25-Oct-07	<0.001
SW2	14-Apr-08	<0.001
SW2	19-Jun-08	<0.001
SW2	21-Oct-08	<0.001
SW2	7-May-09	<0.001
SW2	17-Jul-09	<0.001
SW2	29-Oct-09	<0.001
SW2	30-Mar-10	<0.001
SW2	3-May-10	< 0.001
SW2	25-Oct-10	< 0.001
SW2	27-May-13	<0.05
SW2	27-Apr-15	< 0.05
SW2	10-Jun-15	< 0.05
SW2	17-Nov-15	< 0.05
SW2	25-Apr-18	< 0.05
SW2	28-Jun-18	< 0.05
SW2	22-Aug-18	< 0.05
SW2	9-Oct-18	< 0.05
SW2	20-Apr-21	< 0.05
SW2	11-Aug-21	< 0.05
SW2	15-Jun-21	< 0.05
SW2	25-Apr-24	< 0.05

Location	Sample Date	PCB ug/L 0.001
SW4	26-Apr-07	0.260
SW4	25-Oct-07	<0.001
SW4	14-Apr-08	<0.001
SW4	19-Jun-08	<0.001
SW4	21-Oct-08	<0.001
SW4	7-May-09	<0.001
SW4	29-Oct-09	<0.001
SW4	30-Mar-10	<0.001
SW4	3-May-10	< 0.001
SW4	25-Oct-10	< 0.001
SW4	27-May-13	<0.05
SW4	27-Apr-15	< 0.05
SW4	11-Jun-15	< 0.05
SW4	17-Nov-15	< 0.05
SW4	25-Apr-18	< 0.05
SW4	20-Apr-21	< 0.05
SW4	15-Oct-21	< 0.05
SW4	25-Apr-24	< 0.05
SW13	28-Apr-15	< 0.05
SW13	11-Jun-15	< 0.05
SW13	18-Nov-15	< 0.05
SW13	21-Apr-16	< 0.05
SW13	26-May-16	< 0.05
SW13	8-Jun-16	< 0.05
SW13	11-Oct-16	< 0.05
SW13	24-Apr-17	<0.05
SW13	22-Jun-17	<0.05
SW13	24-Aug-17	<0.05
SW13	17-Oct-17	<0.05
SW13	25-Apr-18	< 0.05
SW13	28-Jun-18	< 0.05
SW13	22-Aug-18	< 0.05
SW13	11-Oct-18	< 0.05
SW13	24-Apr-19	< 0.05
SW13	17-Jul-19	< 0.05
SW13	13-Aug-19	< 0.05
SW13	16-Oct-19	< 0.05
SW13	30-Apr-20	< 0.05
SW13	20-Apr-21	< 0.05
SW13	15-Jun-21	< 0.05
SW13	11-Aug-21	< 0.05
SW13	26-Apr-22	< 0.05
SW13	21-Jun-22	< 0.05
SW13	24-Apr-23	< 0.05

Location	Sample Date	PCB ug/L 0.001
SW15	10-Apr-07	<0.001
SW15	26-Apr-07	0.003
SW15	25-Oct-07	<0.001
SW15	14-Apr-08	<0.001
SW15	21-Oct-08	<0.001
SW15	30-Mar-10	0.004
SW15	3-May-10	<0.001
SW15	8-Aug-13	<0.05
SW15	21-Oct-13	<0.05
SW15	27-Apr-15	< 0.05
SW15	11-Jun-15	< 0.05
SW15	25-Apr-18	< 0.05
SW15	28-Jun-18	< 0.05
SW15	22-Aug-18	< 0.05
SW15	10-Oct-18	< 0.07
SW15	20-Apr-21	< 0.05
SW15	15-Jun-21	< 0.05
SW15	15-Oct-21	< 0.05
SW16	25-Apr-18	< 0.05
SW16	28-Jun-18	< 0.05
SW16	22-Aug-18	< 0.05
SW16	10-Oct-18	< 0.05
SW16	15-Oct-21	< 0.05
SW18	28-Apr-15	< 0.05
SW18	11-Jun-15	< 0.05
SW18	17-Nov-15	< 0.05
SW18	25-Apr-18	< 0.05
SW18	28-Jun-18	< 0.05
SW18	22-Aug-18	< 0.05
SW18	11-Oct-18	< 0.05
SW18	20-Apr-21	< 0.05
SW18	15-Jun-21	< 0.05
SW18	11-Aug-21	< 0.05
SW18	15-Oct-21	< 0.05
SW18	25-Apr-24	< 0.05
Emb A	9-May-18	< 0.05
Emb A	26-Jun-18	< 0.05
Emb A	28-Aug-18	< 0.05
Emb A	10-Oct-18	< 0.05
Emb A	15-Jun-21	<0.05
Emb A	11-Aug-21	<0.05
Emb A	25-Apr-24	<0.05
Emb B	9-May-18	< 0.05

Surface Water - PCBs

Location	Sample Date	PCB ug/L 0.001
SW3	28-Apr-15	< 0.05
SW3	10-Jun-15	< 0.05
SW3	17-Nov-15	< 0.05
SW3	20-Apr-16	< 0.05
SW3	16-May-16	< 0.05
SW3	8-Jun-16	< 0.05
SW3	24-Apr-17	<0.05
SW3	22-Jun-17	<0.05
SW3	24-Aug-17	<0.05
SW3	17-Oct-17	<0.05
SW3	25-Apr-18	< 0.05
SW3	28-Jun-18	< 0.05
SW3	9-Oct-18	< 0.05
SW3	24-Apr-19	< 0.05
SW3	17-Jul-19	< 0.05
SW3	30-Apr-20	< 0.05
SW3	24-Jun-20	< 0.05
SW3	22-Oct-20	< 0.05
SW3	20-Apr-21	< 0.05
SW3	15-Jun-21	< 0.05
SW3	11-Aug-21	< 0.05
SW3	15-Oct-21	< 0.05
SW3	26-Apr-22	< 0.05
SW3	21-Jun-22	< 0.05
SW3	13-Oct-22	< 0.05
SW3	24-Apr-23	< 0.05
SW3	15-Aug-23	< 0.05
SW3	5-Oct-23	< 0.05
SW3	25-Apr-24	< 0.05
SW3	15-Aug-24	< 0.05
SW3	10-Oct-24	< 0.05
SW3	28-Apr-25	< 0.05
SW3	17-Jun-25	< 0.05
WPCP Eff	10-Feb-10	< 0.001
WPCP Eff	25-Apr-18	< 0.05
WPCP Eff	28-Jun-18	< 0.05
WPCP Eff	22-Aug-18	< 0.05
WPCP Eff	11-Oct-18	< 0.05
WPCP Eff	15-Jun-21	< 0.05
WPCP Eff	11-Aug-21	< 0.05
WPCP Eff	15-Oct-21	< 0.05
WPCP Eff	25-Apr-24	< 0.05

Location	Sample Date	PCB ug/L 0.001
SW14	31-Mar-05	0.100
SW14	13-Mar-06	<0.0001
SW14	10-May-06	0.060
SW14	10-Apr-07	<0.001
SW14	26-Apr-07	<0.001
SW14	14-Apr-08	<0.001
SW14	19-Jun-08	<0.001
SW14	21-Oct-08	<0.001
SW14	7-May-09	<0.001
SW14	29-Oct-09	<0.001
SW14	30-Mar-10	< 0.001
SW14	3-May-10	< 0.001
SW14	25-Oct-10	< 0.001
SW14	27-May-13	<0.05
SW14	28-Apr-15	< 0.05
SW14	11-Jun-15	< 0.05
SW14	17-Nov-15	< 0.05
SW14	25-Apr-18	< 0.05
SW14	28-Jun-18	< 0.05
SW14	22-Aug-18	< 0.05
SW14	11-Oct-18	< 0.05
SW14	15-Oct-21	< 0.05
SW14	25-Apr-24	< 0.05
CP-1	28-Jun-18	< 0.05
CP-1	10-Oct-18	< 0.05
CP-1	15-Jun-21	< 0.05
CP-1	15-Oct-21	< 0.05
CP-2	28-Jun-18	< 0.05
CP-2	15-Oct-21	< 0.05

Location	Sample Date	PCB ug/L 0.001
Emb B	26-Jun-18	< 0.05
Emb B	28-Aug-18	< 0.05
Emb B	10-Oct-18	< 0.05
Emb B	15-Jun-21	<0.05
Emb B	11-Aug-21	<0.05
Emb B	25-Apr-24	<0.05
Emb C	9-May-18	< 0.05
Emb C	26-Jun-18	< 0.05
Emb C	28-Aug-18	< 0.05
Emb C	10-Oct-18	< 0.05
Emb C	15-Jun-21	<0.05
Emb C	11-Aug-21	<0.05
Emb C	25-Apr-24	<0.05
Scg-Up	24-Apr-17	<0.05
Scg-Up	24-Aug-17	<0.05
Scg-Up	9-May-18	< 0.05
Scg-Up	26-Jun-18	< 0.05
Scg-Up	28-Aug-18	< 0.05
Scg-Up	10-Oct-18	< 0.05
Scg-Up	15-Jun-21	<0.05
Scg-Up	11-Aug-21	<0.05
Scg-Up	25-Apr-24	<0.05
Scg-Down	9-May-18	< 0.05
Scg-Down	26-Jun-18	< 0.05
Scg-Down	28-Aug-18	< 0.05
Scg-Down	10-Oct-18	< 0.05
Scg-Down	15-Jun-21	<0.05
Scg-Down	11-Aug-21	<0.05
Scg-Down	25-Apr-24	<0.05



APPENDIX K

Lindsay OPS Landfill Stormwater Management System – Annual Status Report 2025



Environmental
Approvals

Fisheries & Aquatic
Ecology

Terrestrial & Wetland
Ecology

Environmental
Engineering

Hydrogeology &
Contaminant
Hydrogeology

Arborist Services

Environmental Site
Assessment

Species at Risk

Project Management

Environmental Impact
Assessment

Water and Wastewater
Engineering

Environmental Site
Inspection /
Construction
Monitoring



Lindsay OPS Landfill Stormwater Management System 2025 Annual Monitoring Report

51 Wilson Road

City of Kawartha Lakes

**Prepared for City of Kawartha Lakes
AEC Project No. 25-010 | April 2026**



Environmental Assessments & Approvals

April 28, 2026

AEC 26-010

City of Kawartha Lakes
Waste Management Department
322 Kent St. West
Lindsay, ON
K9V 4T7

Attention: Ms. Ms. Kayla Pantaleo
Regulatory Compliance Officer

**Re: 2025 Annual Monitoring Report – Stormwater Management System
Lindsay Ops Waste Disposal Site**

Dear Kayla:

Azimuth Environmental Consulting, Inc. (Azimuth) is pleased to provide the 2025 Annual Monitoring Report (AMR) for the Lindsay Ops Waste Disposal Site Stormwater Management System. The data and interpretation included provides a summary of the 2025 monitoring data with comparison to the historical data and accurate assessment of the current state of the Stormwater Management System. This report has been prepared in compliance with the existing Environmental Compliance Approval (ECA) and applicable Provincial standards. This report is completed and included as an appendix of the 2025 AMR for the Lindsay Ops Landfill Site such that the data and interpretation should be completed in conjunction with the landfill AMR.



The data indicates that the facility operates within the design standards with data collected generally matching what has been observed historically.

Regards,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.



Colin Ross, B.Sc., P.Geo.
Senior Hydrogeologist

c.c. MECP – Peterborough District Office



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Appendix C	2024 Stormwater Management Pond Restoration As-Built Drawings



1.0 INTRODUCTION

The City of Kawartha Lakes (“the City”) has retained Azimuth Environmental Consulting Inc. (Azimuth) to prepare the 2024 Annual Monitoring Report (AMR) for the Stormwater Management System (SMS) located at the Lindsay Ops Landfill Site (Site), which is required by Section 8(3) of the Ministry of the Environment, Conservation and Parks (“MECP”) Amended Environmental Compliance Approval (“ECA”) No. 8401-AFST88 for the stormwater management facility at the Lindsay-Ops Landfill Site (“the Site”). The ECA was issued on May 25, 2017 to replace the December 2012 ECA No. 8668-92MTK7 which covered both the Leachate Collection/Disposal System and the Stormwater Management System. The Leachate Collection/Disposal System has been removed from the new ECA and is now covered under the Lindsay Ops Landfill Waste ECA No. A321504. A subsequent ECA amendment was issued (ECA No. 1812-CBRMK) in February, 2022 (Appendix A) to allow for the installation of a discharge pipe with flow control (valve) for the outlet of the compost pond into Lagoon 1. This was constructed in 2022.

This report, which follows the format and system description presented in previous years provides environmental performance monitoring data and assessment as well as a summary of inspection / maintenance activities for the SMS for the period of January 1 to December 31, 2025, and includes:

- an overview of the stormwater management facility installed within both the Old Landfill Area and the New Expansion Area of the Site;
- any potential impact or temporary alteration of the facility from adjacent land uses or construction activities;
- a summary and interpretation of the 2025 water quality monitoring data for the stormwater management facility;
- a summary of inspection and maintenance activities; and
- an evaluation of the adequacy of the stormwater management facility.

2.0 BACKGROUND

The Site is located approximately 2.5 km north of Lindsay off of Highway 36, adjacent to the east shore of the Scugog River. The legal description of the Site is Part of Lots 25, 26 and 27, Concession 6, in the former Township of Ops, now the City of Kawartha Lakes. The former Town of Lindsay commenced landfill operations at the Site in 1980. On December 14, 2001, approval for the continued use and north expansion of the Site was granted by the MECP. The Site is approved to receive residential, commercial, institutional and industrial non-hazardous



municipal waste, and contaminated excess soils generated within the City, as well as biosolids from the Lindsay Water Pollution and Control Plant (“Lindsay WPCP”).

2.1 Stormwater Management System

The stormwater management system receives stormwater runoff from a total drainage area of 35.3 ha and is designed for storm events up to a 1 in 100-year return frequency. The stormwater management system is completely isolated from the adjacent wastewater treatment facility; however, it does receive flows from adjacent agricultural fields along Wilson Road (opened and un-opened road allowance portions).

The components of the stormwater management system are shown on Figure 1. A description of each component is provided below.

2.1.1 South Stormwater Management Facility

This part services the 7.8 ha area including the low permeability final cover area of the closed southern section of the old landfill mound, which consists of:

- one (1) 230 m long stormwater drainage perimeter ditch running along the eastern side of the closed southern portion of the landfill, servicing 1.0 ha of the low permeability final cover drainage area, having a minimum depth of 0.6 m, a base width of 0.6 m, 2H:1V side slopes, a longitudinal slope ranging from 0.9% to 2.5% that drains north and discharges to the Quality Control Ponds via connecting ditches serving the north expansion area of the landfill;
- one (1) 390 m long stormwater drainage perimeter ditch running along the southern side of the closed southern portion of the landfill, serving 4.8 ha of the low permeability cover drainage area, having a minimum depth of 0.6 m, a base width of 0.6 m, 2H:1V side slopes, a longitudinal slope ranging from 0.9% to 3.8%, lined with 1.5 mm (60 mil) HDPE geomembrane and geo-composite drainage layer extending from the low permeability final cover, a non-woven geotextile, and a layer of 100 mm diameter rip-rap, discharging through a common outlet ditch at the southwest corner of the old landfill as described below;
- one (1) 210 m long stormwater drainage perimeter ditch running along the western side of the closed southern portion of the landfill, serving 2.0 ha of the low permeability cover drainage area, having a minimum depth of 0.6 m, a base width of 0.6 m, 2H:1V side slopes, a longitudinal slope ranging from 0.9% to 1.1%, lined with 1.5 mm HDPE geomembrane and geo-composite drainage layer extending from the low permeability final cover, a non-woven geotextile, and a layer of 100 mm diameter rip-rap layer, discharging south through a common outlet ditch described below; and



- one (1) 60 m long stormwater common outlet drainage ditch located at the southwest corner of the closed part of the old landfill mound, having a minimum depth of 0.6 m, a base width of 1.0 m, 2H:1V side slopes, lined with 1.5 mm HDPE geomembrane, non-woven geo-textile, and 100 mm diameter rip-rap, discharging through two (2) 15 m long x 600 mm diameter corrugated steel culverts to an existing roadside ditch along the north side of Lagoon Road. The roadside ditch crosses Lagoon Road near the Water Pollution Control Plant (WPCP) gate through a 900 mm corrugated steel culvert and connects to a 450 m long ditch that discharges to an embayment of the Scugog River southwest of Lagoon 6.

2.2 North Stormwater Management Facility

This part services the 27.5 ha drainage area of the North Expansion Area of the landfill, consisting of:

- two (2) identical stormwater Quality Control Ponds (one on duty 'Pond A' and the other on standby 'Pond B'), each pond designed for settling of suspended solids under a 25 mm, 4-hour duration storm event. Each pond has a permanent pool storage volume of 3,650 m³ and an extended detention storage volume of 4,000 m³. Each is equipped with a forebay, an inlet structure and an outlet structure which includes a 1,200 mm diameter perforated CSP riser with a 150 mm diameter orifice plate placed on a 300 mm diameter outlet pipe equipped with a gate valve;
- one (1) Quantity Control Lagoon (Lagoon 1) with a surface area of approximately 5.57 ha and a maximum storage capacity of 90,000 m³, equipped with an outlet structure consisting of a headwall with a 750 mm diameter CSP pipe and manually operated stop logs to discontinue the discharge of stormwater into the receiving drainage ditch if required; and
- a series of stormwater collection perimeter ditches.

2.3 Stormwater Quality Control Pond Operation

The two stormwater Quality Control Ponds of the North Stormwater Management Facility serve as settling ponds for suspended solids. Each is designed to provide settling of suspended solids under a 4-hour, 25 mm storm event.

The gate valve on the outlet pipe of the Quality Control Ponds remains fully open. However, if surface water quality monitoring indicates contamination in excess of the discharge criteria (total ammonia concentration of >5 mg/L or pH <6.0 or >8.5), then the gate valve is to be closed until the origin of the contamination has been determined, the problem corrected and sampling undertaken to confirm that the stormwater inflow meets the required discharge criteria



discussed in Section 3.2. At that time, the gate valve can be re-opened to allow flow into the Lagoon 1 Quantity Control Pond. The weir on the outlet structure of the Quality Control Ponds controls the discharge rate as it is located downstream of the gate valve noted above. The weir is self operating and not adjustable.

The Lagoon 1 Quantity Control Pond receives outflow from the Quality Control Ponds and serves as a wetland feature for additional water quality improvement. It is not required for attenuation of peak storm flows, but does provide additional storage capacity if required to retain stormwater due to water quality issues. The criterion for stopping flow from this pond at the stop log outlet structure (north end of the pond) is discussed in Section 3.2.

3.0 STORMWATER MANAGEMENT SYSTEM MONITORING PROGRAM

3.1 Comprehensive Water Quality Monitoring

Condition 6 of the Stormwater ECA stipulates comprehensive water quality monitoring and recording requirements for the stormwater management facility in the North Expansion Area. Grab samples are to be collected quarterly at sampling locations SW-15 (located at the entrance to the Quality Control Pond) and SW-14 (located along the north ditch downstream of the outlet of the Lagoon 1 Quantity Control Pond) and analyzed for a comprehensive list of water quality parameters, including conductivity, select major ions, select trace metals, biochemical oxygen demand (BOD), chemical oxygen demand (COD), total suspended solids (TSS), total dissolved solids (TDS), phenols, and nutrients. The sampling locations are shown in Figure 1.

During a Site inspection in 2013, the MECP recommended that the SW-14 location be moved to the outlet structure of Lagoon 1 to ensure that the water quality at SW-14 reflects only the discharge from Lagoon 1 rather than a mixture of the Lagoon 1 effluent and upstream flow in the north ditch. In response to this request, the City added a new station SW18 at the outlet of the Lagoon 1 Quantity Pond in 2015, while maintaining SW-14 at its current location for comparative purposes.

In 2025, four (quarterly) water quality sampling events were completed, but due to dry conditions during some sampling events, samples could not be collected at some of the locations. The following table summarizes when and where samples were collected in 2025.



Table 1: North Stormwater Management System – 2025 Monitoring Program

Parameter(s)	Sampling Frequency		
	SW-14	SW-15	SW-18
Field Parameters (pH, temperature, Conductivity, dissolved oxygen)	April & June	April, June, August & October	April & June
General Chemistry, Major Ions, Trace Metals, Nutrients, BOD, DOC, COD, Phenols			

In addition to the sampling summarized above, SW-14, SW15 and SW-18 were sampled for total ammonia after storm events as summarized in Table 2, which only included two of the required four storm events.

Table 2: North Stormwater Management System – 2025 Storm Event Sampling

Sampling Frequency		
SW-14	SW-15	SW-18
April & May	April & May	April & May

Sample collection was carried out by Azimuth and City staff throughout 2025. Samples were submitted to Caduceon Environmental Laboratories to perform water quality analyses. The analytical results are summarized in Appendix B.

Review of the 2025 comprehensive water quality data for SW-14, SW-15 and SW-18 indicates concentrations slightly greater than PWQO for the following parameters:



Table 3: 2025 PWQO Exceedances for SW-14, SW-15 and SW-18

SW-15 (entrance to the Quality Control Pond A)	SW-18 (outlet Structure of Quantity Control Pond Lagoon 1)	SW-14 (north ditch downstream of the outlet of the Quantity Control Pond Lagoon 1)	SW-4* (background station in north ditch)
Iron (x3.3)	Iron (x2.3)	Iron (x2.5)	-
Phosphorus (x0.3)	Phosphorus (x3.3)	Phosphorus (x2.7)	-
Phenols (x2)	Phenols (x2)	Phenols (x2)	-
Aluminum (x4.4)	Aluminum (x3.3)	Aluminum (x4.1)	Aluminum (x1.9)
Chromium (x3)			
Cobalt (x0.3)			-
Zinc (x0.1)		Zinc (x0.1)	Zinc (x0.1)

(x 8.0) – denotes the maximum extent to which the PWQO was exceeded in 2025 (e.g., 8 times higher than PWQO)

* - SW-4 (background reference from landfill program).

The exceedances of the PWQO parameters are similar to previous year's results, albeit are most likely related to suspended natural soil/organic particles rather than landfill leachate impacts. This is supported by the fact the most elevated concentrations are found when TSS concentrations are elevated. Similarly, these locations typically have low levels of key leachate parameters such as total ammonia (<0.1 mg/L) historically. These trends continued in 2025 with ammonia concentrations generally falling below 0.6 mg/L. The PWQO exceedances at the quality pond inlet station SW-15, as well as SW-14 and SW-18 are sediment related as this station is prior to sediment deposition in the pond. At SW-14 & SW-18, located along the north ditch downstream of the Quantity Pond (Lagoon 1) outlet, the PWQO exceedances are typically minor, sediment related and generally comparable to the background station (SW-4) historical results.

For a more comprehensive discussion regarding the surface water quality, the reader is referred to Section 2.2.4.5.3 of the landfill AMR.

3.2 Operational Stormwater Quality Monitoring

According to the Stormwater ECA Condition 5(2), additional sampling for pH and total ammonia is required if the total ammonia concentration is greater than 1 mg/L at SW14 and/or SW15.



With the addition of Station SW-18 at the outlet of the Lagoon 1 Quantity Pond in 2015 (at the request of the MECP), the City has included this station for the operational stormwater quality monitoring required by Stormwater ECA Condition 5(2). The additional sampling for pH and total ammonia is to be undertaken during each subsequent storm event causing stormwater runoff to the Quality Control Ponds, until four consecutive storm events give total ammonia concentrations of less than 1 mg/L and pH levels between 6.0 and 8.5. The outlet structure (stop log structure) at the Quantity Control Pond (Lagoon 1) is to be closed if the total ammonia level exceeds 5 mg/L and/or the pH falls outside the range of 6.0 to 8.5.

In 2025, the total ammonia levels at all stations (SW-14, SW-15 and SW-18) were less than 1 mg/L. Lab and field pH values were in the allowable range of 6.0 to 8.5 at SW-14, SW-15 and SW-18, except for the June result at SW15, which was marginally above at 8.59, while the field pH was 7.82. Given the low ammonia concentrations, below 1 mg/L during that and subsequent monitoring events in 2025 at SW-15, continued discharge of outflow from the stormwater pond was permitted.

4.0 INSPECTION AND MAINTENANCE

4.1 Stormwater Management System

The Stormwater Management System was inspected regularly as part of the monthly landfill site inspections.

The monthly inspections completed by City staff indicated that the ditches were in good condition, with the exception of the April and May inspections which identified that the northwestern culvert needed clearing. Subsequent inspections did not indicate similar comments such that the issue was resolved.

Sediment thickness measurements were undertaken in August 2021, where sediment thicknesses were measured in the Quality Control Pond A (north) and Pond B (south). The sediment thickness in Pond A ranged from 25 cm to 49 cm with an average thickness of 36 cm. The sediment thickness in Pond B ranged from 39 cm to 47 cm with an average of 42 cm. Removal of the sediment in the Quality Control Ponds is recommended when the thickness reaches about 30 cm. A Capital Project was created for the sediment removal in Pond A and Pond B. This work was awarded to WSP and completed in July of 2024. The existing condition As-builts are attached as Appendix C.

As part of this work, the following activities occurred:

- Pre/post construction survey;



- Retain ecologist to relocate aquatic species from ponds prior to dewatering;
- Dewater existing sedimentation ponds and forebays;
- Earthwork (removal of sediments) and grading to proposed grades as per Construction Drawings;
- Construction of rip rap spillways;
- Restoration of areas disturbed by the work;
- Protect existing monitoring wells during construction;
- Provide temporary silt fence as required to limit sediment discharge outside the work area during construction; and
- Demobilization and closeout.

Beyond the above noted tasks, the following items are noted which related to these activities:

- The sediment removed was too wet to be placed on the landfill so it was placed in a staging area near Lagoon 1;
- During the grubbing on the berms, the contractor found an abandoned concrete pipe. This was removed along with a buried gate valve from the berm. The berm was restored to original conditions; and
- The valve in the North sedimentation pond was replaced (due to ceasing and difficult to close).

Aside from the works completed in 2025, overall, the Stormwater Management System was in good operating order.

5.0 SUMMARY

Based on the results of the 2025 performance assessment for the stormwater management facility, the following summary is provided:

- The stormwater management facility was operated in 2025 in accordance with Amended Environmental Compliance Approval No. 8401-AFST88, with the exception of only two of the four required storm event sampling events being completed in 2025;
- In 2025, water quality samples were collected from SW-14, SW-15 and SW-18 on a quarterly basis in accordance with ECA requirements, with some locations being dry during August and October;
- Minor exceedances of PWQO were obtained at SW-14 (north ditch downgradient of Lagoon 1) for phosphorus, iron, aluminum, phenols and zinc similar to previous years and in line with concentrations historically observed at the background locations SW-4. At SW-18 (Lagoon 1 Quantity Control Pond outlet) minor exceedances of PWQO were obtained for phosphorous, iron, aluminum & phenols, with concentrations similar to historical background concentrations. At SW-15 (Quality Control Pond 'B' inlet)



exceedances of PWQO were obtained for phosphorous, iron, phenols, aluminum, unionized ammonia & silver similar to previous years. These exceedances are considered to mainly reflect suspended natural soil/organic particles rather than leachate impacts as these parameters are exceeded and elevated in the background location historically. Overall, the PWQO exceedances at SW-15 are expected as this station is prior to sediment deposition in the ponds;

- In 2025, there were no trigger exceedances with respect to field pH or ammonia. However, the lab pH was noted to exceed the trigger limit at SW15 during the June monitoring event (8.59). Given the field pH value was lower (7.82) and within trigger limits therefore the criteria to stop the logs at quality control pond Lagoon 1 was not undertaken; and

6.0 RECOMMENDATIONS

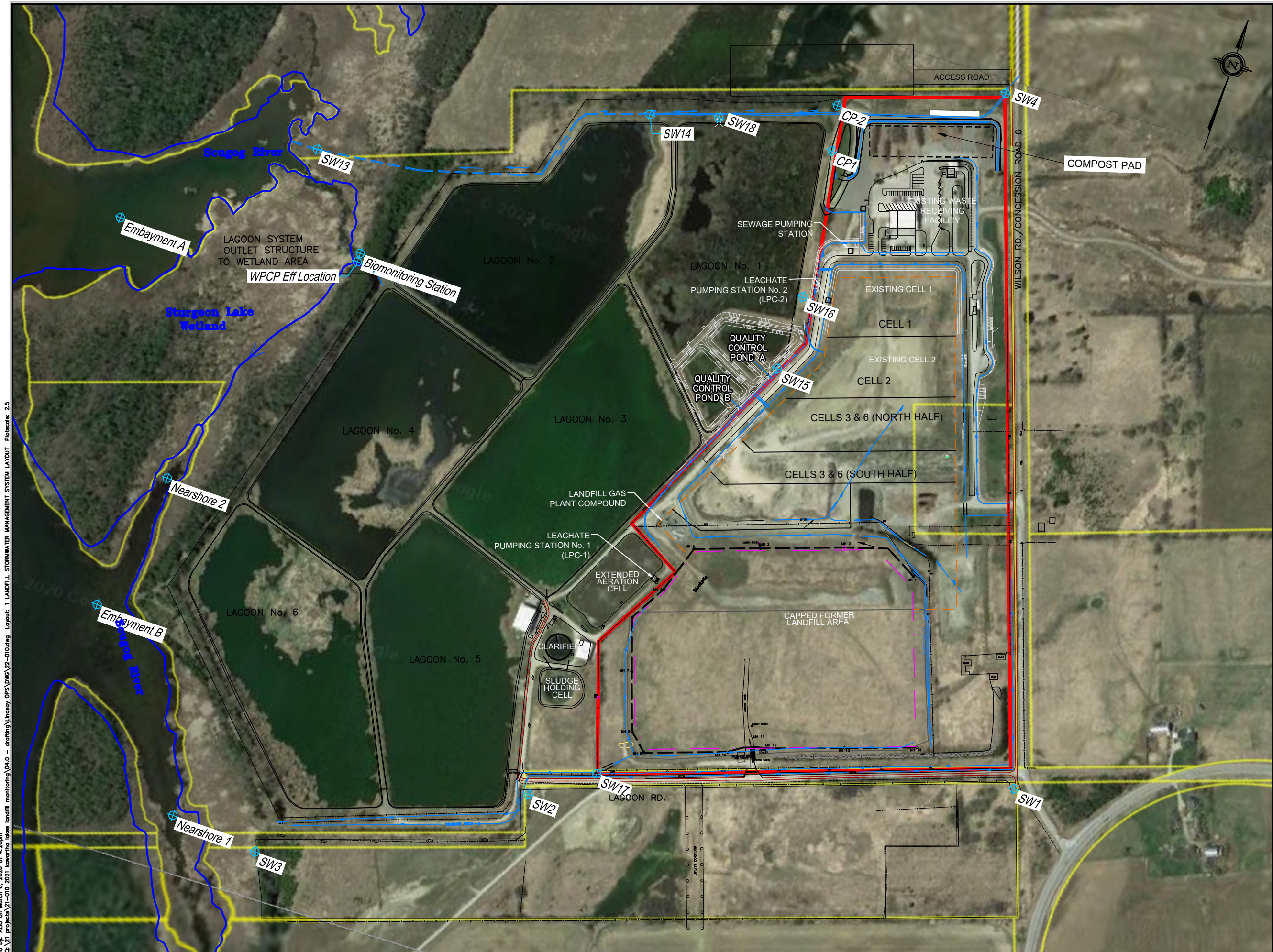
The following recommendations are made regarding the operation and performance of the Stormwater Management Facility and are similar to what has been included in previous reports:

- Regular inspection of the perimeter of the North Expansion fill area should continue to be carried out to check that run-off from areas having daily and/or interim cover is being contained within the perimeter containment berm and captured by the leachate collection system. This is important in preventing leachate impacts on the perimeter drainage ditches that feed the stormwater quality ponds. Particular attention should be given to the area around entrance ramps along the west side of the active waste fill area where contaminated run-off could potentially flow down the ramp and into the external ditches;
- Follow Condition 6(2) to ensure that surface water samples are collected during and/or following rain events(s); and
- Undertake regular maintenance and grading of the ditches to ensure flow is following the prescribed patterns as indicated in the stormwater management facility design and associated drawings/ plans.

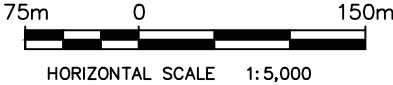


Figures

Plotted by: ALU on March 6, 2026 at 4:20pm
File: Q:\21_projects\21-010_2021 Kawartha Lakes Landfill Monitoring\04.0 - Drafting\Lindsay OPS\DWG\21-010.dwg Layout: 1 LANDFILL STORMWATER MANAGEMENT SYSTEM LAYOUT PlotScale: 2.5



- LEGEND:**
- Approx. Property Boundary
 - Limit of Old Landfill
 - Limit of Landfill Expansion Area
 - Leachate Collector
 - Fence
 - Surface Water Monitoring Locations



Surface Water Monitoring Network

Lindsay OPS Landfill,
Lindsay, ON

DATE ISSUED:	March 2026	Figure No. 1
CREATED BY:	JLM	
PROJECT NO.:	26-010	
REFERENCE:	First Base Solutions	



APPENDICES

- Appendix A: MECP Environmental Compliance Approval (ECA)**
Appendix B: Water Quality Data
Appendix C 2024 Stormwater Management Pond Restoration As-Built Drawings
-
-



APPENDIX A

MECP Environmental Compliance Approval (ECA)

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 1812-CBRM4K
Issue Date: February 28, 2022

City of Kawartha Lakes
322 Kent Street West
Post Office Box 9000
Kawartha Lakes, Ontario
K9V 4T7

Site Location: Lindsay - Ops Landfill Site
51 Wilson Road
Lot 25,26,27, Concession 6, former Ops Township
City of Kawartha Lakes, Ontario

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:

usage and operation of the existing stormwater management facility to service Lindsay-Ops Landfill Site, located on Lots 26 and Lots 27, Concession 6, in the City of Kawartha Lakes, receiving stormwater runoff from a total drainage area of 35.3 ha, designed to attenuate storm events up to 1:100 year return frequency as follows:

Proposed Works

- one (1) discharge pipe with flow control to quantity control lagoon (Lagoon 1);

Existing Works

South Stormwater Management Facility

stormwater management facility to service 7.8 ha drainage area of the closed part of the Lindsay-Ops Landfill Site located on the southern part of the site, consisting of the following:

- One (1) 7.8 ha drainage area of the closed part of Lindsay-Ops Landfill Site covered with low permeability final cover consisting of 1.5 mm HDPE textured geomembrane and geocomposite drainage layer, 0.55 m thick loam cover soil, and grass vegetation, discharging to perimeter ditches described below;

- One (1) 230 m long stormwater drainage perimeter ditch running along the eastern part of the closed part of the landfill site, serving 1.0 ha of the drainage area, having a minimum depth of 0.6 m, a base width of 0.6 m, 2H:1V side slopes, a longitudinal slope ranging from 0.9% to 2.5%, draining north and discharging to the quality control ponds via connecting ditches serving the expansion drainage area of the landfill;
- One (1) 390 m long stormwater drainage perimeter ditch running along the southern part of the closed part of the landfill site, serving 4.8 ha of the drainage area, having a minimum depth of 0.6 m, a base width of 0.6 m, 2H:1V side slopes, a longitudinal slope ranging from 0.9% to 3.8%, lined with 1.5 mm HDPE geomembrane and geocomposite drainage layer extending from the final cover of the closed landfill, non-woven geo-textile, and 100 mm diameter rip-rap layer, discharging through a common outlet ditch described below;
- One (1) 210 m long stormwater drainage perimeter ditch running along the western part of the closed part of the landfill site, serving 2.0 ha of the drainage area, having a minimum depth of 0.6 m, a base width of 0.6 m, 2H:1V side slopes, a longitudinal slope ranging from 0.9% to 1.1%, lined with 1.5 mm HDPE geomembrane and geocomposite drainage layer extending from the final cover of the closed landfill, non-woven geo-textile, and 100 mm diameter rip-rap layer, discharging through a common outlet ditch described below;
- One (1) 60 m long stormwater drainage ditch located at the southwest corner of the closed part of the landfill site, having a minimum depth of 0.6 m, a base width of 1.0 m, 2H:1V side slopes, lined with 1.5 mm HDPE geomembrane, non-woven geo-textile, and 100 mm diameter rip-rap layer, discharging through two (2) culverts described below;
- Two (2) 15 m long x 600 mm diameter corrugated steel culverts discharging to an existing roadside ditch along the north side of Lagoon Road crossing Lagoon Road through an existing 900 mm corrugated steel culvert to an existing approximately 450 m long ditch which discharges to an embayment of Scugog River;
- all controls and associated appurtenances;

North Stormwater Management Facility

stormwater management facility to service 27.5 ha drainage area of the Lindsay-Ops Landfill Site expansion area located north of the existing closed part of the site, consisting of the following:

- Two (2) identical stormwater quality control ponds (one on duty, one on standby), each pond designed for a 25 mm 4 hour duration storm event providing a permanent pool storage volume of 3,650 m³ and an extended detention storage volume of 4,000 m³, equipped with a forebay, an inlet structure and outlet structure which includes a 1200 mm diameter perforated CSP riser with a 150 mm diameter orifice plate placed on a 300 mm diameter outlet pipe;

- One (1) quantity control lagoon (Lagoon 1) with a surface area of approximately 5.57 ha and a maximum storage capacity of 90,000 m³, equipped with an outlet structure consisting of a headwall with a 750 mm diameter CSP pipe and manually operated stop logs to discontinue the discharge of stormwater into the receiving drainage ditch if required;
- Series of stormwater collection perimeter ditches;

all in accordance with the submitted supporting documents listed in Schedule A.

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

1. "Approval" means this environmental compliance approval and any schedules attached to it, and the application;
2. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
3. "Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;
4. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located;
5. "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended;
6. "Equivalent Equipment" means alternate piece(s) of equipment that meets the design requirements and performance specifications of the piece(s) of equipment to be substituted;
7. "Existing Works" means those portions of the Works included in the Approval that have been constructed previously;
8. "Limited Operational Flexibility" (LOF) means the conditions that the Owner shall follow in order to undertake any modification that is pre-authorized as part of this Approval;
9. "Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;
10. "Notice of Modifications" means the form entitled "Notice of Modifications to Sewage Works";
11. "Owner" means City of Kawartha Lakes and its successors and assignees;
12. "OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;
13. "Professional Engineer" means a person entitled to practice as a Professional Engineer in the Province of Ontario under a license issued under the Professional Engineers Act;

14. "Proposed Works" means those portions of the Works included in the Approval that are under construction or to be constructed;
15. "Works" means the approved sewage works, and includes Proposed Works, Existing Works and modifications made under Limited Operational Flexibility.

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. GENERAL CONDITIONS

1. The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
2. Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval, and the application for approval of the Works.
3. Where there is a conflict between a provision of any document in the schedule referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.
4. Where there is a conflict between the documents listed in Schedule A and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
5. The conditions of this Approval are severable. If any condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.
6. The issuance of, and compliance with the conditions of, this Approval does not:
 - a. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain approval from the local conservation authority/MNRF necessary to construct or operate the sewage works; or
 - b. limit in any way the authority of the Ministry to require certain steps be taken to require the Owner to furnish any further information related to compliance with this Approval.

2. EXPIRY OF APPROVAL

1. This Approval will cease to apply to those parts of the Works which have not been constructed within five (5) years of the date of this Approval.
2. In the event that completion and commissioning of any portion of the Works is anticipated to be delayed beyond the specified expiry period, the Owner shall submit an application of extension to the expiry period, at least twelve (12) months prior to the end of the period. The application for extension shall include the reason(s) for the delay, whether there is any design change(s) and a review of whether the standards applicable at the time of Approval of the Works are still applicable at the time of request for extension, to ensure the ongoing protection of the environment.

3. CHANGE OF OWNER

1. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:
 - a. change of Owner;
 - b. change of address of the Owner;
 - c. change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Business Names Act*, R.S.O. 1990, c.B17 shall be included in the notification to the District Manager; or
 - d. change of name of the corporation where the Owner is or at any time becomes a corporation, and a copy of the most current information filed under the *Corporations Information Act*, R.S.O. 1990, c. C39 shall be included in the notification to the District Manager.
2. In the event of any change in ownership of the Works, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager and the Director.
3. The Owner shall ensure that all communications made pursuant to this condition refer to the number at the top of this Approval.

4. OPERATION MANUAL

1. The Owner shall prepare an updated operations manual for Works within one (1) year of the issuance date of this Approval, that includes, but not necessarily limited to, the following information:
 - a. operating procedures for routine operation of the Works;
 - b. inspection programs, including frequency of inspection, for the Works and the methods or

- tests employed to detect when maintenance is necessary;
- c. repair and maintenance programs, including the frequency of repair and maintenance for the Works;
 - d. procedures for the inspection and calibration of monitoring equipment;
 - e. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the District Manager; and
 - f. procedures for receiving, responding and recording public complaints, including recording any follow up actions taken.
2. The Owner shall maintain the operations manual current and retain a copy at the location of the Works or operational office of the Owner for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.
 3. The Owner shall inspect the Works at least once a year and, if necessary, clean and maintain the Works to prevent the excessive build-up of sediments and/or vegetation.
 4. The Owner shall maintain a logbook to record the results of the inspections completed under subsection (3) and any cleaning and maintenance operations undertaken, and shall keep the logbook at the site or operational office of the Owner for inspection by the Ministry. The logbook shall include the following:
 - a. the name of the Works; and
 - b. the date and results of each inspection, maintenance and cleaning, including an estimate of the quantity of any materials removed.
 5. The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the operation and maintenance and monitoring activities required by this Approval.

5. OPERATION AND MAINTENANCE

1. The Owner shall exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this Approval.
2. The Owner shall collect one (1) stormwater grab sample at sampling locations SW-14 and SW-15 during a storm event causing stormwater runoff from the landfill site such that at least four (4) samples from each sampling location are collected per year covering the spring, summer

and fall seasons. Each collected sample shall be analysed for pH and Total Ammonia, and if measured level of Total Ammonia is higher than 1 mg/L, then the Owner shall commence the following monitoring program:

3. For the North Stormwater Management Facility, the Owner shall collect one (1) stormwater sample during each subsequent storm event causing stormwater runoff to the quality control ponds and have it analysed for the trigger parameters pH and Total Ammonia. The Owner shall immediately close the outlet valve (stop logs) of Lagoon 1 to discontinue the discharge of stormwater into the receiving drainage ditch if any of the following conditions arises:
 - a. $6.0 > \text{pH} > 8.5$
 - b. Total Ammonia $> 5.0 \text{ mg/L}$
4. The Owner shall ensure that potentially contaminated stormwater collected in Lagoon 1 as a result of subsection (3) is treated as a leachate and sent for treatment to the Lindsay WPCP.
5. For the South Stormwater Management Facility, the Owner shall collect one (1) stormwater sample during each subsequent storm event causing stormwater runoff to the perimeter drainage ditches and have it analysed for the trigger parameters pH and Total Ammonia. The Owner shall immediately initiate an investigation to identify the source of potential contamination to facilitate the implementation of a contingency and remedial action plan if any of the following conditions arises:
 - a. $6.0 > \text{pH} > 8.5$
 - b. Total Ammonia $> 5.0 \text{ mg/L}$
6. The Owner shall revert back to routine operational monitoring as per subsection (2) if four (4) consecutive monitoring results as per subsection (3) or subsection (5) show that levels of Total Ammonia are less than 1 mg/L and pH levels are between 6.0 and 8.5.
7. The Owner shall undertake an inspection of the condition of the stormwater management ponds and ditches, at least once a year, and undertake any necessary cleaning and maintenance to prevent the excessive build up of sediment and/or decaying vegetation.
8. The owner shall maintain a logbook to record the results of the stormwater management pond inspections and any cleaning and maintenance operations undertaken and shall keep the logbook at the site for inspection by the Ministry.

6. MONITORING AND RECORDING

1. The Owner shall carry out the following monitoring program:
 - a. All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.
 - b. The Owner shall ensure that one (1) grab sample is collected at sampling location SW-15 (entrance to the quality control pond) and sampling location SW-14 (discharge to Scugog River) at a quarterly frequency and analysed for the parameters listed in Table 1. Samples shall be collected during the first storm event causing stormwater runoff into the quality control pond and/or Scugog River within each quarterly sampling period.

Table 1 - Stormwater Monitoring		
Sampling Location: SW-14 and SW-15		
Parameter		Filed Parameter
Alkalinity	Arsenic	Conductivity
CBOD5	Barium	Dissolved Oxygen (DO)
Chemical Oxygen Demand (COD)	Boron	pH
Chloride	Cadmium	Temperature
Conductivity (Laboratory)	Chromium	
Iron	Copper	
Nitrate as Nitrogen	Lead	
Nitrite as Nitrogen	Mercury	
pH (Laboratory)	Zinc	
Sulphate		
Total Ammonia Nitrogen		
Total Kjeldahl Nitrogen		
Total Phosphorus		
Total Suspended Solids		
Total Dissolved Solids		
Total Phenols		

2. The methods and protocols for sampling, analysis, toxicity testing, and recording shall conform, in order of precedence, to the methods and protocols specified in the following:
 - a. the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;

- b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended from time to time by more recently published editions; and
 - c. the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions;
- 3. Following review of any of the analytical results required by this Condition or any of the reports required by Condition 8 of this Approval, the District Manager may alter the frequencies and locations of sampling and parameters for analysis required by this Condition if he/she considers it necessary for proper assessment of the operation of the works and its impact on the environment or if he/she is requested to do so by the Owner and considers it acceptable by the evidence of information submitted in support of the request.
- 4. The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

7. LIMITED OPERATIONAL FLEXIBILITY

- 1. The Owner may make modifications to the Works in accordance with the Terms and Conditions of this Approval and subject to the Ministry's "Limited Operational Flexibility Criteria for Modifications to Sewage Works", included under Schedule B of this Approval, as amended.
- 2. Sewage works under Limited Operational Flexibility shall adhere to the design guidelines contained within the Ministry's publication "Stormwater Management Planning and Design Manual – March 2003", as amended.
- 3. The Owner shall ensure at all times, that the Works, related equipment and appurtenances which are installed or used to achieve compliance are operated in accordance with all Terms and Conditions of this Approval.
- 4. For greater certainty, the following are not permitted as part of Limited Operational Flexibility:
 - a. modifications to the Works that result in an increase of the approved drainage area serviced by the Works or changes that adversely affect the operational capacity of the Works;
 - b. modifications to the Works that may adversely affect the approved effluent quality criteria or the location of the discharge/outfall;
 - c. modifications to the treatment process technology of the Works, or modifications that involve construction of new reactors (tanks) or alter the treatment train process design;
 - d. modifications to the Works approved under s.9 of the EPA; and

- e. modifications to the Works pursuant to an order issued by the Ministry.
5. Implementation of Limited Operational Flexibility is not intended to be used for piecemeal measures that result in major alterations or expansions.
 6. If the implementation of Limited Operational Flexibility requires changes to be made to the Emergency Response, Spill Reporting and Contingency Plan, the Owner shall, as deemed necessary in consultation with the District Manager, provide a revised copy of this plan to the local fire services authority prior to implementing Limited Operational Flexibility.
 7. For greater certainty, any modification made under the Limited Operational Flexibility may only be carried out after other legal obligations have been complied with, including those arising from the *Environmental Protection Act*, *Niagara Escarpment Planning and Development Act*, *Oak Ridges Moraine Conservation Act*, *Lake Simcoe Protection Act* and *Greenbelt Act*.
 8. At least thirty (30) days prior to implementing Limited Operational Flexibility, the Owner shall complete a Notice of Modifications describing any proposed modifications to the Works and submit it to the District Manager.
 9. The Owner shall ensure that an engineering assessment is completed for each Notice of Modifications prior to submitting the Notice of Modifications to the District Manager. The engineering assessment shall be prepared by a Professional Engineer that was not involved in the design of the Proposed Works. The Owner shall abide by the recommendations made under the engineering assessment for the Proposed Works. The engineering assessment shall include, at minimum, the following:
 - a. description of the Proposed Works;
 - b. an assessment of the eligibility of the Proposed Works under Limited Operational Flexibility;
 - c. the documentation and drawings that were reviewed;
 - d. regulatory requirements applicable to the Proposed Works;
 - e. technical criteria used to assess the Proposed Works;
 - f. input from the local conservation authority and/or MNRF office, and the Ministry, as applicable, if the Proposed Works discharge directly to a watercourse;
 - g. any issues that were identified during the engineering review of the Proposed Works;
 - h. design considerations and mitigating measures taken during construction and operation of the Works to protect sources of drinking water; and
 - i. recommendations.

10. The design of the Proposed Works must be prepared by a Professional Engineer.
11. Upon the completion of the construction of Proposed Works, the Owner shall prepare a statement, certified by a Professional Engineer, that the works are constructed in accordance with the Notice of Modifications, and upon request, shall make the written statement available for inspection by Ministry personnel.
12. Within twelve (12) months of the Substantial Completion of Proposed Works, a set of as-built drawings showing the Proposed Works “as constructed” shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time, and be made available upon Ministry request.

8. REPORTING

1. One week prior to the start up of the operation of the Works (Compost Pad), the Owner shall notify the District Manager (in writing) of the pending start up date.
2. In addition to the obligations under Part X of the Environmental Protection Act, the Owner shall, within ten (10) working days of the occurrence of any reportable spill as defined on Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.
3. The Owner shall prepare and submit a performance report to the District Manager on an annual basis by April 30th each calendar year. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:
 - a. a summary and interpretation of all monitoring data and an overview of the success and adequacy of the Works;
 - b. a description of any operating problems encountered and corrective actions taken;
 - c. a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
 - d. a summary of any effluent quality assurance or control measures undertaken in the reporting period;
 - e. a summary of the calibration and maintenance carried out on all effluent monitoring equipment;
 - f. a copy of all Notice of Modifications submitted to the District Manager as a result of

- Schedule B, Section 1, with a status report on the implementation of each modification;
- g. a report summarizing all modifications completed as a result of Schedule B, Section 3; and
 - h. any other information the District Manager may require from time to time.

Schedule A

1. Application for Environmental Compliance Approval submitted by City of Kawartha Lakes received on March 17, 2021 for the proposed discharge pipe with flow control to existing quantity control lagoon (Lagoon 1), including all additional supporting information and drawings, prepared by WSP Canada Inc.

Schedule B

Limited Operational Flexibility Criteria for Modifications to Sewage Works

1. The modifications to sewage works approved under an Environmental Compliance Approval (Approval) that are permitted under the Limited Operational Flexibility (LOF), are outlined below and are subject to the LOF conditions in the Approval, and require the submission of the Notice of Modifications. If there is a conflict between the sewage works listed below and the Terms and Conditions in the Approval, the Terms and Conditions in the Approval shall take precedence.
 - A. Stormwater Management Facilities
 - a. Modifications of stormwater management facility to service the existing approved drainage area located within the site, provided that there is no increase in the average impervious area established in the original design and the discharges from the site will not exceed the attenuated flows established in the original design.
 - b. Installation of new oil grit separators.
2. Sewage works that are exempt from section 53 of the OWRA by O. Reg. 525/98 continue to be exempt and are not required to follow the notification process under this Limited Operational Flexibility.
3. Normal or emergency operational modifications, such as repairs, reconstructions, or other improvements that are part of maintenance activities, including cleaning, renovations to existing approved sewage works equipment, provided that the modification is made with Equivalent Equipment, are considered pre-approved.
4. The modifications noted in sub-section (3) above are not required to follow the notification protocols under Limited Operational Flexibility, provided that the number of pieces and description of the equipment as described in the Approval does not change.

Notice of Modification to Sewage Works

This page contains an image of the form entitled "Notice of Modification to Sewage Works". A digital copy can be obtained from the District Manager.

		Notice of Modification to Sewage Works	
RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL) OR DISTRICT MANAGER (FOR NON-MUNICIPAL SYSTEMS)			
Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility <i>(Insert the ECA's owner, number, issuance date and notice number, which should start with "01" and consecutive numbers thereafter)</i>			
ECA Number		Issuance Date (mm/dd/yy)	Notice number (if applicable)
ECA Owner		Municipality	
Part 2: Description of the modifications as part of the Limited Operational Flexibility <i>(Attach a detailed description of the sewage works)</i>			
Description shall include: 1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type/model, material, process name, etc.) 2. Confirmation that the anticipated environmental effects are negligible. 3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable, i.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.)			
Part 3 – Declaration by Professional Engineer			
I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design: 1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario; 2. Conforms with the Limited Operational Flexibility as per the ECA; 3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.53 of the Ontario Water Resources Act; and other appropriate regulations. I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.			
Name (Print)		PEO License Number	
Signature		Date (mm/dd/yy)	
Name of Employer			
Part 4 – Declaration by Owner			
I hereby declare that: 1. I am authorized by the Owner to complete this Declaration; 2. The Owner consents to the modification; and 3. These modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA. 4. The Owner has fulfilled all applicable requirements of the <i>Environmental Assessment Act</i> . I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate.			
Name of Owner Representative (Print)		Owner representative's title (Print)	
Owner Representative's Signature		Date (mm/dd/yy)	

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

1. Condition 1 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.
2. Condition 2 is included to ensure that the Works are constructed in a timely manner so that standards applicable at the time of Approval of the Works are still applicable at the time of construction, to ensure the ongoing protection of the environment.
3. Condition 3 is included to ensure that the Ministry records are kept accurate and current with respect to approved works and to ensure that subsequent owners of the works are made aware of the Approval and continue to operate the works in compliance with it.
4. Conditions 4 and 5 are included to ensure that a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. Such a manual is an integral part of the operation of the works. Its compilation and use should assist the owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the owner's operation of the works.
5. Condition 6 is included to provide a performance record for future references and to ensure that the Ministry is made aware of problems as they arise, so that the Ministry can work with the Owner in resolving the problems in a timely manner.
6. Condition 7 is included to ensure that the Works are operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider. These conditions are also included to ensure that a Professional Engineer has reviewed the proposed modifications and attests that the modifications are in line with that of Limited Operational Flexibility, and provide assurance that the proposed modifications comply with the Ministry's requirements stipulated in the terms and conditions of this Approval, policies, guidelines, and industry engineering standards and best management practices.
7. Condition 8 is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this Approval, so that the Ministry can work with the Owner in resolving any problems in a timely manner.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 8401-AFST88 issued on May 25, 2017.

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me and the Ontario Land 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 ("the Notice") 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:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

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 Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.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 28th day of February, 2022



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

LW/

c: District Manager, MECP Peterborough



APPENDIX B

Water Quality Data

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4
			20-Apr-16	25-May-16	8-Jun-16	24-Apr-17	22-Jun-17	24-Aug-17	17-Oct-17	25-Apr-18	24-Apr-19	31-Oct-19	30-Apr-20	20-Apr-21	15-Oct-21	26-Apr-22	21-Jun-22	24-Apr-23
pH -Lab	pH units	6.5-8.5	8.21	8.16	8.11	8.12	7.83	8	8.24	8.31	8.19	8.01	8.17	8.24	8.16	8.33	8.25	8.23
Conductivity	uS/cm	-	618	813	1180	501	653	643	720	508	557	447	550	575	720	638	774	608
BOD	mg/L	-	3	< 2	< 2	<3	<3	5	<3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
COD	mg/L	-	11	17	21	8	6	15	9	18	19	22	14	7	31	6	18	11
Total Dissolved Solids	mg/L	-	347	438	639	269	350	363	407	269	293	247	304	328	415	342	406	322
Total Suspended Solids	mg/L	-	5	17	22	3	6	22	<3	5	12	< 3	< 3	< 3	6	< 3	3	4
Alkalinity	mg/L	-	249	327	385	251	346	328	366	232	230	132	225	264	326	268	290	267
Hardness	mg/L	-	299	362	433	261	347	404	409	246	282	195	265	290	360	300	324	292
Ammonia	mg/L	-	0.03	0.06	0.06	< 0.01	< 0.01	0.02	0.01	0.02	0.04	0.15	< 0.01	0.01	0.05	0.12	0.12	0.35
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.03
Calcium	mg/L	-	109	130	153	93.3	123	135	149	88.6	101	69.1	96.7	106	129	108	117	92.8
Chloride	mg/L	-	34.2	52.5	148	6.6	3.7	7.5	8.8	12.7	19.2	16.2	24.2	19.5	39	29.6	51.2	31.7
DOC	mg/L	-	4.2	5.3	5.2	4.1	4.2	5.4	3.5	5.7	6.5	8.4	6.4	5.7	10.8	6.9	7.2	4
Fluoride	mg/L	-	0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.047	0.569	1.14	0.024	0.067	0.128	0.079	0.056	0.04	< 0.005	0.056	0.049	0.156	0.029	0.029	0.058
Magnesium	mg/L	-	6.67	8.78	12.3	4.85	6.55	7.95	8.79	5.86	5.25	5.31	5.71	6.13	9.1	7.2	7.92	5.92
Manganese	mg/L	-	0.019	0.375	0.87	0.004	0.065	0.036	0.025	0.01	0.004	0.004	0.02	0.013	0.022	0.003	0.006	0.012
Nitrate	mg/L	-	1.6	0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	1.32	2.65	< 0.05	0.85	0.69	< 0.05	1.89	4.24	1.22
Nitrite	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
TKN	mg/L	-	0.4	0.6	0.7	0.2	0.4	0.4	0.2	0.4	0.6	0.6	0.5	0.3	0.8	0.5	0.8	1
Sodium	mg/L	-	23.1	34.7	78.7	3.8	4.6	5	5.8	10.5	10.6	6	15.2	13	22.9	18.6	20.9	16
Sulphate	mg/L	-	16	13	13	9	4	9	14	10	17	60	17	15	17	15	17	14
Phenols	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.004	0.004	< 0.001	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.001	< 0.001	< 0.001
Phosphorus	mg/L	0.03	0.01	0.03	0.05	< 0.01	0.02	0.04	0.02	0.02	0.01	0.03	0.02	0.04	0.05	0.01	0.03	0.02
Potassium	mg/L	-	1.8	0.5	0.4	0.6	0.6	1.3	1.3	1.5	1.8	4.8	1.5	1.2	1.9	2.1	1.5	1.7
Aluminum	mg/L	0.075	0.04	0.1	0.16	0.05	0.06	0.12	0.12	0.08	0.05	0.05	0.06	0.07	0.04	0.07	0.03	0.03
Antimony	mg/L	-	< 0.0001	< 0.0001	0.0001	< 0.0001	0.0002	0.0005	0.0001	< 0.0001	0.0003	0.0004	0.0004	< 0.0001	0.0003	0.0003	0.0004	0.0002
Arsenic	mg/L	0.1	0.0002	0.0005	0.0005	0.0001	0.0003	0.0004	0.0002	0.0004	0.0002	0.0003	0.0002	0.0001	0.0004	0.0002	0.0003	0.0002
Barium	mg/L	-	0.037	0.053	0.057	0.024	0.035	0.039	0.048	0.037	0.037	0.021	0.035	0.034	0.051	0.042	0.045	0.035
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	< 0.005	0.024	0.013	0.006	0.016	0.022	0.017	0.007	0.006	0.007	0.011	0.009	0.022	0.014	0.017	0.012
Cadmium	mg/L	0.0002	< 0.00002	< 0.00002	< 0.00002	< 0.000014	< 0.000014	0.00012	0.000041	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.1	0.0003	0.0003	0.0003	< 0.0015	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002
Cobalt	mg/L	0.0006	< 0.005	< 0.005	< 0.005	< 0.0001	0.0001	0.0003	< 0.0001	< 0.0001	0.0001	0.0003	0.0001	< 0.0001	0.0002	0.0001	0.0002	0.0001
Copper	mg/L	0.005	0.0005	0.001	0.0006	< 0.0001	0.0004	0.0103	0.0056	0.0005	0.0008	0.0015	0.0007	0.0006	0.0006	0.0008	0.0007	0.0007
Lead	mg/L	0.025	< 0.00002	< 0.00002	0.00023	< 0.00002	0.00002	0.00059	0.00039	0.00005	0.00003	0.00003	0.00006	0.00003	0.00009	0.00017	0.00004	0.00007
Mercury	mg/L	-	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0001	0.0002	0.0002	0.0001	0.0001	0.0003	0.0001	0.0001	0.0003	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002	0.0001
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	< 0.00002	< 0.00002	< 0.00002	0.00026	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Strontium	mg/L	-	0.288	0.359	0.439	0.232	0.341	0.347	0.352	0.225	0.234	0.17	0.228	0.261	0.359	0.307	0.317	0.252
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.000005	< 0.000005	< 0.000005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0002	0.0006	0.0005	0.0002	0.0002	0.0005	0.0004	0.0003	0.0004	0.0004	0.0004	0.0003	0.0005	0.0004	0.0006	0.0004
Zinc	mg/L	0.03	< 0.005	< 0.005	< 0.005	0.091	0.014	0.027	0.016	0.024	0.006	0.012	< 0.005	0.014	< 0.005	< 0.005	< 0.005	< 0.005
Cyanide	mg/L	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Turbidity	NTU	-	40.7	9.6	26.9	3.1	0.9	4.7	1.2	357	74.8	1.5	3.4	4.3	5.4			3.5
Tannins & Lignins	mg/L	-							0.6			0.7						

PWQO - Provincial Water Quality Objectives
 Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary -
General Water Quality

Parameter	UNITS	PWQO	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW4	SW14	SW14	SW14	SW14	SW14	SW14
			16-Aug-23	5-Oct-23	25-Apr-24	11-Jun-24	15-Aug-24	10-Oct-24	28-Apr-25	17-Jun-25	21-Aug-25	9-Oct-25	21-Apr-16	26-May-16	8-Jun-16	24-Apr-17	23-May-17	22-Jun-17
pH -Lab	pH units	6.5-8.5	8.18	8.15	8.25	8.24	Dry	8.19	8.31	8.15	Dry	Dry	8.2	7.75	7.82	8.21	7.95	7.91
Conductivity	uS/cm	-	837	854	636	751		833	670	775			651	1190	1110	683	532	537
BOD	mg/L	-	<3	<3	<3	3		<3	<3	<3			< 2	26	>18	<3	<3	<3
COD	mg/L	-	24	23	17	18		15	18	27			9	88	389	26	25	33
Total Dissolved Solids	mg/L	-	494	520	364	423		483	375	414			363	685	752	358	262	284
Total Suspended Solids	mg/L	-	4	10	6	25		<3	3	<3			< 3	260	3000	6	104	4
Alkalinity	mg/L	-	347	363	293	305		406	289	292			239	479	444	202	212	216
Hardness	mg/L	-	414	445	321	353		438	309	314			289	518	725	233	206	225
Ammonia	mg/L	-	0.24	0.62	<0.05	0.07		0.21	0.07	0.06			0.09	0.65	1.97	0.03	0.11	0.02
Un-ionized Ammonia	mg/L	0.02	0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01			< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Calcium	mg/L	-	149	160	117	128		156	111	112			104	181	260	85.2	72.1	85.4
Chloride	mg/L	-	60.2	64.8	24.3	51.7		35.1	41	63.3			51.9	91.2	98.7	75	26.4	29.7
DOC	mg/L	-	6.6	8.2	5	5.4		7.4	10.7	5			6.1	8.4	7.5	7.9	9	10.4
Fluoride	mg/L	-	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1			0.1	0.2	0.1	< 0.1	< 0.1	< 0.1
Iron	mg/L	0.3	0.134	0.082	0.039	0.224		0.152	0.056	0.151			0.047	2.73	22.5	0.129	0.176	0.254
Magnesium	mg/L	-	10.1	10.9	7.23	8.23		11.9	7.48	8.15			7.32	16	18.6	6.11	6.18	7.02
Manganese	mg/L	-	0.038	0.02	0.013	0.085		0.034	0.02	0.066			0.028	13.6	3.86	0.041	0.161	0.105
Nitrate	mg/L	-	0.54	<0.05	2.14	1.2		<0.05	1.75	1.27			1	0.1	0.1	0.7	0.2	0.06
Nitrite	mg/L	-	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05			< 0.1	< 0.1	< 0.1	< 0.1	0.14	< 0.05
TKN	mg/L	-	0.7	0.7	0.4	0.6		0.6	0.6	0.6			0.5	3.4	21	0.8	0.9	0.9
Sodium	mg/L	-	37.8	31.2	16.5	30.2		23.6	21.8	33.8			32.6	73.3	73.3	44.4	19.1	24.1
Sulphate	mg/L	-	23	33	12	15		10	10	15			16	17	4	19	9	6
Phenols	mg/L	0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001			< 0.001	< 0.001	< 0.001	< 0.001	0.011	0.008
Phosphorus	mg/L	0.03	0.02	0.03	0.02	0.04		0.01	0.01	0.03			0.01	0.31	5.36	0.04	0.05	0.05
Potassium	mg/L	-	2.8	2.1	1.5	1.3		2.4	1.8	0.7			2.7	2	1.6	2.8	1.7	1.8
Aluminum	mg/L	0.075	0.14	0.08	0.06	0.14		0.06	0.06	0.07			0.04	0.18	4.59	0.11	0.09	0.1
Antimony	mg/L	-	0.0002	0.0004	0.0002	0.0005		0.0002	0.0003	0.0005			< 0.0001	0.0001	0.0001	< 0.0001	0.0004	0.0005
Arsenic	mg/L	0.1	0.0004	0.0003	0.0002	0.0004		0.0003	0.0002	0.0004			0.0002	0.0016	0.0023	0.0005	0.0004	0.0006
Barium	mg/L	-	0.067	0.063	0.035	0.043		0.051	0.043	0.038			0.034	0.121	0.263	0.036	0.036	0.043
Beryllium	mg/L	1.1	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001			< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Boron	mg/L	0.2	0.027	0.018	0.01	0.009		0.018	0.014	0.014			0.006	0.07	0.088	0.016	0.007	0.023
Cadmium	mg/L	0.0002	<0.000015	<0.000015	<0.000015	<0.000015		<0.000015	<0.000015	<0.000015			< 0.00002	< 0.00002	0.0004	< 0.000014	< 0.000014	< 0.000014
Chromium	mg/L	0.1	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001			0.0002	0.0003	0.0037	< 0.0015	< 0.001	< 0.001
Cobalt	mg/L	0.0006	0.0004	0.0004	0.0002	0.0005		0.0004	0.0003	0.0004			< 0.005	< 0.005	0.008	< 0.0001	0.0002	0.0001
Copper	mg/L	0.005	0.0011	0.0008	0.0007	0.0008		0.0005	0.0007	0.0006			0.0005	0.0017	0.0131	0.0005	0.0008	0.0007
Lead	mg/L	0.025	0.00015	0.00006	0.00004	0.00016		0.00003	0.00004	0.00005			< 0.00002	0.00018	0.0102	< 0.00002	0.00004	0.00005
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002			< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002
Molybdenum	mg/L	0.04	0.0003	0.0001	0.0001	0.0001		0.0001	0.0001	0.0001			0.0002	0.0003	0.0001	0.0004	0.0002	0.0002
Nickel	mg/L	0.025	0.001	0.0005	0.0003	0.0005		0.0005	0.0004	0.0005			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001			< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001			< 0.00002	< 0.00002	< 0.00002	0.00046	< 0.00002	< 0.00002
Strontium	mg/L	-	0.418	0.397	0.291	0.34		0.413	0.294	0.326			0.293	0.494	0.602	0.239	0.219	0.282
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005			< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Vanadium	mg/L	-	0.0007	0.0005	0.0003	0.0006		0.0003	0.0004	0.0004			0.0002	0.0009	0.0146	0.0003	0.0003	0.0003
Zinc	mg/L	0.03	0.007	0.006	0.007	<0.005		0.005	0.022	0.007			< 0.005	0.009	0.158	0.023	0.04	0.065
Cyanide	mg/L	0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005								
Turbidity	NTU	-	3.7	22.2	1.9	4.4		1.3	1	2.2								
Tannins & Lignins	mg/L	-																

PWQO - Provincial Water Quality Objectives
Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW14 24-Aug-17	SW14 17-Oct-17	SW14 25-Apr-18	SW14 28-Jun-18	SW14 17-Jul-18	SW14 22-Aug-18	SW14 11-Oct-18	SW14 24-Apr-19	SW14 5-Jun-19	SW14 17-Jul-19	SW14 6-Aug-19	SW14 13-Aug-19	SW14 27-Aug-19	SW14 2-Oct-19	SW14 16-Oct-19	SW14 31-Oct-19
pH -Lab	pH units	6.5-8.5	7.92	8.12	8.24	8.05	7.3	7.68	7.93	8.07	8.15	7.87	7.7	8.14	7.47	7.96	7.95	8.01
Conductivity	uS/cm	-	498	783	438	457		722	871	449		938		749			739	
BOD	mg/L	-	<3	17	<3	<3		8	10	4		8		<3			9	
COD	mg/L	-	32	23	16	34		65	61	30		44		50			155	
Total Dissolved Solids	mg/L	-	252	415	233	250		377	460	229		494		421			535	
Total Suspended Solids	mg/L	-	6	6	5	16		30	20	16		85		12			1210	
Alkalinity	mg/L	-	190	296	175	155		188	212	168		281		242			199	
Hardness	mg/L	-	210	332	190	180		193	253	202		370		261			270	
Ammonia	mg/L	-	0.04	0.06	0.03	0.11	0.09	0.54	0.05	0.04	0.02	1.02	0.23	0.09	0.27	0.09	0.46	0.13
Un-ionized Ammonia	mg/L	0.02	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01		<0.01		<0.01			<0.01	
Calcium	mg/L	-	67.2	119	67.9	59.9		67.8	94.7	71.4		121		90.4			195	
Chloride	mg/L	-	33.9	38.9	26.6	50.6		115	142	24.9		84.8		102			76.8	
DOC	mg/L	-	11.9	8	5.1	12.3		12.2	11.5	6.9		11.6		11.3			13.4	
Fluoride	mg/L	-	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1		<0.1			<0.1	
Iron	mg/L	0.3	0.322	0.159	0.071	0.771		1.6	0.847	0.147		3.18		1.23			24.1	
Magnesium	mg/L	-	5.76	8.43	4.97	7.48		7.88	11	4.04		10.8		8.52			13.2	
Manganese	mg/L	-	0.047	0.084	0.01	0.075		0.491	0.342	0.019		2.71		0.715			2.75	
Nitrate	mg/L	-	<0.05	0.63	0.67	0.08		<0.05	<0.05	0.66		0.12		0.09			0.1	
Nitrite	mg/L	-	<0.05	0.24	<0.05	<0.05		<0.05	<0.05	<0.05		<0.05		<0.05			<0.05	
TKN	mg/L	-	0.9	0.6	0.5	1.3		2.7	1.7	1.1		2.2		1.5			3.3	
Sodium	mg/L	-	24	34.2	16.2	34.7		62.3	83.5	13.9		65		55.8			43.4	
Sulphate	mg/L	-	4	33	11	1		2	5	11		33		12			50	
Phenols	mg/L	0.001	0.009	0.009	<0.001	<0.001		0.005	0.004	<0.002		<0.002		<0.002			<0.002	
Phosphorus	mg/L	0.03	0.04	0.03	0.03	0.06		0.31	0.16	0.05		0.13		0.13			0.64	
Potassium	mg/L	-	2.1	3.6	2	2		6	6.7	2.4		4.4		4.6			9.8	
Aluminum	mg/L	0.075	0.04	0.06	0.07	0.04		0.05	0.09	0.05		0.07		0.05			0.06	
Antimony	mg/L	-	0.0003	<0.0001	<0.0001	0.0002		<0.0001	0.0001	0.0006		0.0003		<0.0001			0.0001	
Arsenic	mg/L	0.1	0.0006	0.0005	<0.0001	0.0009		0.0006	0.0005	0.0002		0.0011		0.0008			0.0029	
Barium	mg/L	-	0.026	0.047	0.03	0.033		0.048	0.072	0.029		0.072		0.037			0.181	
Beryllium	mg/L	1.1	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002		<0.002		<0.002			<0.002	
Boron	mg/L	0.2	0.025	0.027	0.01	0.025		0.045	0.053	0.006		0.063		0.055			0.079	
Cadmium	mg/L	0.0002	<0.000014	0.00003	0.000029	<0.000015		0.000125	0.000042	<0.000015		<0.000015		<0.000015			0.000256	
Chromium	mg/L	0.1	0.002	<0.001	<0.001	<0.001		0.001	<0.001	<0.001		<0.001		<0.001			0.014	
Cobalt	mg/L	0.0006	0.0002	<0.0001	<0.0001	0.0003		0.0003	0.0002	<0.0001		0.0007		0.0003			0.0064	
Copper	mg/L	0.005	0.0002	0.0051	0.0012	0.0004		0.0063	0.0047	0.0014		0.0008		0.0009			0.0129	
Lead	mg/L	0.025	<0.00002	0.00038	0.00091	0.00005		0.00074	0.00031	0.00019		0.00009		0.00021			0.00975	
Mercury	mg/L	-	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002		<0.00002		<0.00002			<0.00002	
Molybdenum	mg/L	0.04	<0.0001	0.0003	0.0002	0.0002		0.0001	0.0001	0.0002		0.0002		0.0002			0.0002	
Nickel	mg/L	0.025	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01		<0.01		<0.01			0.01	
Selenium	mg/L	-	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001		<0.001		<0.001			<0.001	
Silver	mg/L	0.0001	<0.00002	<0.00002	0.00057	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001		<0.0001			<0.0001	
Strontium	mg/L	-	0.203	0.295	0.184	0.227		0.262	0.344	0.17		0.373		0.279			0.467	
Thallium	mg/L	-	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005		<0.00005		<0.00005			0.00011	
Vanadium	mg/L	-	<0.0001	0.0002	0.0002	0.0003		0.0002	0.0002	0.0003		0.0006		0.0006			0.0172	
Zinc	mg/L	0.03	<0.005	<0.005	0.013	0.016		0.022	0.021	0.01		0.018		0.01			0.101	
Cyanide	mg/L	0.005																
Turbidity	NTU	-																
Tannins & Lignins	mg/L	-																

PWQO - Provincial Water Quality Objectives
Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14	SW14
			30-Apr-20	10-Jun-20	15-Oct-20	22-Oct-20	30-Nov-20	20-Apr-21	4-May-21	8-Jul-21	23-Sep-21	15-Oct-21	25-Oct-21	26-Apr-22	7-Jun-22	21-Jun-22	24-Apr-23	1-May-23
pH -Lab	pH units	6.5-8.5	8.01	7.84	7.64	8.09	8.07	8.32	8.13	8.09	7.91	8.03	7.98	8.22	8.06	8.08	8.21	8.11
Conductivity	uS/cm	-	647			1150		676				931		620		768	624	
BOD	mg/L	-	< 3			< 3		< 3				< 3		< 3		< 3	11	
COD	mg/L	-	21			27		8				57		22		18	10	
Total Dissolved Solids	mg/L	-	358			638		389				513		333		418	340	
Total Suspended Solids	mg/L	-	16			14		3				44		< 3		7	< 3	
Alkalinity	mg/L	-	221			191		269				297		248		255	241	
Hardness	mg/L	-	265			339		308				348		277		293	260	
Ammonia	mg/L	-	0.03	0.56	0.23	0.04	0.05	0.02	0.03	0.06	0.09	0.05	0.04	0.05	0.05	0.06	0.03	0.12
Un-ionized Ammonia	mg/L	0.02	< 0.01			< 0.01		< 0.01				< 0.01		< 0.01		< 0.01	< 0.01	
Calcium	mg/L	-	95.6			118		112				123		99.6		103	91.3	
Chloride	mg/L	-	57.9			196		50.2				111		37.2		92.4	52.4	
DOC	mg/L	-	6.2			5.5		6.1				9.2		6.2		7.7	3.5	
Fluoride	mg/L	-	< 0.1			< 0.1		< 0.1				< 0.1		< 0.1		< 0.1	< 0.1	
Iron	mg/L	0.3	0.431			0.083		0.13				0.341		0.063		0.126	0.044	
Magnesium	mg/L	-	6.44			10.7		6.86				9.79		6.84		8.87	6.34	
Manganese	mg/L	-	0.257			0.011		0.086				0.275		0.021		0.065	0.019	
Nitrate	mg/L	-	0.56			< 0.05		0.63				< 0.05		0.86		1.56	0.46	
Nitrite	mg/L	-	< 0.05			< 0.05		< 0.05				0.07		< 0.05		< 0.05	< 0.05	
TKN	mg/L	-	0.6			1.5		0.4				1		0.5		1	0.5	
Sodium	mg/L	-	31			94.2		29.7				56.9		25		45.4	28.5	
Sulphate	mg/L	-	17			87		19				26		13		11	14	
Phenols	mg/L	0.001	< 0.002			< 0.002		< 0.002				< 0.002		< 0.001		< 0.001	< 0.001	
Phosphorus	mg/L	0.03	0.05			0.12		0.06				0.06		0.02		0.05	0.03	
Potassium	mg/L	-	2.5			9.8		1.7				6.6		2.5		3.4	2.9	
Aluminum	mg/L	0.075	0.06			0.05		0.07				0.03		0.05		0.02	0.02	
Antimony	mg/L	-	0.0004			0.0001		0.0003				0.0003		0.0002		0.0003	0.0003	
Arsenic	mg/L	0.1	0.0003			0.0005		0.0002				0.0006		0.0002		0.0004	0.0002	
Barium	mg/L	-	0.04			0.069		0.039				0.06		0.037		0.036	0.034	
Beryllium	mg/L	1.1	< 0.002			< 0.002		< 0.002				< 0.002		< 0.002		< 0.002	< 0.002	
Boron	mg/L	0.2	0.02			0.04		0.011				0.041		0.015		0.033	0.019	
Cadmium	mg/L	0.0002	< 0.000015			< 0.000015		< 0.000015				< 0.000015		< 0.000015		< 0.000015	< 0.000015	
Chromium	mg/L	0.1	< 0.001			< 0.001		0.001				< 0.001		< 0.001		0.001	0.002	
Cobalt	mg/L	0.0006	0.0003			0.0001		0.0002				0.0003		0.0001		0.0001	0.0001	
Copper	mg/L	0.005	0.0007			0.0011		0.0009				0.0005		0.0007		0.0006	0.0005	
Lead	mg/L	0.025	0.0001			0.00003		0.00007				0.00008		0.00003		0.00003	< 0.00002	
Mercury	mg/L	-	< 0.00002			< 0.00002		< 0.00002				< 0.00002		< 0.00002		< 0.00002	< 0.00002	
Molybdenum	mg/L	0.04	0.0002			0.0006		0.0002				0.0003		0.0001		0.0002	0.0002	
Nickel	mg/L	0.025	< 0.01			< 0.01		< 0.01				< 0.01		< 0.01		< 0.01	< 0.01	
Selenium	mg/L	-	< 0.001			< 0.001		< 0.001				< 0.001		< 0.001		< 0.001	< 0.001	
Silver	mg/L	0.0001	< 0.0001			< 0.0001		< 0.0001				< 0.0001		< 0.0001		< 0.0001	< 0.0001	
Strontium	mg/L	-	0.241			0.332		0.276				0.374		0.285		0.314	0.254	
Thallium	mg/L	-	< 0.00005			< 0.00005		< 0.00005				< 0.00005		< 0.00005		< 0.00005	< 0.00005	
Vanadium	mg/L	-	0.0006			0.0005		0.0004				0.0004		0.0003		0.0003	0.0002	
Zinc	mg/L	0.03	< 0.005			0.006		0.013				0.005		0.007		< 0.005	< 0.005	
Cyanide	mg/L	0.005															< 0.005	
Turbidity	NTU	-															0.9	
Tannins & Lignins	mg/L	-															0.6	

PWQO - Provincial Water Quality Objectives
Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW14 8-Jun-23	SW14 26-Jun-23	SW14 15-Aug-23	SW14 16-Aug-23	SW14 5-Oct-23	SW14 27-Mar-24	SW14 10-Apr-24	SW14 25-Apr-24	SW14 1-May-24	SW14 11-Jun-24	SW14 29-Jul-24	SW14 15-Aug-24	SW14 10-Oct-24	SW14 22-Apr-25	SW14 28-Apr-25	SW14 22-May-25
pH -Lab	pH units	6.5-8.5	7.93	8.07	7.97	7.95	8.13	8.12	8.23	8.19	7.94	7.9	7.63	8.03	8.15	8.21	8.23	7.75
Conductivity	uS/cm	-	1150			840	872			593		754		637	856		717	
BOD	mg/L	-	< 3			<3	<3			<3		4		<3	<3		<3	
COD	mg/L	-	14			23	40			30		40		41	40		21	
Total Dissolved Solids	mg/L	-	617			467	491			337		406		351	498		408	
Total Suspended Solids	mg/L	-	4			3	62			5		14		9	42		6	
Alkalinity	mg/L	-	434			301	243			260		244		217	326		267	
Hardness	mg/L	-	435			337	283			287		264		241	385		314	
Ammonia	mg/L	-	0.15	0.08	<0.05	0.14	0.21	<0.05	<0.05	<0.05	0.09	0.22	0.1	0.08	0.16	<0.05	0.05	0.15
Un-ionized Ammonia	mg/L	0.02	< 0.01			<0.01	<0.01			<0.01		<0.01		<0.01	<0.01		<0.01	
Calcium	mg/L	-	143			120	97.8			103		91		82.9	134		111	
Chloride	mg/L	-	123			86.9	139			31		91.3		72.7	81.4		68.3	
DOC	mg/L	-	4.8			7.8	9.3			5.4		9.9		12.2	10.6		11.6	
Fluoride	mg/L	-	0.1			<0.1	<0.1			<0.1		<0.1		<0.1	<0.1		<0.1	
Iron	mg/L	0.3	1.9			0.198	0.14			0.058		0.594		0.331	0.756		0.114	
Magnesium	mg/L	-	14.4			9.04	9.35			7.19		8.86		8.11	12.1		8.53	
Manganese	mg/L	-	5.47			0.412	0.024			0.014		0.629		0.198	0.194		0.071	
Nitrate	mg/L	-	< 0.05			0.07	0.17			1.07		0.12		<0.05	<0.05		0.84	
Nitrite	mg/L	-	< 0.05			<0.05	<0.05			<0.05		<0.05		<0.05	<0.05		<0.05	
TKN	mg/L	-	1			0.9	1.4			0.6		1.2		1	1.1		0.7	
Sodium	mg/L	-	63.8			50.6	60.4			21.5		56.8		46.1	51.9		40.8	
Sulphate	mg/L	-	3			12	27			12		6		5	12		11	
Phenols	mg/L	0.001	< 0.001			<0.001	<0.001			<0.001		<0.001		0.002	<0.001		<0.001	
Phosphorus	mg/L	0.03	0.03			0.04	0.06			0.04		0.07		0.06	0.08		0.02	
Potassium	mg/L	-	2.1			7.1	10.9			2.2		4.1		4.4	9.1		4.2	
Aluminum	mg/L	0.075	0.06			0.1	0.07			0.06		0.18		0.11	0.37		0.07	
Antimony	mg/L	-	0.0002			0.0001	0.0004			0.0003		0.0005		0.0003	0.0003		0.0003	
Arsenic	mg/L	0.1	0.0012			0.0006	0.0004			0.0002		0.0005		0.0005	0.0004		0.0003	
Barium	mg/L	-	0.068			0.061	0.061			0.035		0.047		0.039	0.058		0.043	
Beryllium	mg/L	1.1	< 0.002			<0.0001	<0.0001			<0.0001		<0.0001		<0.0001	<0.0001		<0.0001	
Boron	mg/L	0.2	0.073			0.041	0.053			0.013		0.048		0.06	0.045		0.029	
Cadmium	mg/L	0.0002	< 0.000015			<0.000015	<0.000015			<0.000015		<0.000015		<0.000015	<0.000015		<0.000015	
Chromium	mg/L	0.1	< 0.001			<0.001	<0.001			0.001		<0.001		<0.001	<0.001		<0.001	
Cobalt	mg/L	0.0006	0.0016			0.0004	0.0003			0.0002		0.0005		0.0003	0.0005		0.0003	
Copper	mg/L	0.005	0.0004			0.0008	0.0007	0.0004		0.0014		0.0008		0.0007	0.0009		0.0006	
Lead	mg/L	0.025	0.00008			0.00007	0.00005			0.00006		0.00015		0.00009	0.00028		0.00003	
Mercury	mg/L	-	< 0.00002			<0.00002	<0.00002			<0.00002		<0.00002		<0.00002	<0.00002		<0.00002	
Molybdenum	mg/L	0.04	0.0002			0.0002	0.0003			0.0003		<0.0001		0.0001	0.0002		0.0002	
Nickel	mg/L	0.025	< 0.01			0.001	0.0008			0.0004		0.0009		0.0007	0.001		0.0005	
Selenium	mg/L	-	< 0.001			<0.001	<0.001			<0.001		<0.001		<0.001	<0.001		<0.001	
Silver	mg/L	0.0001	< 0.0001			<0.0001	<0.0001			0.0001		<0.0001		0.0004	<0.0001		<0.0001	
Strontium	mg/L	-	0.394			0.347	0.285			0.28		0.289		0.272	0.397		0.313	
Thallium	mg/L	-	< 0.00005			<0.00005	<0.00005			<0.00005		<0.00005		<0.00005	<0.00005		<0.00005	
Vanadium	mg/L	-	0.0006			0.0003	0.0005			0.0003		0.0006		0.0005	0.0009		0.0003	
Zinc	mg/L	0.03	< 0.005			<0.005	<0.005			0.012		<0.005		0.005	0.007		0.022	
Cyanide	mg/L	0.005	< 0.005			<0.005	< 0.005			<0.005		<0.005		<0.005	<0.005		<0.005	
Turbidity	NTU	-	12.3			1.6	4			1		8		8.9	21.7		2	
Tannins & Lignins	mg/L	-	1.2			0.6	0.8			<0.5		1		0.7			<0.5	

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW14 17-Jun-25	SW14 21-Aug-25	SW14 9-Oct-25	SW15 11-Oct-16	SW15 24-Apr-17	SW15 25-May-17	SW15 22-Jun-17	SW15 24-Aug-17	SW15 17-Oct-17	SW15 25-Apr-18	SW15 28-Jun-18	SW15 22-Aug-18	SW15 10-Oct-18	SW15 24-Apr-19	SW15 5-Jun-19	SW15 17-Jul-19
pH -Lab	pH units	6.5-8.5	8.05	Dry	Dry	8.32	8.4	8.24	8.05	7.62	7.87	8.22	7.73	7.68	7.99	8.09	7.96	7.84
Conductivity	uS/cm	-	767			641	1660	730	1030	536	1360	948	1100	1450	944	958		752
BOD	mg/L	-	<3			12	<3	<3	<3	6	<3	<3	<3	8	3	<3		12
COD	mg/L	-	45			11	35	27	29	63	47	42	60	93	33	36		83
Total Dissolved Solids	mg/L	-	410			361	793	351	562	459	814	531	579	948	487	493		359
Total Suspended Solids	mg/L	-	23			40	9	64	28	640	172	7	50	165	6	4		80
Alkalinity	mg/L	-	242			185	107	215	312	203	312	215	99	189	129	163		111
Hardness	mg/L	-	270			200	149	173	273	642	589	230	120	288	171	208		87
Ammonia	mg/L	-	0.29			0.07	0.02	0.04	< 0.01	0.13	0.07	0.05	0.07	0.1	0.09	0.04	0.45	0.08
Un-ionized Ammonia	mg/L	0.02	<0.01			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Calcium	mg/L	-	92.3			65	43	58.9	110	237	211	77.9	32.1	171	53.2	76.1		20.6
Chloride	mg/L	-	93.4			36.8	385	75.1	95.6	28	120	164	271	330	197	183		135
DOC	mg/L	-	8			4.6	4.6	5.4	8.3	16.9	8.7	7.1	10.8	8.9	6	6.1		11.5
Fluoride	mg/L	-	0.7			0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1
Iron	mg/L	0.3	1.06			0.048	0.114	0.513	0.486	8.24	4.75	0.096	0.446	9.76	0.302	0.191		0.15
Magnesium	mg/L	-	9.59			11.8	8.82	6.35	10.4	12.4	14.9	8.64	9.6	16.1	9.24	5.84		7.58
Manganese	mg/L	-	0.865			0.027	0.005	0.106	0.281	0.611	1.98	0.004	0.168	0.754	0.038	0.046		0.075
Nitrate	mg/L	-	0.11			< 0.1	0.1	0.05	0.05	0.11	0.05	1.01	< 0.05	< 0.05	< 0.05	< 0.05		< 0.05
Nitrite	mg/L	-	<0.05			< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		< 0.05
TKN	mg/L	-	1.4			0.8	1.2	0.5	0.8	2.3	1.2	1	1.9	11.1	0.9	1		1.5
Sodium	mg/L	-	59.4			49.7	247	61.2	119	14.5	106	98.2	191	232	126	108		118
Sulphate	mg/L	-	5			85	38	19	37	16	162	39	6	73	15	15		4
Phenols	mg/L	0.001	0.002			0.006	0.002	0.002	0.008	0.015	0.004	< 0.001	< 0.001	0.01	0.006	< 0.002		< 0.002
Phosphorus	mg/L	0.03	0.11			0.05	0.02	0.03	0.05	0.47	0.24	0.03	0.06	0.81	0.03	0.05		0.04
Potassium	mg/L	-	2.1			1.7	5.9	1.2	1.9	20.4	6.3	15.2	9.4	2.4	5.1	7.3		8.3
Aluminum	mg/L	0.075	0.38			0.04	0.03	0.11	0.24	4.4	0.63	0.1	0.03	2.38	0.04	0.05		0.02
Antimony	mg/L	-	0.0002			0.0001	0.0003	0.0001	0.0005	0.0003	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002		0.0002
Arsenic	mg/L	0.1	0.0007			0.0004	0.0019	0.0006	0.001	0.0025	0.0022	0.0007	0.0012	0.0027	0.0008	0.0005		0.0008
Barium	mg/L	-	0.04			0.076	0.046	0.032	0.066	0.155	0.124	0.053	0.037	0.16	0.056	0.052		0.024
Beryllium	mg/L	1.1	<0.0001			< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002		< 0.002
Boron	mg/L	0.2	0.036			< 0.005	0.073	0.018	0.067	0.072	0.106	0.142	0.111	0.144	0.09	0.047		0.203
Cadmium	mg/L	0.0002	<0.000015			0.00002	< 0.000014	< 0.000014	0.000016	0.000157	0.000071	< 0.000015	0.000071	0.000255	0.000037	< 0.000015		< 0.000015
Chromium	mg/L	0.1	<0.001			< 0.0002	< 0.0015	< 0.001	< 0.001	0.008	0.001	< 0.001	< 0.001	0.006	< 0.001	0.001		< 0.001
Cobalt	mg/L	0.0006	0.0006			< 0.0001	0.0002	0.0003	0.0005	0.0041	0.0037	0.0001	0.0004	0.0026	0.0001	0.0002		0.0002
Copper	mg/L	0.005	0.0013			0.0006	0.0023	0.0014	0.0024	0.0174	0.0098	0.0021	0.0096	0.0164	0.0054	0.0021		0.0017
Lead	mg/L	0.025	0.0003			0.00225	< 0.00002	0.00018	0.00034	0.00812	0.00161	0.00012	0.0004	0.00479	0.00033	0.00014		0.00012
Mercury	mg/L	-	<0.00002			< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00003	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002		< 0.00002
Molybdenum	mg/L	0.04	0.0001			0.0002	0.0008	0.0006	0.0007	0.0009	0.0015	0.0007	0.0002	0.0007	0.0004	0.0005		0.0001
Nickel	mg/L	0.025	0.001			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Selenium	mg/L	-	<0.001			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001
Silver	mg/L	0.0001	<0.0001			< 0.00002	0.00043	0.00002	0.00002	0.00004	0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001
Strontium	mg/L	-	0.309			0.216	0.286	0.195	0.417	0.518	0.252	0.199	0.551	0.247	0.227			0.131
Thallium	mg/L	-	<0.00005			< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00008	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005
Vanadium	mg/L	-	0.001			0.0002	< 0.0001	0.0002	0.0006	0.0082	0.0012	0.0001	0.0002	0.0055	0.0001	0.0002		< 0.0001
Zinc	mg/L	0.03	0.006			< 0.005	< 0.005	0.011	0.103	0.085	0.063	0.005	0.037	0.072	0.032	0.023		0.01
Cyanide	mg/L	0.005	<0.005												< 0.005	< 0.005		
Turbidity	NTU	-	22.2												2.6	330		
Tannins & Lignins	mg/L	-	0.9															

PWQO - Provincial Water Quality Objectives
Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW15 9-Oct-19	SW15 31-Oct-19	SW15 30-Apr-20	SW15 24-Jun-20	SW15 22-Oct-20	SW15 30-Nov-20	SW15 20-Apr-21	SW15 4-May-21	SW15 15-Jun-21	SW15 8-Jul-21	SW15 23-Sep-21	SW15 15-Oct-21	SW15 26-Apr-22	SW15 7-Jun-22	SW15 24-Apr-23	SW15 1-May-23
pH -Lab	pH units	6.5-8.5	7.87	8.14	7.88	7.73	8.09	7.8	8	8.11	7.7	8.13	8.02	7.72	8.03	7.79	8.06	8.15
Conductivity	uS/cm	-	1110		1060	1340	1010		1810		854			873	2140		2090	
BOD	mg/L	-	< 3		5	6	4		< 3		24			5	< 3		22	
COD	mg/L	-	76		56	65	53		54		101			89	34		147	
Total Dissolved Solids	mg/L	-	626		585	665	552		1003		484			469	1226		1187	
Total Suspended Solids	mg/L	-	62		150	340	19		28		89			84	285		3900	
Alkalinity	mg/L	-	268		293	141	147		331		225			142	233		319	
Hardness	mg/L	-	386		344	163	239		491		234			161	523		607	
Ammonia	mg/L	-	0.07	0.09	0.03	0.18	0.05	0.12	0.26	1.11	0.15	0.17	0.06	0.08	1.35	0.08	0.19	2.58
Un-ionized Ammonia	mg/L	0.02	< 0.01		< 0.01	< 0.01	< 0.01		0.01		< 0.01			< 0.01	0.03		< 0.01	
Calcium	mg/L	-	133		107	44.3	78.3		171		71.3			48.5	191		367	
Chloride	mg/L	-	190		141	309	185		342		143			182	497		328	
DOC	mg/L	-	8.5		5.4	6.1	4.9		6.8		31.5			7.9	2.5		3.5	
Fluoride	mg/L	-	< 0.1		0.1	< 0.1	< 0.1		< 0.1		< 0.1			< 0.1	< 0.1		< 1	
Iron	mg/L	0.3	0.022		2.16	1.1	0.406		2.53		2.75			7.59	4.04		7.69	
Magnesium	mg/L	-	13		18.6	11.8	10.5		15.5		13.6			9.74	11		28.8	
Manganese	mg/L	-	0.003		0.105	0.073	0.044		0.552		0.266			0.219	0.184		0.476	
Nitrate	mg/L	-	< 0.05		0.09	0.21	< 0.05		< 0.05		0.1			< 0.05	1.45		14	
Nitrite	mg/L	-	< 0.05		< 0.05	< 0.05	< 0.05		< 0.05		< 0.05			0.1	< 0.05		< 0.5	
TKN	mg/L	-	2.5		1.6	2.4	1.5		2.3		3.1			3.4	1.9		5	
Sodium	mg/L	-	96.9		92	193	109		203		90.1			110	311		167	
Sulphate	mg/L	-	19		30	12	67		55		5			13	63		219	
Phenols	mg/L	0.001	< 0.002		< 0.002	< 0.001	< 0.002		< 0.002		< 0.002			< 0.002	< 0.001		< 0.001	
Phosphorus	mg/L	0.03	0.37		0.22	0.06	0.07		0.21		0.44			0.23	0.39		0.62	
Potassium	mg/L	-	12.9		2.6	7.8	8.1		8.3		9			11.8	7		42.2	
Aluminum	mg/L	0.075	0.09		0.07	0.03	0.02		0.09		0.06			0.01	0.09		0.06	
Antimony	mg/L	-	0.001		0.0003	0.0002	0.0001		0.0004		0.0001			0.0005	0.0006		0.0008	
Arsenic	mg/L	0.1	0.0016		0.0006	0.0023	0.0008		0.0012		0.0016			0.0034	0.0011		0.0024	
Barium	mg/L	-	0.069		0.054	0.055	0.059		0.111		0.042			0.05	0.122		0.267	
Beryllium	mg/L	1.1	< 0.002		< 0.002	< 0.002	< 0.002		< 0.002		< 0.002			< 0.002	< 0.002		< 0.002	
Boron	mg/L	0.2	0.089		0.055	0.281	0.149		0.265		0.145			0.215	0.137		0.999	
Cadmium	mg/L	0.0002	0.000049		< 0.000015	< 0.000015	< 0.000015		< 0.000015		< 0.000015			0.000025	0.000069		0.000175	
Chromium	mg/L	0.1	< 0.001		< 0.001	< 0.001	0.001		0.001		0.002			0.001	0.003		0.011	
Cobalt	mg/L	0.0006	0.002		0.0005	0.0002	0.0002		0.0021		0.0003			0.0009	0.0017		0.0045	
Copper	mg/L	0.005	0.0055		0.0011	0.0007	0.0004		0.001		0.002			0.002	0.0057		0.0182	
Lead	mg/L	0.025	0.00329		0.00059	0.00023	0.00022		0.00035		0.00036			0.00082	0.00437		0.0104	
Mercury	mg/L	-	< 0.00002		< 0.00002	< 0.00002	< 0.00002		< 0.00002		< 0.00002			< 0.00002	< 0.00002		< 0.00002	
Molybdenum	mg/L	0.04	0.0005		0.0003	0.0006	0.0005		0.0006		0.0001			0.0005	0.0006		0.0008	
Nickel	mg/L	0.025	< 0.01		< 0.01	< 0.01	< 0.01		< 0.01		< 0.01			< 0.01	< 0.01		0.01	
Selenium	mg/L	-	< 0.001		< 0.001	< 0.001	< 0.001		0.001		< 0.001			< 0.001	< 0.002		< 0.002	
Silver	mg/L	0.0001	< 0.0001		< 0.0001	< 0.0001	< 0.0001		< 0.0001		< 0.0001			< 0.0001	< 0.0001		< 0.0001	
Strontium	mg/L	-	0.404		0.414	0.237	0.324		0.578		0.308			0.282	0.656		1.1	
Thallium	mg/L	-	< 0.00005		< 0.00005	< 0.00005	< 0.00005		< 0.00005		< 0.00005			< 0.00005	< 0.0001		< 0.0001	
Vanadium	mg/L	-	0.0032		0.0008	0.0005	0.0002		0.0007		0.0006			0.0015	0.003		0.0082	
Zinc	mg/L	0.03	< 0.005		0.01	0.011	< 0.005		0.012		0.021			0.012	0.029		0.162	
Cyanide	mg/L	0.005															< 0.005	
Turbidity	NTU	-															576	
Tannins & Lignins	mg/L	-																

PWQO - Provincial Water Quality Objectives
Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW15 8-Jun-23	SW15 26-Jun-23	SW15 27-Mar-24	SW15 10-Apr-24	SW15 25-Apr-24	SW15 1-May-24	SW15 11-Jun-24	SW15 29-Jul-24	SW15 15-Aug-24	SW15 10-Oct-24	SW15 22-Apr-25	SW15 28-Apr-25	SW15 22-May-25	SW15 17-Jun-25	SW15 21-Aug-25	SW15 9-Oct-25
pH -Lab	pH units	6.5-8.5	Dry	7.84	8.23	8.23	Dry	8.27	Dry	7.88	7.85	7.82	8.3	8.14	8.15	8.59	7.71	7.86
Conductivity	uS/cm	-									448	630		983		807	1060	1590
BOD	mg/L	-									<3	<3		<3		3	7	<3
COD	mg/L	-									23	32		35		56	54	72
Total Dissolved Solids	mg/L	-									247	358		536		416	611	829
Total Suspended Solids	mg/L	-									11	11		9		8	11	12
Alkalinity	mg/L	-									100	139		168		86	90	156
Hardness	mg/L	-									127	187		224		86.1	291	239
Ammonia	mg/L	-		<0.05	5.55	0.07		0.06		0.1	0.31	0.34	<0.05	0.21	0.05	0.06	0.57	0.15
Un-ionized Ammonia	mg/L	0.02									0.03	<0.01		<0.01		<0.01	<0.01	<0.01
Calcium	mg/L	-									41.2	61.6		70.6		20	104	72.9
Chloride	mg/L	-									62.7	100		199		190	166	366
DOC	mg/L	-									7.4	10.3		11.7		7.9	12.1	8.6
Fluoride	mg/L	-									<0.1	<0.1		<0.1		0.4	<0.1	<0.1
Iron	mg/L	0.3									0.361	0.479		0.83		1.29	0.258	0.583
Magnesium	mg/L	-									5.84	7.99		11.5		8.77	7.52	13.9
Manganese	mg/L	-									0.021	0.019		0.08		0.051	0.135	0.1
Nitrate	mg/L	-									0.1	0.14		0.05		<0.05	0.72	0.06
Nitrite	mg/L	-									<0.05	<0.05		<0.05		<0.05	0.07	<0.05
TKN	mg/L	-									1	1.5		1.3		1.2	3.2	2.8
Sodium	mg/L	-									44.2	63.5		124		132	100	188
Sulphate	mg/L	-									26	32		23		6	167	115
Phenols	mg/L	0.001									0.002	<0.001		<0.001		0.002	<0.001	<0.001
Phosphorus	mg/L	0.03									0.05	0.04		0.04		0.05	0.2	0.07
Potassium	mg/L	-									6.1	8.9		6.4		5.6	9.2	9.4
Aluminum	mg/L	0.075									0.27	0.33		0.1		0.19	0.32	0.1
Antimony	mg/L	-									0.0006	0.0006		0.0004		0.0008	0.0012	0.0006
Arsenic	mg/L	0.1									0.0005	0.0007		0.001		0.003	0.0017	0.0034
Barium	mg/L	-									0.036	0.06		0.07		0.021	0.098	0.073
Beryllium	mg/L	1.1									<0.0001	<0.0001		<0.0001		<0.0001	<0.0001	<0.0001
Boron	mg/L	0.2									0.088	0.082		0.071		0.088	0.073	0.089
Cadmium	mg/L	0.0002									<0.000015	<0.000015		<0.000015		<0.000015	<0.000015	<0.000015
Chromium	mg/L	0.1									<0.001	<0.001		<0.001		0.001	<0.001	0.003
Cobalt	mg/L	0.0006									0.0003	0.0004		0.0003		0.0005	0.0005	0.0006
Copper	mg/L	0.005									0.003	0.0027		0.0011		0.0009	0.0063	0.0009
Lead	mg/L	0.025									0.00037	0.00044		0.0003		0.00049	0.00029	0.00045
Mercury	mg/L	-									<0.00002	<0.00002		<0.00002		<0.00002	<0.00002	<0.00002
Molybdenum	mg/L	0.04									0.0006	0.0008		0.0007		0.0008	0.002	0.0012
Nickel	mg/L	0.025									0.0014	0.0015		0.0017		0.0016	0.0017	0.0025
Selenium	mg/L	-									<0.001	<0.001		<0.001		<0.001	<0.001	<0.001
Silver	mg/L	0.0001									0.0003	<0.0001		<0.0001		<0.0001	<0.0001	<0.0001
Strontium	mg/L	-									0.254	0.326		0.163		0.163	0.411	0.413
Thallium	mg/L	-									<0.00005	<0.00005		<0.00005		<0.00005	<0.00005	<0.00005
Vanadium	mg/L	-									0.0005	0.0006		0.0005		0.0007	0.0005	0.0006
Zinc	mg/L	0.03									0.007	0.01		0.022		<0.005	0.006	<0.005
Cyanide	mg/L	0.005									<0.005	<0.005		<0.005		<0.005	<0.005	<0.005
Turbidity	NTU	-									17.1	19		6.6		12.3	7.8	24.5
Tannins & Lignins	mg/L	-																

PWQO - Provincial Water Quality Objectives
Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW18 21-Apr-16	SW18 26-May-16	SW18 8-Jun-16	SW18 24-Apr-17	SW18 23-May-17	SW18 22-Jun-17	SW18 24-Aug-17	SW18 17-Oct-17	SW18 25-Apr-18	SW18 28-Jun-18	SW18 22-Aug-18	SW18 11-Oct-18	SW18 24-Apr-19	SW18 5-Jun-19	SW18 17-Jul-19	SW18 6-Aug-19
pH -Lab	pH units	6.5-8.5	7.82	7.91	8.04	8.13	8.18	7.93	7.87	8.24	8.19	7.96	7.79	7.73	8.14	8.16	7.92	7.76
Conductivity	uS/cm	-	794	1010	1280	763	522	525	527	847	429	504	690	927	436		819	
BOD	mg/L	-	3	5	13	<3	<3	<3	<3	<3	<3	<3	5	86	<3		11	
COD	mg/L	-	29	47	41	35	22	33	29	25	20	103	54	244	25		44	
Total Dissolved Solids	mg/L	-	426	598	731	393	253	277	304	451	231	274	365	490	226		411	
Total Suspended Solids	mg/L	-	4	300	170	<3	<3	3	6	3	5	10	14	400	6		300	
Alkalinity	mg/L	-	198	310	343	182	213	223	203	324	177	147	180	247	164		230	
Hardness	mg/L	-	241	388	548	216	193	231	291	357	179	178	193	246	197		294	
Ammonia	mg/L	-	0.04	0.26	0.13	0.01	0.05	0.04	0.03	0.03	0.03	0.06	0.1	0.17	0.03	0.02	1.15	0.19
Un-ionized Ammonia	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		0.02	
Calcium	mg/L	-	82.9	138	200	76.5	68.9	84	105	129	64.8	58.2	68.3	257	71		94.7	
Chloride	mg/L	-	121	143	189	111	24.3	24.2	35.1	44.9	27.2	68.9	112	146	25		87	
DOC	mg/L	-	9.1	8.6	5.4	9.1	8.5	10.7	11.9	6.3	5.2	14.9	11.9	16.8	4.9		12.1	
Fluoride	mg/L	-	0.1	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	
Iron	mg/L	0.3	0.147	4.87	1.09	0.091	0.024	0.307	0.625	0.041	0.052	0.97	1.44	9.12	0.153		2.99	
Magnesium	mg/L	-	8.29	10.7	11.9	6.08	4.98	6.02	7.84	8.37	4.14	7.81	7.51	12.4	4.04		8.08	
Manganese	mg/L	-	0.063	1.6	0.729	0.028	0.022	0.103	0.672	0.005	0.006	0.26	0.628	1.16	0.023		1.91	
Nitrate	mg/L	-	0.1	0.4	0.2	< 0.1	< 0.05	0.14	< 0.05	1.78	0.64	< 0.05	< 0.05	< 0.05	0.67		0.05	
Nitrite	mg/L	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		0.05	
TKN	mg/L	-	0.4	2.5	1.5	0.8	1.8	1	0.8	0.5	0.5	1.6	1.7	10.4	0.8		2.4	
Sodium	mg/L	-	68.7	89	90.9	64.9	17.2	20.3	25.4	37.1	15.3	43.3	60.5	85.4	14		58.7	
Sulphate	mg/L	-	18	21	29	22	9	6	5	35	11	2	1	10	10		14	
Phenols	mg/L	0.001	< 0.001	< 0.001	< 0.001	0.005	0.008	0.005	0.009	0.002	< 0.001	0.005	0.007	0.007	< 0.002		< 0.002	
Phosphorus	mg/L	0.03	0.02	0.43	0.18	0.04	0.01	0.04	0.05	0.02	0.03	0.14	0.18	1.58	0.04		0.14	
Potassium	mg/L	-	6.9	2.2	2	4	1.3	1.7	2.7	2	2	4	5.5	7.7	2.4		4.9	
Aluminum	mg/L	0.075	0.03	1.15	0.33	0.04	0.03	0.03	0.22	0.07	0.06	0.07	0.05	2.56	0.05		0.06	
Antimony	mg/L	-	0.0001	0.0001	0.0002	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001		0.0003	
Arsenic	mg/L	0.1	0.0004	0.001	0.0008	0.0007	0.0003	0.0007	0.0006	0.0004	0.0002	0.0008	0.0005	0.0013	0.0002		0.0012	
Barium	mg/L	-	0.036	0.084	0.105	0.031	0.026	0.029	0.073	0.047	0.022	0.038	0.045	0.208	0.029		0.061	
Beryllium	mg/L	1.1	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002		< 0.002	
Boron	mg/L	0.2	0.027	0.052	0.021	0.023	0.007	0.016	0.027	0.018	0.008	0.032	0.046	0.067	0.005		0.061	
Cadmium	mg/L	0.0002	< 0.00002	0.00006	0.00007	< 0.000014	< 0.000014	< 0.000014	0.000076	0.000041	< 0.000015	0.000072	0.000091	0.000315	< 0.000015		< 0.000015	
Chromium	mg/L	0.1	0.0003	0.0017	0.0006	< 0.0015	0.012	< 0.001	0.001	< 0.001	< 0.001	0.001	0.001	0.003	< 0.001		< 0.001	
Cobalt	mg/L	0.0006	< 0.005	< 0.005	< 0.005	< 0.0001	< 0.0001	0.0002	0.0006	< 0.0001	< 0.0001	0.0004	0.0003	0.0023	< 0.0001		0.0006	
Copper	mg/L	0.005	0.0007	0.0038	0.0053	0.0004	0.0008	0.0005	0.0059	0.006	0.0005	0.0068	0.0069	0.0172	0.0011		0.0006	
Lead	mg/L	0.025	0.00002	0.00199	0.00099	< 0.00002	0.00004	0.00003	0.00063	0.00036	0.00004	0.00038	0.00054	0.00375	0.00007		0.0001	
Mercury	mg/L	-	< 0.00002	< 0.00002	0.00005	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002		< 0.00002	
Molybdenum	mg/L	0.04	0.0004	< 0.0001	0.0003	0.0006	0.0002	0.0002	0.0002	0.0003	0.0002	0.0001	0.0001	0.0004	0.0002		0.0002	
Nickel	mg/L	0.025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	
Selenium	mg/L	-	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	
Silver	mg/L	0.0001	< 0.00002	< 0.00002	< 0.00002	0.00037	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0001	< 0.0001	< 0.0001	< 0.0001		< 0.0001	
Strontium	mg/L	-	0.279	0.377	0.523	0.223	0.199	0.249	0.298	0.291	0.158	0.235	0.257	0.53	0.17		0.305	
Thallium	mg/L	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005		< 0.00005	
Vanadium	mg/L	-	0.0001	0.0033	0.0012	0.0002	< 0.0001	0.0002	0.0005	0.0004	0.0003	0.0004	0.0001	0.0073	0.0002		0.0006	
Zinc	mg/L	0.03	< 0.005	0.399	0.188	0.046	0.042	0.005	0.63	0.011	< 0.005	0.03	0.02	0.228	0.008		0.026	
Cyanide	mg/L	0.005																
Turbidity	NTU	-																
Tannins & Lignins	mg/L	-																

PWQO - Provincial Water Quality Objectives
Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW18 13-Aug-19	SW18 27-Aug-19	SW18 10-Sep-19	SW18 2-Oct-19	SW18 8-Oct-19	SW18 16-Oct-19	SW18 31-Oct-19	SW18 30-Apr-20	SW18 15-Oct-20	SW18 22-Oct-20	SW18 30-Nov-20	SW18 20-Apr-21	SW18 4-May-21	SW18 15-Jun-21	SW18 8-Jul-21	SW18 11-Aug-21
pH -Lab	pH units	6.5-8.5	8.08	7.4	7.84	8	7.74	7.81	8.04	7.99	7.83	7.96	7.95	8.31	8.21	7.88	8.14	7.86
Conductivity	uS/cm	-	691				799			643		1140		676		1050		691
BOD	mg/L	-	4				4			< 3		< 3		< 3		< 3		< 3
COD	mg/L	-	68				33			25		< 5		9		55		42
Total Dissolved Solids	mg/L	-	368				424			355		631		386		576		361
Total Suspended Solids	mg/L	-	20				16			5		31		< 3		8		8
Alkalinity	mg/L	-	155				188			222		180		270		216		198
Hardness	mg/L	-	190				229			254		331		305		274		199
Ammonia	mg/L	-	0.13	2.12	1.39	0.16	0.52	0.77	0.05	0.03	0.07	0.05	0.04	0.02	0.02	0.19	0.03	0.19
Un-ionized Ammonia	mg/L	0.02	0.02				0.02			< 0.01		< 0.01		< 0.01		< 0.01		< 0.01
Calcium	mg/L	-	62.3				77.3			91.4		112		111		90.2		65.8
Chloride	mg/L	-	124				139			56.4		197		49		196		101
DOC	mg/L	-	11.3				9.3			6.4		6		6.4		10.5		10.1
Fluoride	mg/L	-	< 0.1				< 0.1			< 0.1		< 0.1		< 0.1		< 0.1		< 0.1
Iron	mg/L	0.3	1.1				1.41			0.211		0.683		0.061		1.07		1.12
Magnesium	mg/L	-	8.27				8.8			6.18		12.3		6.79		11.7		8.32
Manganese	mg/L	-	0.341				0.748			0.114		0.243		0.029		0.252		1
Nitrate	mg/L	-	0.06				< 0.05			0.74		< 0.05		0.69		0.08		0.09
Nitrite	mg/L	-	< 0.05				< 0.05			< 0.05		< 0.05		< 0.05		< 0.05		< 0.05
TKN	mg/L	-	2.7				1.6			0.6		2.5		0.4		1.8		1.5
Sodium	mg/L	-	66.3				69.2			30		96.3		29.3		103		56.6
Sulphate	mg/L	-	4				7			16		87		18		11		5
Phenols	mg/L	0.001	< 0.002				< 0.002			< 0.002		< 0.002		< 0.002		0.002		< 0.002
Phosphorus	mg/L	0.03	0.25				0.09			0.03		0.25		0.04		0.12		0.1
Potassium	mg/L	-	9.1				7.2			2.4		13.4		1.6		5.6		3.3
Aluminum	mg/L	0.075	0.03				0.06			0.06		0.04		0.08		0.07		0.03
Antimony	mg/L	-	0.0001				0.0002			0.0004		0.0002		0.0001		0.0001		0.0004
Arsenic	mg/L	0.1	0.0005				0.0008			0.0002		0.0007		0.0002		0.0009		0.0007
Barium	mg/L	-	0.044				0.054			0.037		0.068		0.038		0.051		0.043
Beryllium	mg/L	1.1	< 0.002				< 0.002			< 0.002		< 0.002		< 0.002		< 0.002		< 0.002
Boron	mg/L	0.2	0.052				0.046			0.018		0.048		0.011		0.058		0.072
Cadmium	mg/L	0.0002	< 0.000015				< 0.000015			< 0.000015		0.000027		< 0.000015		< 0.000015		< 0.000015
Chromium	mg/L	0.1	< 0.001				0.002			< 0.001		0.001		< 0.001		0.002		< 0.001
Cobalt	mg/L	0.0006	0.0002				0.0004			0.0002		0.0002		< 0.0001		0.0003		0.0004
Copper	mg/L	0.005	0.0009				0.0029			0.0007		0.0027		0.0007		0.0007		0.0003
Lead	mg/L	0.025	0.00026				0.00006			0.00006		0.00013		0.00004		0.00009		0.00006
Mercury	mg/L	-	< 0.00002				< 0.00002			< 0.00002		< 0.00002		< 0.00002		< 0.00002		< 0.00002
Molybdenum	mg/L	0.04	< 0.0001				0.0002			0.0002		0.0005		0.0002		0.0002		< 0.0001
Nickel	mg/L	0.025	< 0.01				< 0.01			< 0.01		< 0.01		< 0.01		< 0.01		< 0.01
Selenium	mg/L	-	< 0.001				< 0.001			< 0.001		< 0.001		< 0.001		< 0.001		< 0.001
Silver	mg/L	0.0001	< 0.0001				< 0.0001			< 0.0001		< 0.0001		< 0.0001		< 0.0001		< 0.0001
Strontium	mg/L	-	0.26				0.253			0.236		0.277		0.33		0.33		0.271
Thallium	mg/L	-	< 0.00005				< 0.00005			< 0.00005		< 0.00005		< 0.00005		< 0.00005		< 0.00005
Vanadium	mg/L	-	0.0007				0.0003			0.0004		0.0006		0.0004		0.0007		0.0002
Zinc	mg/L	0.03	0.022				0.103			< 0.005		0.053		0.009		0.047		0.059
Cyanide	mg/L	0.005																
Turbidity	NTU	-																
Tannins & Lignins	mg/L	-																

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

**Surface Water Chemistry Summary -
General Water Quality**

Parameter	UNITS	PWQO	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18
			23-Sep-21	15-Oct-21	25-Oct-21	26-Apr-22	7-Jun-22	21-Jun-22	5-Jul-22	17-Oct-22	24-Apr-23	1-May-23	8-Jun-23	26-Jun-23	15-Aug-23	16-Aug-23	5-Oct-23	27-Mar-24
pH -Lab	pH units	6.5-8.5	8.02	7.86	7.88	8.32	8.12	7.88	7.43	7.83	8.31	8.19	7.95	8.05	7.52	7.13	8.07	8.33
Conductivity	uS/cm	-		912		649		749		1200	643		1030			678	897	
BOD	mg/L	-		14		< 3		< 3		< 3	< 3		< 3			3	<3	
COD	mg/L	-		146		23		33		52	9		44			64	52	
Total Dissolved Solids	mg/L	-		579		351		401		641	349		525			362	534	
Total Suspended Solids	mg/L	-		1400		< 3		10		6	< 3		64			8	10	
Alkalinity	mg/L	-		288		270		212		213	272		251			183	207	
Hardness	mg/L	-		401		288		207		306	290		277			195	291	
Ammonia	mg/L	-	0.08	0.14	0.04	0.1	2.51	0.05	0.19	0.18	0.01	0.16	0.21	0.14	0.07	0.77	0.18	0.06
Un-ionized Ammonia	mg/L	0.02		< 0.01		< 0.01		< 0.01		< 0.01	< 0.01		< 0.01			0.02	<0.01	
Calcium	mg/L	-		142		104		69.8		94.4	96.4		84.6			67.3	97.4	
Chloride	mg/L	-		117		37		110		237	43.8		176			103	168	
DOC	mg/L	-		9.9		6		9.3		4.1	5.6		5.7			10.4	10.6	
Fluoride	mg/L	-		< 0.1		< 0.1		< 0.1		< 0.1	< 0.1		0.1			<0.1	<0.1	
Iron	mg/L	0.3		21.8		0.056		0.253		0.073	0.031		1.01			1.76	0.648	
Magnesium	mg/L	-		11.3		6.75		7.81		11.2	6.12		10.3			6.43	11.7	
Manganese	mg/L	-		22.3		0.011		0.149		0.023	0.011		0.5			0.82	0.24	
Nitrate	mg/L	-		< 0.05		1.23		0.87		0.1	0.84		< 0.05			0.09	<0.05	
Nitrite	mg/L	-		< 0.05		< 0.05		< 0.05		< 0.05	< 0.05		< 0.05			<0.05	<0.05	
TKN	mg/L	-		5.6		0.8		1.1		3	0.5		1.8			1.4	1.7	
Sodium	mg/L	-		58.2		23.7		54.9		105	23.9		86.5			53.4	82.8	
Sulphate	mg/L	-		26		14		7		47	14		6			4	29	
Phenols	mg/L	0.001		< 0.002		< 0.001		< 0.001		< 0.001	< 0.001		< 0.001			0.004	<0.001	
Phosphorus	mg/L	0.03		1.06		0.02		0.06		0.19	0.04		0.1			0.1	0.09	
Potassium	mg/L	-		8.1		2.3		4.3		17.7	2.2		8.6			14.1	20.3	
Aluminum	mg/L	0.075		0.03		0.06		0.02		0.04	0.02		0.03			0.03	0.11	
Antimony	mg/L	-		0.0004		0.0003		0.0004		0.0004	0.0001		0.0003			0.0001	0.0004	
Arsenic	mg/L	0.1		0.005		0.0002		0.0005		0.0004	0.0002		0.0008			0.0007	0.0005	
Barium	mg/L	-		0.394		0.038		0.035		0.056	0.035		0.053			0.06	0.057	
Beryllium	mg/L	1.1		< 0.002		< 0.002		< 0.002		< 0.002	< 0.002		< 0.002			<0.0001	<0.0001	
Boron	mg/L	0.2		0.058		0.013		0.047		0.091	0.012		0.074			0.068	0.23	
Cadmium	mg/L	0.0002		0.000242		< 0.000015		< 0.000015		< 0.000028	< 0.000015		< 0.000015			<0.000015	<0.000015	
Chromium	mg/L	0.1		0.006		< 0.001		< 0.001		< 0.001	0.002		< 0.001			<0.001	<0.001	
Cobalt	mg/L	0.0006		0.0109		0.0001		0.0001		< 0.0002	0.0001		0.0003			0.0003	0.0004	
Copper	mg/L	0.005		0.0054		0.0009		0.0004		0.0003	0.0006		0.0004			0.0006	0.0007	
Lead	mg/L	0.025		0.00322		0.00005		0.00002		0.00011	0.00003		0.0002			0.00006	0.00018	
Mercury	mg/L	-		0.00002		< 0.00002		< 0.00002		< 0.00002	< 0.00002		< 0.00002			<0.00002	<0.00002	
Molybdenum	mg/L	0.04		0.0004		0.0001		< 0.0001		0.0003	0.0002		< 0.0001			<0.0001	0.0003	
Nickel	mg/L	0.025		< 0.01		< 0.01		< 0.01		< 0.01	< 0.01		< 0.01			0.0009	0.0009	
Selenium	mg/L	-		< 0.001		< 0.001		< 0.001		< 0.002	< 0.001		< 0.001			<0.001	<0.001	
Silver	mg/L	0.0001		< 0.0001		< 0.0001		< 0.0001		< 0.0001	< 0.0001		< 0.0001			<0.0001	<0.0001	
Strontium	mg/L	-		0.436		0.249		0.35		0.35	0.255		0.316			0.224	0.32	
Thallium	mg/L	-		< 0.00005		< 0.00005		< 0.00005		< 0.0001	< 0.00005		< 0.00005			<0.00005	<0.00005	
Vanadium	mg/L	-		0.0123		0.0004		0.0002		< 0.0002	0.0003		0.0006			0.0002	0.0006	
Zinc	mg/L	0.03		0.112		< 0.005		< 0.005		< 0.005	< 0.005		0.007			<0.005	0.016	
Cyanide	mg/L	0.005									< 0.005		< 0.005			<0.005	<0.005	
Turbidity	NTU	-									0.9		17.7			6.5	1.7	
Tannins & Lignins	mg/L	-									0.6		1.5			1.6	1.1	

PWQO - Provincial Water Quality Objectives

Bold & highlighting indicates PWQO exceedance

Surface Water Chemistry Summary - General Water Quality

Parameter	UNITS	PWQO	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18	SW18
			10-Apr-24	25-Apr-24	1-May-24	11-Jun-24	29-Jul-24	15-Aug-24	10-Oct-24	22-Apr-25	28-Apr-25	22-May-25	17-Jun-25	21-Aug-25	9-Oct-25
pH -Lab	pH units	6.5-8.5	8.33	8.18	8.14	7.49	7.4	8.09	7.9	8.16	8.19	8.1	7.79	Dry	Dry
Conductivity	uS/cm	-		589		753		685	687		844		747		
BOD	mg/L	-		<3		3		<3	<3		<3		<3		
COD	mg/L	-		23		48		46	33		35		63		
Total Dissolved Solids	mg/L	-		330		398		373	382		454		387		
Total Suspended Solids	mg/L	-		<3		3		9	<3		20		32		
Alkalinity	mg/L	-		236		207		201	202		218		168		
Hardness	mg/L	-		259		221		229	252		247		182		
Ammonia	mg/L	-	<0.05	0.06	<0.05	0.1	0.13	0.17	0.31	<0.05	0.11	<0.05	0.17		
Un-ionized Ammonia	mg/L	0.02		<0.01		<0.01		<0.01	0.01		<0.01		<0.01		
Calcium	mg/L	-		92		73.5		77.5	85.1		84.4		58.2		
Chloride	mg/L	-		42.7		110		93.4	92.9		131		128		
DOC	mg/L	-		5.9		10.6		15.2	12.3		13.2		9.5		
Fluoride	mg/L	-		<0.1		<0.1		<0.1	<0.1		<0.1		<0.1		
Iron	mg/L	0.3		0.05		0.21		0.866	0.085		0.154		0.978		
Magnesium	mg/L	-		7.12		9.03		8.46	9.42		8.8		8.81		
Manganese	mg/L	-		0.009		0.24		0.476	0.022		0.08		0.445		
Nitrate	mg/L	-		0.08		<0.05		0.07	<0.05		0.07		<0.05		
Nitrite	mg/L	-		<0.05		<0.05		0.05	<0.05		<0.05		<0.05		
TKN	mg/L	-		0.5		1.2		1.7	1.1		1		1.5		
Sodium	mg/L	-		28.4		70.4		57.6	53.5		75.1		81.8		
Sulphate	mg/L	-		14		4		7	11		14		5		
Phenols	mg/L	0.001		<0.001		<0.001		0.001	<0.001		<0.001		0.002		
Phosphorus	mg/L	0.03		0.03		0.05		0.2	0.02		0.04		0.13		
Potassium	mg/L	-		3.3		6		6.5	8.1		8.8		3.4		
Aluminum	mg/L	0.075		0.04		0.02		0.07	0.03		0.03		0.05		
Antimony	mg/L	-		0.0003		0.0002		0.0004	0.0002		0.0004		0.0006		
Arsenic	mg/L	0.1		0.0002		0.0005		0.0005	0.0003		0.0004		0.0006		
Barium	mg/L	-		0.034		0.04		0.048	0.045		0.043		0.051		
Beryllium	mg/L	1.1		<0.0001		<0.0001		<0.0001	<0.0001		<0.0001		<0.0001		
Boron	mg/L	0.2		0.026		0.071		0.099	0.084		0.076		0.064		
Cadmium	mg/L	0.0002		<0.000015		<0.000015		<0.000015	<0.000015		<0.000015		<0.000015		
Chromium	mg/L	0.1		<0.001		<0.001		<0.001	<0.001		<0.001		<0.001		
Cobalt	mg/L	0.0006		0.0002		0.0002		0.0002	0.0002		0.0003		0.0003		
Copper	mg/L	0.005		0.0009		0.0005		0.0005	0.0005		0.0003		0.0002		
Lead	mg/L	0.025		0.00005		<0.00002		0.00008	<0.00002		0.00003		0.00006		
Mercury	mg/L	-		<0.00002		<0.00002		<0.00002	<0.00002		<0.00002		<0.00002		
Molybdenum	mg/L	0.04		0.0002		<0.0001		<0.0001	0.0003		0.0003		<0.0001		
Nickel	mg/L	0.025		0.0006		0.0008		0.0006	0.0006		0.0008		0.0008		
Selenium	mg/L	-		<0.001		<0.001		<0.001	<0.001		<0.001		<0.001		
Silver	mg/L	0.0001		0.0001		<0.0001		0.0003	<0.0001		<0.0001		<0.0001		
Strontium	mg/L	-		0.274		0.269		0.285	0.3		0.297		0.238		
Thallium	mg/L	-		<0.00005		<0.00005		<0.00005	<0.00005		<0.00005		<0.00005		
Vanadium	mg/L	-		0.0002		0.0001		0.0002	0.0002		0.0002		0.0003		
Zinc	mg/L	0.03		0.008		<0.005		<0.005	<0.005		0.01		<0.005		
Cyanide	mg/L	0.005		<0.005		<0.005		<0.005	<0.005		<0.005		<0.005		
Turbidity	NTU	-		1		0.8		2.8	0.8		1.5		10.2		
Tannins & Lignins	mg/L	-		<0.5		1.2		1			0.8		1.3		

PWQO - Provincial Water Quality Objectives
Bold & highlighting indicates PWQO exceedance



APPENDIX C

2024 Stormwater Management Pond Restoration As-Built Drawings



LINDSAY OPS LANDFILL SEDIMENTATION POND RESTORATION

51 Wilson Road, Lindsay, ON

AS-BUILTS

WSP Project No: 171-10835-08
Date: October 28, 2024



KEY PLAN

DRAWING INDEX

NO.	TITLE
C-101	EXISTING CONDITION AS-BUILTS JULY 16, 2024

LEGEND

DESCRIPTION	
CELL BOUNDARY / LIMIT OF WASTE	---
FENCE	-o-o-o-o-o-o-
CONTOUR LINE	250.5
SPOT ELEVATION	252.53
DRAINAGE DITCH	- - - - -
CULVERT	- - - - -
EXISTING PIPE	—
OUTLET STRUCTURE	OS
GATE VALVE	GV
CATCH BASIN	CB
PRE-EXISTING RIP RAP	XXXXXX
NEW RIP-RIP	XXXXXX
CONCRETE PIPE REMOVED	—
GATE VALVE REMOVED	GV

We see the future more clearly and design for it today.





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DISCIPLINE: ENVIRONMENT

PROJECT NUMBER: 171-10835-08

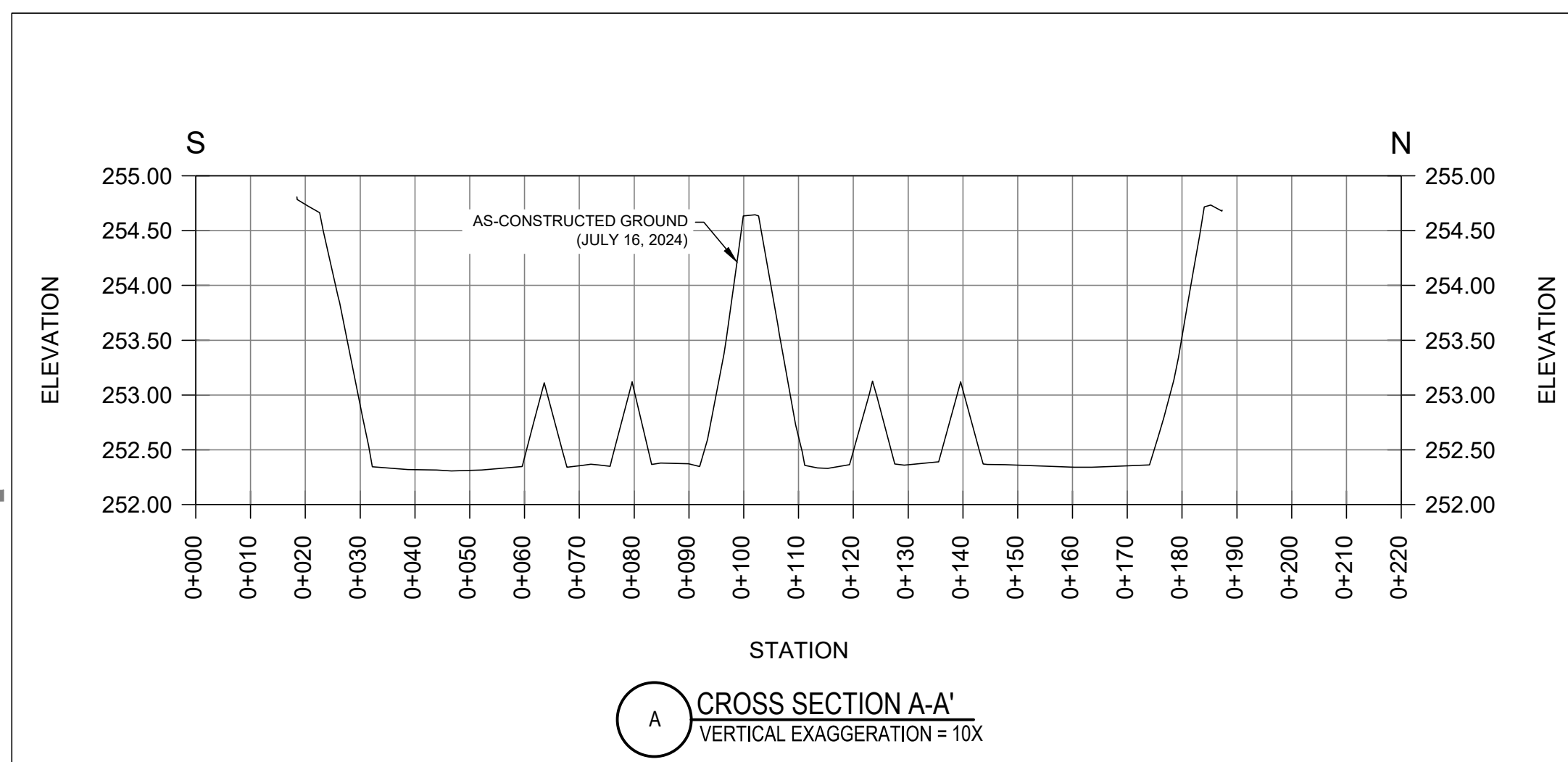
CLIENT:

CLIENT REF. #: --

TITLE: _____

DRAWING NUMBER:	REV.
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C 101	3
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APPENDIX L

2025 Toxicity Testing Laboratory Results

Work Order : 257620

Sample Number : 86624

SAMPLE IDENTIFICATION

Company :	City of Kawartha Lakes	Sampling Date :	2025-04-28
Location :	Lindsay ON	Sampling Time :	16:00
Substance :	SW-13	Date Received :	2025-04-29
Sampling Method :	Grab	Time Received :	10:40
Sampled By :	B. Pettersone	Temperature at Receipt :	18 °C
Sample Description :	Clear, light yellow	Date Tested :	2025-04-29
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	8.0 days
Organism Batch :	Dm25-07	Average Brood Size :	37.5
Culture Mortality :	1.0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	0 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-04-22	LC50 :	6.3 g/L
Organism Batch :	Dm25-07	95% Confidence Limits :	5.9 - 6.6 g/L
Analyst(s) :	CYW, SSF	Historical Mean LC50 :	6.5 g/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	5.7 - 7.4 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :



 Adam Wartman
 I am approving this
 document
 2025-05-06
 10:25-04:00

Project Manager

Work Order : 257620

Sample Number : 86624

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.7	8.6	838	20	100	240 mg/L

0 HOURS

Date & Time : 2025-04-29 12:10

Analyst(s) : SSF

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.7	8.6	838	20	100	240
100	B	0	0	7.7	8.6	838	20	100	240
100	C	0	0	7.7	8.6	838	20	100	240
Control	A	0	0	8.3	8.5	472	20	99	140
Control	B	0	0	8.3	8.5	472	20	99	140
Control	C	0	0	8.3	8.5	472	20	99	140

Notes:

24 HOURS

Date & Time : 2025-04-30 11:25

Analyst(s) : CYW (NM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	20
100	B	—	0	—	—	—	20
100	C	—	0	—	—	—	20
Control	A	—	0	—	—	—	20
Control	B	—	0	—	—	—	20
Control	C	—	0	—	—	—	20

Notes:

48 HOURS

Date & Time : 2025-05-01 11:40

Analyst(s) : SSF

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.3	8.4	839	20
100	B	0	0	8.3	8.4	839	20
100	C	0	0	8.3	8.4	838	20
Control	A	0	0	8.2	8.5	484	20
Control	B	0	0	8.2	8.5	487	20
Control	C	0	0	8.2	8.6	491	20

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

 Test Data Reviewed By : FM

 Date : 2025-05-01

Work Order : 257620

Sample Number : 86624

SAMPLE IDENTIFICATION

Company :	City of Kawartha Lakes	Sampling Date :	2025-04-28
Location :	Lindsay ON	Sampling Time :	16:00
Substance :	SW-13	Date Received :	2025-04-29
Sampling Method :	Grab	Time Received :	10:40
Sampled By :	B. Pettersone	Temperature at Receipt :	18 °C
Sample Description :	Clear, light yellow.	Date Tested :	2025-04-30

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout.
 Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	43.5 mm
Organism Batch :	T25-08	Range of Fork Lengths :	37 - 50 mm
Control Sample Size :	10	Mean Wet Weight :	0.7 g
Cumulative stock mortality rate :	0.1% (previous 7 days)	Organism Loading Rate :	0.4 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume of Sample :	16 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	18 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T25-08	LC50 :	3965 mg/L
Date Tested :	2025-04-19	95% Confidence Limits :	3493 - 4477 mg/L
Analyst(s) :	JGR, NWP, GF, NM	Historical Mean LC50 :	4142 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	3168 - 5416 mg/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By :



 Adam Wartman
 I am approving this
 document
 2025-05-06 10:25:04:00

Project Manager

Work Order : 257620

Sample Number : 86624

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³
Initial Water Chemistry (100%) :	7.5	8.3	810	15	86
After 30 min pre-aeration :	7.6	9.4	825	14	96

0 HOURS

Date & Time	2025-04-30	9:10					
Analyst(s) :	GF (JGR)						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³
100%	0	0	7.6	9.4	825	14	96
Control	0	0	8.0	9.7	740	15	100

Notes:

24 HOURS

Date & Time	2025-05-01	9:00					
Analyst(s) :	NWP						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	—	—	—	15	
Control	0	0	—	—	—	15	

Notes:

48 HOURS

Date & Time	2025-05-02	9:40					
Analyst(s) :	JGR						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	—	—	—	15	
Control	0	0	—	—	—	15	

Notes:

72 HOURS

Date & Time	2025-05-03	8:55					
Analyst(s) :	NM						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	—	—	—	15	
Control	0	0	—	—	—	15	

Notes:

96 HOURS

Date & Time	2025-05-04	9:20					
Analyst(s) :	NM						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	8.1	9.2	813	15	
Control	0	0	8.0	9.5	683	15	

Notes:

"—" = not measured/not required

Number impaired does not include number dead.

³ adjusted for temperature and barometric pressure

Test Data Reviewed By : FM

Date : 2025-05-05

Work Order : 258071

Sample Number : 87290

SAMPLE IDENTIFICATION

Company :	City of Kawartha Lakes	Sampling Date :	2025-06-17
Location :	Lindsay ON	Sampling Time :	16:00
Substance :	SW-13	Date Received :	2025-06-18
Sampling Method :	Grab	Time Received :	12:20
Sampled By :	B. Pettersone	Temperature at Receipt :	25 °C
Sample Description :	Light green, clear	Date Tested :	2025-06-18
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	8.0 days
Organism Batch :	Dm25-11	Average Brood Size :	36.6
Culture Mortality :	1.0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	30 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-06-17	LC50 :	6.3 g/L
Organism Batch :	Dm25-11	95% Confidence Limits :	5.8 - 6.8 g/L
Analyst(s) :	ACS, NM, MK	Historical Mean LC50 :	6.5 g/L
Statistical Method :	Binomial	Warning Limits ($\pm$ 2SD) :	5.7 - 7.3 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :


 Adam
 I am approving this
 document
 2025-06-26
 15:20-04:00

Project Manager

Work Order : 258071

Sample Number : 87290

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.8	8.8	1324	22	106	320 mg/L

0 HOURS

Date & Time : 2025-06-18 14:10

Analyst(s) : CYW/ACS/MK (MK)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.9	8.7	1332	21	104	320
100	B	0	0	7.9	8.7	1332	21	104	320
100	C	0	0	7.9	8.7	1332	21	104	320
Control	A	0	0	8.2	8.6	452	21	100	140
Control	B	0	0	8.2	8.6	452	21	100	140
Control	C	0	0	8.2	8.6	452	21	100	140

Notes:

24 HOURS

Date & Time : 2025-06-19 13:45

Analyst(s) : ACS (NM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	19
100	B	—	0	—	—	—	19
100	C	—	0	—	—	—	19
Control	A	—	0	—	—	—	19
Control	B	—	0	—	—	—	19
Control	C	—	0	—	—	—	19

Notes:

48 HOURS

Date & Time : 2025-06-20 14:05

Analyst(s) : ACS (NM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.3	8.3	1320	21
100	B	0	0	8.3	8.3	1324	21
100	C	0	0	8.3	8.3	1323	21
Control	A	0	0	8.2	8.3	466	21
Control	B	0	0	8.2	8.3	465	21
Control	C	0	0	8.2	8.3	463	21

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

 Test Data Reviewed By : JL

 Date : 2025-06-23

Work Order : 255612

Sample Number : 83617

SAMPLE IDENTIFICATION

Company :	City of Kawartha Lakes	Sampling Date :	2024-08-15
Location :	Lindsay ON	Sampling Time :	16:00
Substance :	SW-13	Date Received :	2024-08-16
Sampling Method :	Grab	Time Received :	14:50
Sampled By :	B. Pettersone	Temperature at Receipt :	27 °C
Sample Description :	Clear, green	Date Tested :	2024-08-17
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	3.3 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	7.3 days
Organism Batch :	Dm24-15	Average Brood Size :	32.4
Culture Mortality :	2.0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	0 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2024-08-13	LC50 :	6.5 g/L
Organism Batch :	Dm24-15	95% Confidence Limits :	6.0 - 7.0 g/L
Analyst(s) :	AA, GR	Historical Mean LC50 :	6.3 g/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	5.9 - 6.8 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :



 Adam Wartman
 I am approving this
 document
 2024-08-27
 12:57-04:00

Project Manager

Work Order : 255612

Sample Number : 83617

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.7	7.1	982	21	85	280 mg/L

0 HOURS

Date & Time : 2024-08-17 13:55

Analyst(s) : AA (FM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.7	7.1	982	21	85	280
100	B	0	0	7.7	7.1	982	21	85	280
100	C	0	0	7.7	7.1	982	21	85	280
Control	A	0	0	8.2	8.5	466	20	100	150
Control	B	0	0	8.2	8.5	466	20	100	150
Control	C	0	0	8.2	8.5	466	20	100	150

Notes:

24 HOURS

Date & Time : 2024-08-18 13:55

Analyst(s) : GR (FM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	20
100	B	—	0	—	—	—	20
100	C	—	1	—	—	—	20
Control	A	—	0	—	—	—	20
Control	B	—	0	—	—	—	20
Control	C	—	0	—	—	—	20

Notes:

48 HOURS

Date & Time : 2024-08-19 13:50

Analyst(s) : AA (KP)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.4	8.2	979	20
100	B	0	0	8.4	8.2	977	20
100	C	1	0	8.4	8.3	981	20
Control	A	0	0	8.3	8.4	469	20
Control	B	0	0	8.3	8.3	471	20
Control	C	0	0	8.3	8.4	474	20

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

 Test Data Reviewed By : EM

 Date : 2024-08-22

Work Order : 255612

Sample Number : 83617

SAMPLE IDENTIFICATION

Company :	City of Kawartha Lakes	Sampling Date :	2024-08-15
Location :	Lindsay ON	Sampling Time :	16:00
Substance :	SW-13	Date Received :	2024-08-16
Sampling Method :	Grab	Time Received :	14:50
Sampled By :	B. Pettersone	Temperature at Receipt :	27 °C
Sample Description :	Clear, green	Date Tested :	2024-08-17

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout.
 Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	10.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	20.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	38.7 mm
Organism Batch :	T24-16	Range of Fork Lengths :	34 - 45 mm
Control Sample Size :	9*	Mean Wet Weight :	0.5 g
Cumulative stock mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.2 g/L
Control organisms showing stress :	1 (at test completion)		

*One test organism dead in the Control group; see page 2.

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume of Sample :	22 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	22 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T24-16	LC50 :	4007 mg/L
Date Tested :	2024-08-01	95% Confidence Limits :	2895 - 4593 mg/L
Analyst(s) :	DT, JCS	Historical Mean LC50 :	4195 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	3300 - 5331 mg/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By :



 Adam Wartman
 I am approving this
 document
 2024-08-27
 12:57-04:00

Project Manager

Work Order : 255612
 Sample Number : 83617

TOXICITY TEST REPORT

Rainbow Trout

EPS 1/RM/13

Page 2 of 2

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³
Initial Water Chemistry (100%) :	7.6	7.9	1024	15	82
After 30 min pre-aeration :	7.7	8.4	1025	16	91

0 HOURS

Date & Time	2024-08-17	11:30					
Analyst(s) :	FM (JGR)						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³
100%	0	0	7.7	8.4	1025	16	91
Control	0	0	8.2	9.4	729	15	97

Notes:

24 HOURS

Date & Time	2024-08-18	11:20				
Analyst(s) :	FM (JGR)					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	—	—	—	15
Control	0	0	—	—	—	15

Notes:

48 HOURS

Date & Time	2024-08-19	10:45				
Analyst(s) :	DT					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	—	—	—	15
Control	0	0	—	—	—	15

Notes:

72 HOURS

Date & Time	2024-08-20	10:40				
Analyst(s) :	GR (DT)					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	—	—	—	14
Control	0	0	—	—	—	14

Notes:

96 HOURS

Date & Time	2024-08-21	11:00				
Analyst(s) :	DT					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	2	0	8.3	9.7	1023	15
Control	1	0	8.3	9.2	689	15

Notes:

"—" = not measured/not required

Number impaired does not include number dead.

³ adjusted for temperature and barometric pressure

Test Data Reviewed By : JL

Date : 2024-08-21

Work Order : 256130

Sample Number : 84437

SAMPLE IDENTIFICATION

Company :	City of Kawartha Lakes	Sampling Date :	2024-10-10
Location :	Lindsay ON	Sampling Time :	16:00
Substance :	SW-13	Date Received :	2024-10-11
Sampling Method :	Grab	Time Received :	13:10
Sampled By :	B. Pettersone	Temperature at Receipt :	18 °C
Sample Description :	Green, clear	Date Tested :	2024-10-13

 Test Method : Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna*. Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	7.2 days
Organism Batch :	Dm24-19	Average Brood Size :	32.2
Culture Mortality :	5.0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	30 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	Yes (see 'COMMENTS')

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2024-10-11	LC50 :	6.3 g/L
Organism Batch :	Dm24-19	95% Confidence Limits :	5.8 - 6.8 g/L
Analyst(s) :	JGR, NM, SSF	Historical Mean LC50 :	6.3 g/L
Statistical Method :	Binomial	Warning Limits (± 2SD) :	5.8 - 7.0 g/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

 Noted Deviation(s) : The temperature of the *Daphnia magna* testing laboratory increased to 25°C for an unknown length of time between 2024-10-13 and 2024-10-14.

Approved By :

Project Manager

Work Order : 256130

Sample Number : 84437

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	8.2	10.6	1267	21	122	280 mg/L

0 HOURS

Date & Time : 2024-10-13 9:50

Analyst(s) : NM/SSF

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	8.3	8.9	1265	21	103	280
100	B	0	0	8.3	8.9	1265	21	103	280
100	C	0	0	8.3	8.9	1265	21	103	280
Control	A	0	0	8.3	8.6	540	21	100	150
Control	B	0	0	8.3	8.6	540	21	100	150
Control	C	0	0	8.3	8.6	540	21	100	150

Notes:

24 HOURS

Date & Time : 2024-10-14 10:05

Analyst(s) : SSF

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	22
100	B	—	0	—	—	—	22
100	C	—	0	—	—	—	22
Control	A	—	0	—	—	—	22
Control	B	—	0	—	—	—	22
Control	C	—	0	—	—	—	22

Notes:

48 HOURS

Date & Time : 2024-10-15 9:25

Analyst(s) : MK/GR (CGR)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.5	8.6	1284	20
100	B	0	0	8.5	8.5	1286	20
100	C	0	0	8.4	8.4	1285	20
Control	A	0	0	8.3	8.5	555	20
Control	B	0	0	8.3	8.6	556	20
Control	C	0	0	8.3	8.5	557	20

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

Test Data Reviewed By : JJ

Date : 2024-10-18

Work Order : 256130
 Sample Number : 84437

SAMPLE IDENTIFICATION

Company :	City of Kawartha Lakes	Sampling Date :	2024-10-10
Location :	Lindsay ON	Sampling Time :	16:00
Substance :	SW-13	Date Received :	2024-10-11
Sampling Method :	Grab	Time Received :	13:10
Sampled By :	B. Pettersone	Temperature at Receipt :	18 °C
Sample Description :	Green, clear	Date Tested :	2024-10-12

 Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout.
 Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016,
 and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	38.5 mm
Organism Batch :	T24-21	Range of Fork Lengths :	35 - 42 mm
Control Sample Size :	10	Mean Wet Weight :	0.6 g
Cumulative stock mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.3 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	120 minutes	Volume of Sample :	18 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	18 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T24-21	LC50 :	3392 mg/L
Date Tested :	2024-10-05	95% Confidence Limits :	3054 - 3749 mg/L
Analyst(s) :	GR, NWP, AJS	Historical Mean LC50 :	3556 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	2558 - 4944 mg/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

 Approved By : _____
 Project Manager

Work Order : 256130

Sample Number : 84437

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³
Initial Water Chemistry (100%) :	7.8	11.3	1175	15	119
After 30 min pre-aeration :	7.7	10.5	1189	15	112

0 HOURS

Date & Time	2024-10-12	11:50					
Analyst(s) :	NWP						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³
100%	0	0	7.8	10.1	1189	15	107
Control	0	0	8.0	9.8	727	15	100

Notes:

24 HOURS

Date & Time	2024-10-13	10:05					
Analyst(s) :	NWP						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	—	—	—	15	
Control	0	0	—	—	—	15	

Notes:

48 HOURS

Date & Time	2024-10-14	9:55					
Analyst(s) :	NM						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	—	—	—	15	
Control	0	0	—	—	—	15	

Notes:

72 HOURS

Date & Time	2024-10-15	11:15					
Analyst(s) :	JGR						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	—	—	—	15	
Control	0	0	—	—	—	15	

Notes:

96 HOURS

Date & Time	2024-10-16	12:00					
Analyst(s) :	GR (JGR)						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	7.9	8.8	1180	15	
Control	0	0	8.0	9.3	689	15	

Notes:

"—" = not measured/not required

Number impaired does not include number dead.

³ adjusted for temperature and barometric pressure

Test Data Reviewed By : JJ

Date : 2024-10-17



APPENDIX M

2025 Leachate Collection System Video Inspection Report

Nieltech Services Ltd.

75 Moorefield Street, Unit #1 Cambridge, ON

Phone: 519-748-0311

Fax: 519-740-4242



NIELTECH SERVICES LTD.

2024-25-OQ

Flushing and Video Inspection of Leachate Collection Systems

City of Kawartha Lakes

YEAR 3 (2025): LINDSAY OPS LANDFILL

Date: October 6, 2025



Nieltech Services Ltd.

75 Moorefield Street, Unit # 1

Cambridge, ON N1T 1S2

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3.0	CONCLUSIONS.....	5



Nieltech Services Ltd.

75 Moorefield Street, Unit # 1
Cambridge, ON N1T 1S2

1.0 GENERAL INTRODUCTION

Nieltech Services Limited (NTS) was retained by the City of Kawartha Lakes for the Flushing and Video Inspection of Leachate Collection Systems for the City Contract No. 2024-25-OQ. After successfully completing the first three years of the contract in 2025, Nieltech was requested to proceed with the fourth year of the contract in 2025. This report is based on the inspections conducted at Lindsay OPS Landfill completed by NTS in the year 2025. The purpose of the inspections was to identify and report any structural and operational defects in sewers and manholes at the landfill. NTS utilized a combination of a flusher truck and a CCTV truck in order to accomplish this task.

2.0 SUMMARY OF FINDINGS

NTS video inspected over 5000 meters of pipes at the Lindsay OPS Landfill. The overall structural condition of the pipes was adequate. There were not any collapsed pipes or pipes that looked structurally unsound. There were also no obvious blockages that were observed. This report should be read in conjunction with the CCTV report as well as CCTV videos provided to the City. NTS has provided a summary of our observations in Table 1 below along with our recommendations.



Nieltech Services Ltd.

75 Moorefield Street, Unit # 1
Cambridge, ON N1T 1S2

3.0 TABLE 1: INTERPRETATION OF VIDEOS AND RECOMMENDATIONS

<u>Pipe ID</u>	<u>INTERPRETATION OF VIDEOS</u>	<u>RECOMMENDATIONS</u>
<i>MHL1 - MHL2 (L1)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL1 - MHL2 (L2)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL1 - MHL2 (L3)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL3 - MHL4 (L4)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL3 - MHL4 (L5)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL3 - MHL4 (L6)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL5 - MHL6 (L7)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL5 - MHL6 (L8)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL7 - MHL8 (L9)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL7 - MHL8 (L10)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL9 - MHL10 (L11)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL9 - MHL10 (L12)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL9 - PLUG (L13)</i>	could not complete inspection due to studs built into pipe. for the section we could video, Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL10 - PLUG (L14)</i>	No issues observed	none
<i>MHL7 - MHL9 (H10)</i>	No issues observed	none



Nieltech Services Ltd.

75 Moorefield Street, Unit # 1
Cambridge, ON N1T 1S2

<i>MHL7 - MHL9 (H11)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL5 - MHL7 (H8)</i>	Sags potentially holding water at various locations were noted, flow occurring.	Monitor sags with annual inspection.
<i>MHL5 - MHL7 (H9)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL3 - MHL5 (H6)</i>	CCTV not available, No Access	N/A
<i>MHL3 - MHL5 (H7)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL1 - MHL3 (F4F2)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL1 - MHL3 (H3H5)</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MHL1 - PUMP STA.</i>	CCTV not available, No Access	N/A
<i>MH1-MH2</i>	Could not video – no access	N/A
<i>MH2-MH3</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MH3 - MH4</i>	Crack noticed at 36m.	Nieltech would recommend monitoring with annual inspection.
<i>MH4 - MH5</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MH5 - MH6</i>	No issues observed	None
<i>MH7 - MH6</i>	No issues observed	None
<i>MH8 - MH7</i>	No issues observed	None
<i>MH9 - MH8</i>	No issues observed	None
<i>MH10 - MH9</i>	Possible abandoned lateral / lead	N/A
<i>MH11 - MH10</i>	Deposits settled at lateral at 0.6m.	Monitor the lateral with annual inspection.
<i>MH11 - STUB</i>	Deposits settled at lateral at 27m.	Monitor the lateral with annual inspection.
<i>MH12 - MH11</i>	No issues observed	none
<i>MH12 - STUB</i>	No issues observed	none



Nieltech Services Ltd.

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Cambridge, ON N1T 1S2

<i>MH13 - MH12</i>	Sags potentially holding water at various locations were noted, flow occurring	Monitor sags with annual inspection
<i>MH14 - MH13</i>	No issues observed	none
<i>MH5 - PUMP STA.</i>	CCTV not available, No Access	none
<i>MH11 - Catchbasin</i>	CCTV not available, No connection	none

3.0 CONCLUSIONS

NTS was able to successfully complete the 2025 mobilization to flush and video inspect the leachate collection system within the Lindsay OPS Landfill. The systems were draining effectively with no indication of damage or repairs required at this time. Our recommendation is to continue annual flushing, monitoring and inspections.



APPENDIX N

2025 Performance Report for the Lindsay WPCP

Lindsay Wastewater System 2025 Annual Wastewater Performance Report

Wastewater System Works Number: 110000383

Wastewater System Operating Authorities: City of Kawartha Lakes and Ontario
Clean Water Agency

Reporting Period: January 1st – December 31st, 2025



**Annual Wastewater Performance
Report**
City of Kawartha Lakes



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2025 Annual Wastewater System Performance Report

Executive Summary

The Lindsay Water Pollution Control Plant (WPCP) is an extended aeration wastewater treatment facility with a rated capacity of 24,500 m³/day and is located at 48 Lagoon Rd in Lindsay, Ontario. The facility is owned by the City of Kawartha Lakes, with the treatment system and sewage pumping stations operated by the Ontario Clean Water Agency, and the remaining collection system operated by City staff.

The treatment system operates in accordance with Environmental Compliance Approval (ECA) #1696-BPLL4R issued June 29, 2020, and the wastewater collection system operates in accordance with Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA) #141-W601 issued May 2, 2025. In accordance with Ontario Regulation 129/04, the Lindsay Sewage Works is classified as a Class III Wastewater Treatment Subsystem and Class III Wastewater Collection Subsystem.

The treatment process consists of preliminary treatment followed by extended aeration, secondary clarification, tertiary treatment, and disinfection. Preliminary treatment includes mechanical bar screening, screening compaction and dewatering, grit removal, and grit dewatering. Wastewater enters the aeration tanks where biological treatment occurs through an aerobic, suspended growth process. Mixed liquor from the aeration tanks is directed to secondary clarifiers, where suspended solids are settled and returned to the aeration tanks.

Effluent from the secondary clarifiers receives tertiary treatment through chemical phosphorus removal using the Actiflo system, where coagulation is enhanced by sand ballasting. The treated

Sludge generated during the treatment process is directed to three onsite sludge lagoons for storage prior to removal.

The Lindsay wastewater collection system consists of a network of gravity sewers, nine pumping stations, and associated forcemains that convey raw sewage to the wastewater treatment plant.

The City of Kawartha Lakes and Ontario Clean Water Agency prepare an annual report summarizing system operation and performance for each municipal wastewater system. This report has been prepared to satisfy the reporting requirements of Environmental Compliance Approval (ECA) #1969-BPLL4R and Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA) #141-W601. Unless otherwise noted within this report, the Lindsay Sewage Works complies with all applicable requirements of the regulating authorities and the approvals under which it operates.

This Annual Performance Report is available to the public on the [City of Kawartha Lakes website](#) and at the Public Works Administration Office located at 322 Kent Street West in Lindsay, Ontario, by appointment. Notification of report availability is provided on the City's website and copies are available free of charge.

Reporting Requirements – Wastewater Treatment Plant

In accordance with ECA #1696-BPLL4R, Section 11(4) – REPORTING, the owner shall prepare a performance report on a calendar basis and submit to the Ministry of Environment, Conservation and Parks by March 31 of the calendar year following the period being reported upon.

Section 11(4) – REPORTING

The performance report is required to contain the following:

- a) a summary and interpretation of all Influent and Important Sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates;
- b) a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
- c) a summary of all operating issues encountered and corrective actions taken;
- d) a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;
- e) a summary of any effluent quality assurance or control measures undertaken;
- f) a summary of the calibration and maintenance carried out on all Influent, Imported Sewage and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;
- g) a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situations:
 - i. when any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;
 - ii. when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;
- h) a tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed; a tabulation of the measured volume of sludge accumulated in the lagoon cells in five-year intervals and the estimated volume in the interim years and when sludge was disposed of during the reporting period, a summary of disposal locations and volumes of sludge disposed at each location;
- i) a summary of any complaints received and any steps taken to address the complaints;
- j) a summary of all Bypasses, Overflows, other situations outside Normal Operating Conditions and Spills within the meaning of Part X of EPA and abnormal discharge events;

- k) a summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Page 20 – NUMBER 1969-BPLL4R Condition 10, including a report on status of implementation of all modification.
- l) a summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted;
- m) any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es)/equipment groups in the Proposed Works;
- n) a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year.

The following is a report from the records maintained by the Ontario Clean Water Agency for the Lindsay Water Pollution Control Plant for the calendar year 2025:

Summary of Influent and Imported Sewage Monitoring Data to Limits and Objectives

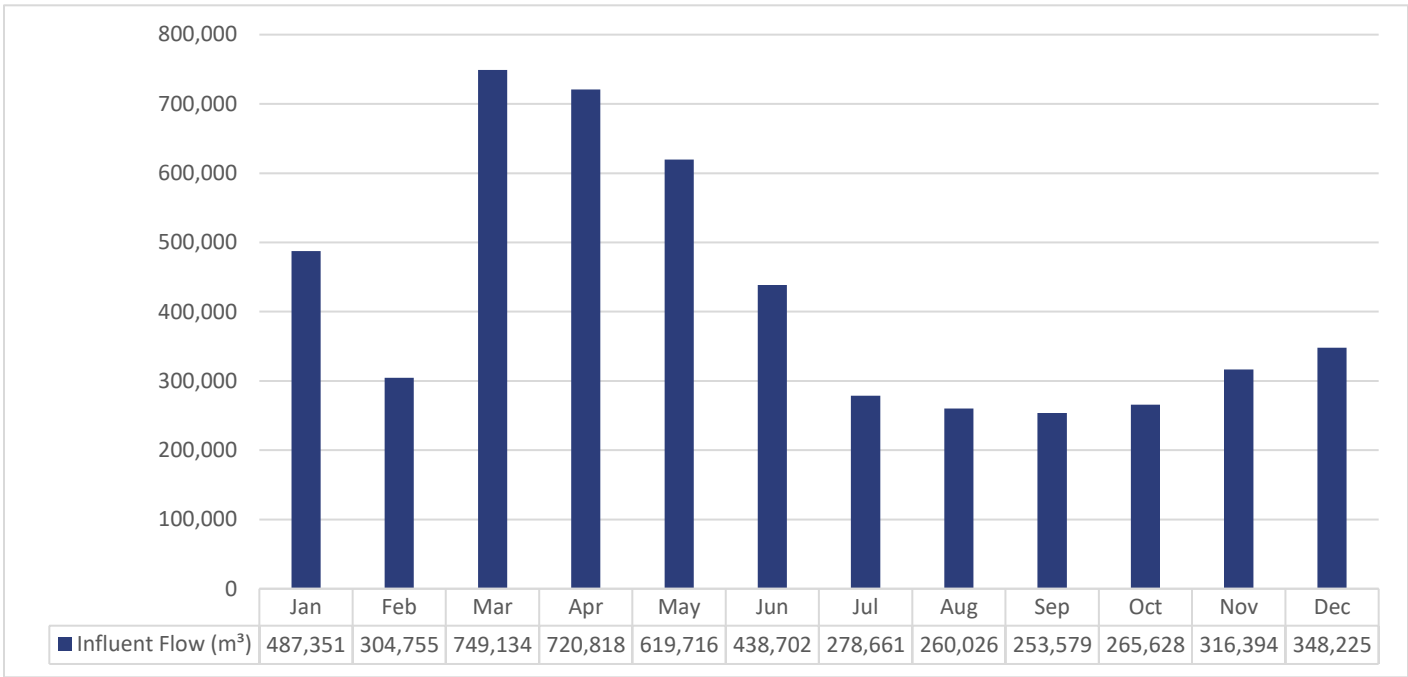
(a) Environmental Compliance Approval (ECA) #1696-BPLL4R requires a summary and interpretation of all Influent and Imported Sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates.

Attached as **Appendix VII** is a copy of the 2025 Performance Assessment Report (PAR) and loading calculations for the Lindsay WPCP raw and final effluent. The PAR contains: a tabulation of all monthly average raw sewage and final effluent sample results obtained during the reporting period, a tabulation of average daily flows, and monthly volumes for the reporting period, and a tabulation of calculated total loading of BOD/CBOD₅, suspended solids, total phosphorus, ammonia + ammonium as N (TAN), Total Kjeldahl Nitrogen (TKN), nitrite and nitrate concentrations in the final effluent.

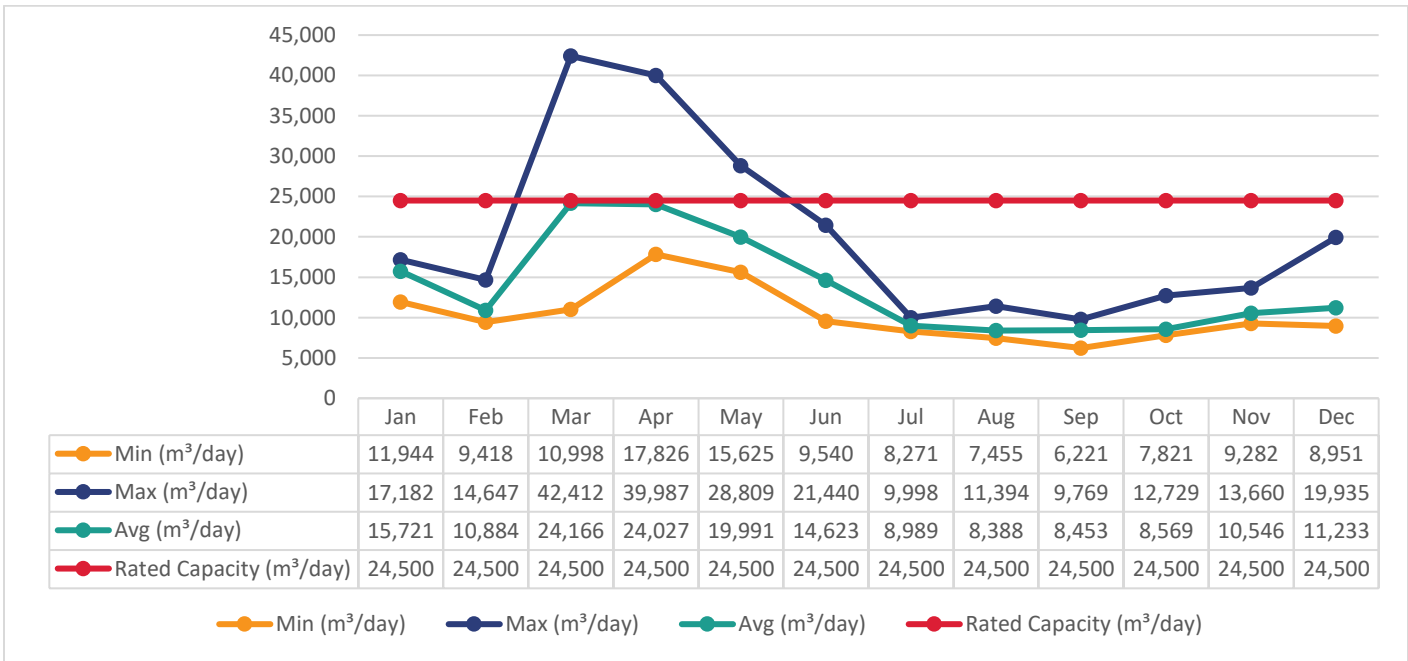
The Lindsay Water Pollution Control Plant (WPCP) has a Rated Capacity of 24,500 m³/day, with an Activflo tertiary treatment capacity of 30,100 m³, as specified in ECA #1696-BPLL4R. The ECA requires that all reasonable efforts be undertaken to operate the facility such that the annual average daily influent remains within the Rated Capacity. For the 2025 reporting period, the annual average daily influent flow to the Lindsay WPCP was 13,816.41 m³/day, representing 56.39% of the Rated Capacity.

The total Influent flow in 2025 was 5,042,989.00 m³.

Graph 1. 2025 Influent Flow Monthly Totals

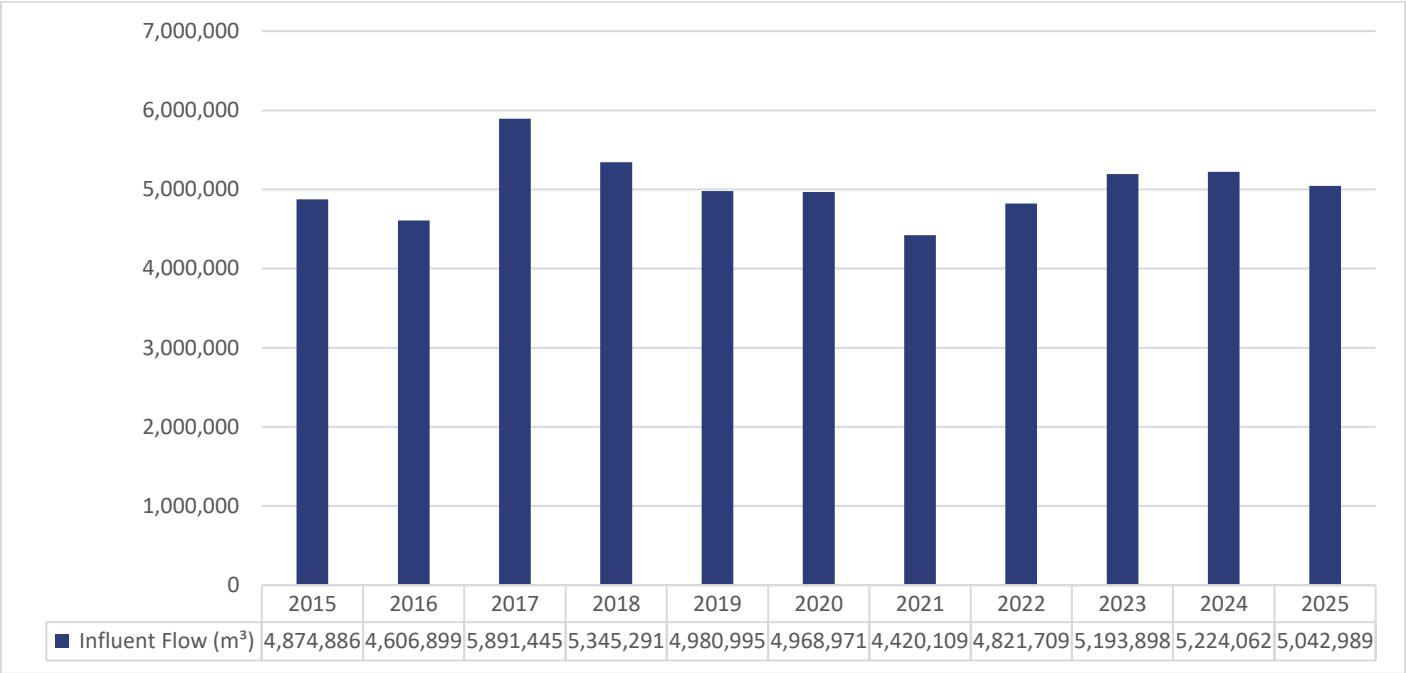


Graph 2. 2025 Influent Daily Minimum, Maximum and Average Flows



Note: There may be instances where influent flow exceeded the Rated Capacity on a monthly basis. However, Rated Capacity is calculated as an annual average daily flow rate, which was met in 2025. Flows were high in March, April and May due to seasonal snow melt and heavy rainfall.

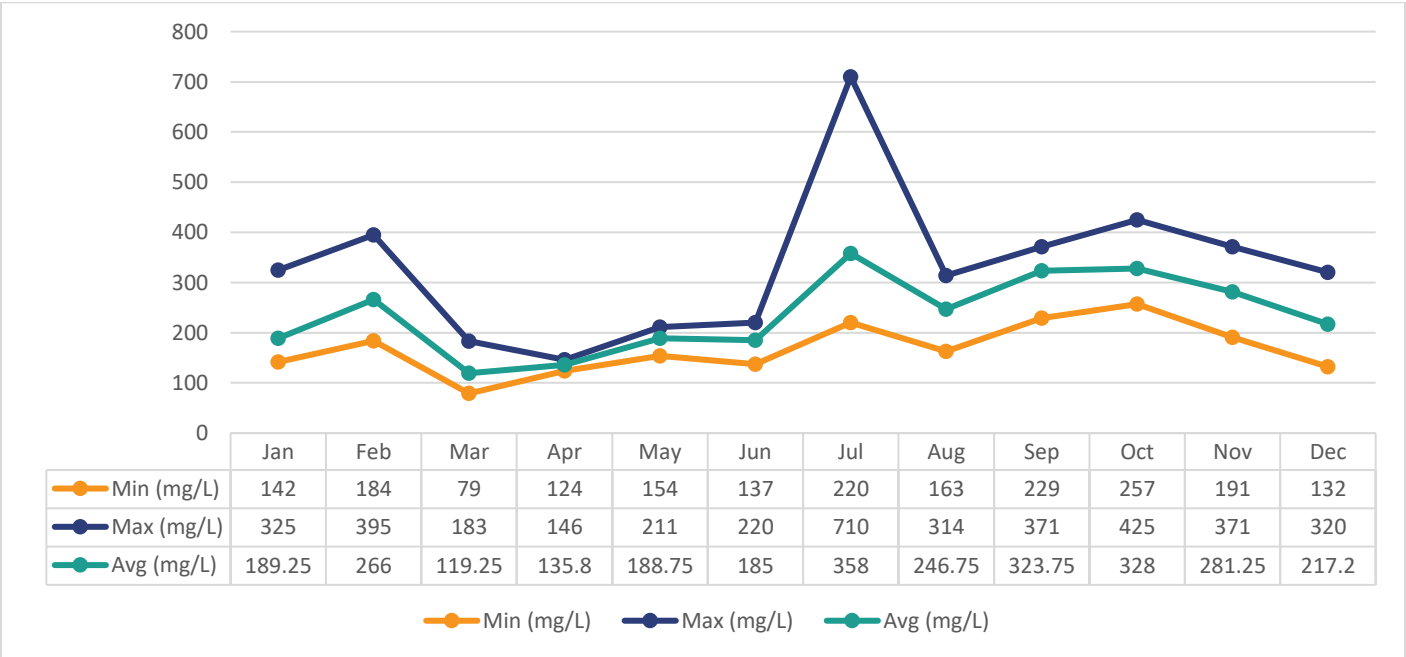
Graph 3. Historical Influent Flows from 2015 - 2025



Biochemical Oxygen Demand (BOD₅)

Environmental Compliance Approval (ECA) #1969-BPLL4R requires at least one composite sample to be collected and analyzed weekly for Biochemical Oxygen Demand (BOD₅). The Biochemical Oxygen Demand (BOD₅) monthly average results ranged from 119.25 mg/L to 358 mg/L.

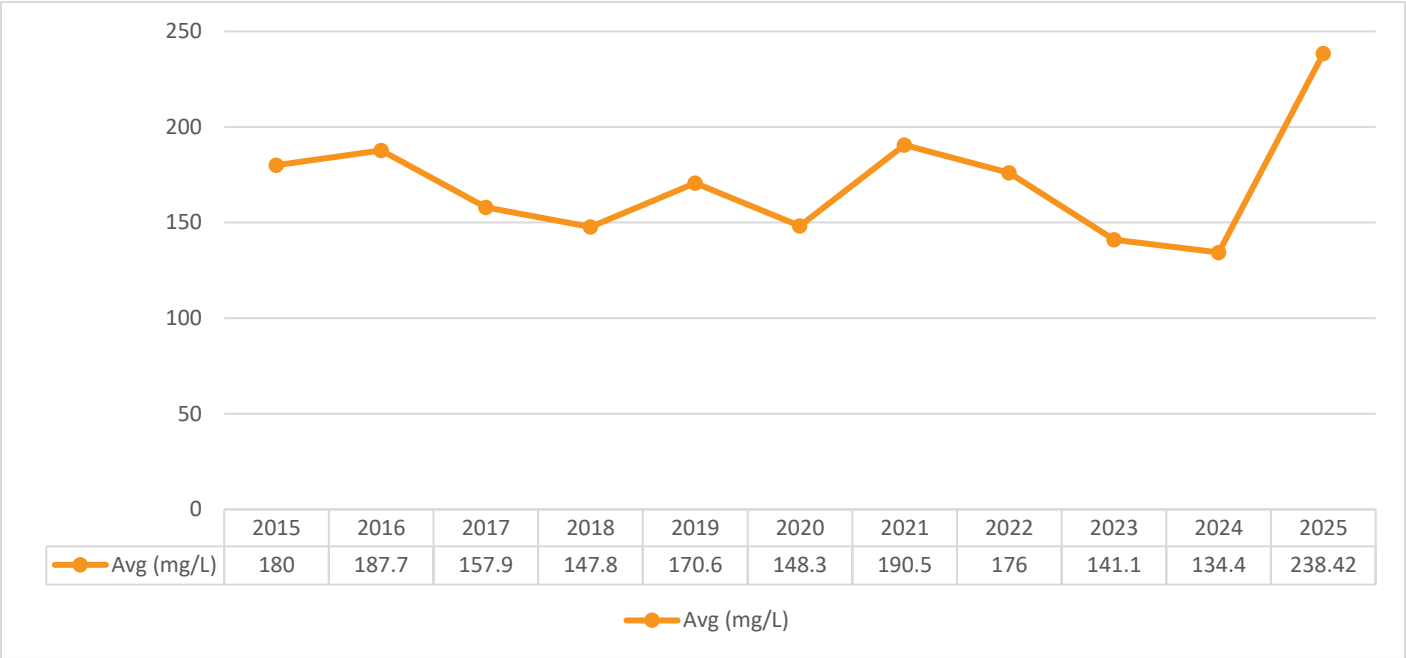
Graph 4. 2025 Monthly BOD₅ Influent Sample Results



Biochemical Oxygen Demand Historical Trends

The Biochemical Oxygen Demand annual average has been relatively stable between 2015 and 2024, then increased in 2025. Although not confirmed, raw influent concentrations could be related to abattoir and septage receiving.

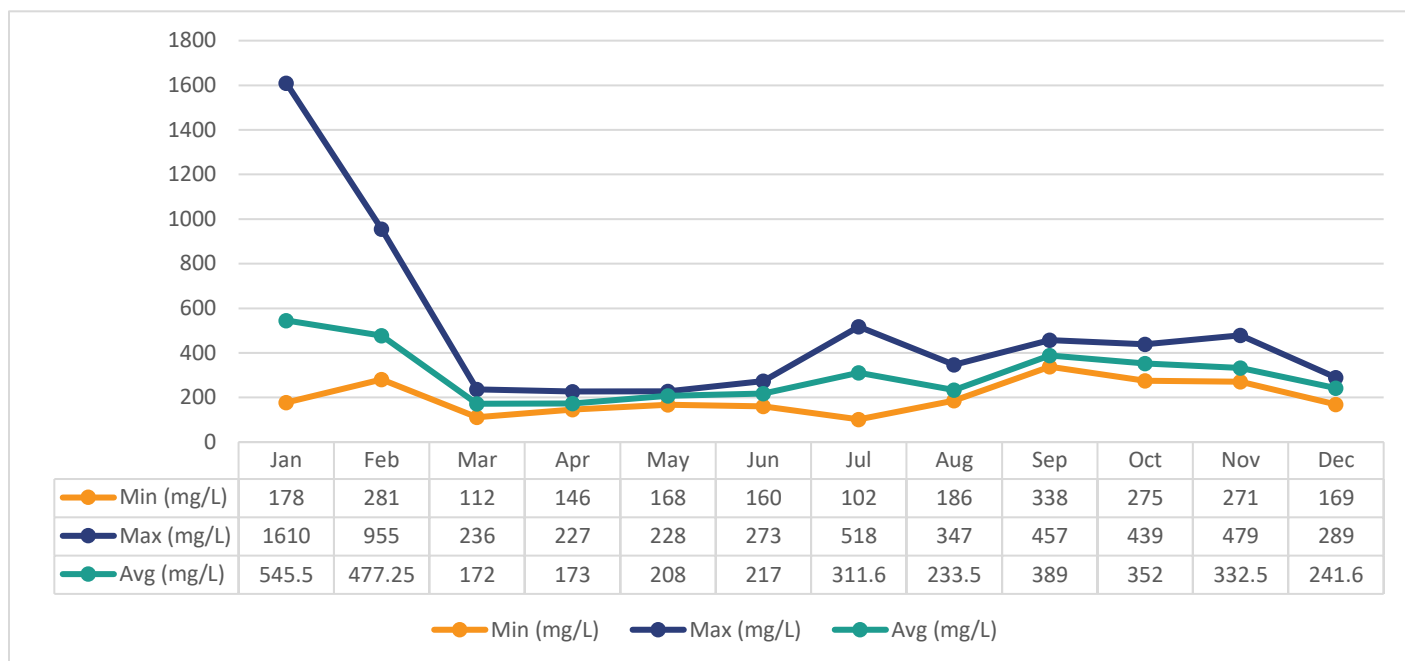
Graph 5. Historical Influent BOD₅ Annual Average Results 2015-2025



Total Suspended Solids (TSS)

Environmental Compliance Approval (ECA) #1696-BPLL4R requires at least one composite sample be collected and analyzed weekly for Total Suspended Solids. The monthly average results ranged from 172 mg/L to 545.5 mg/L.

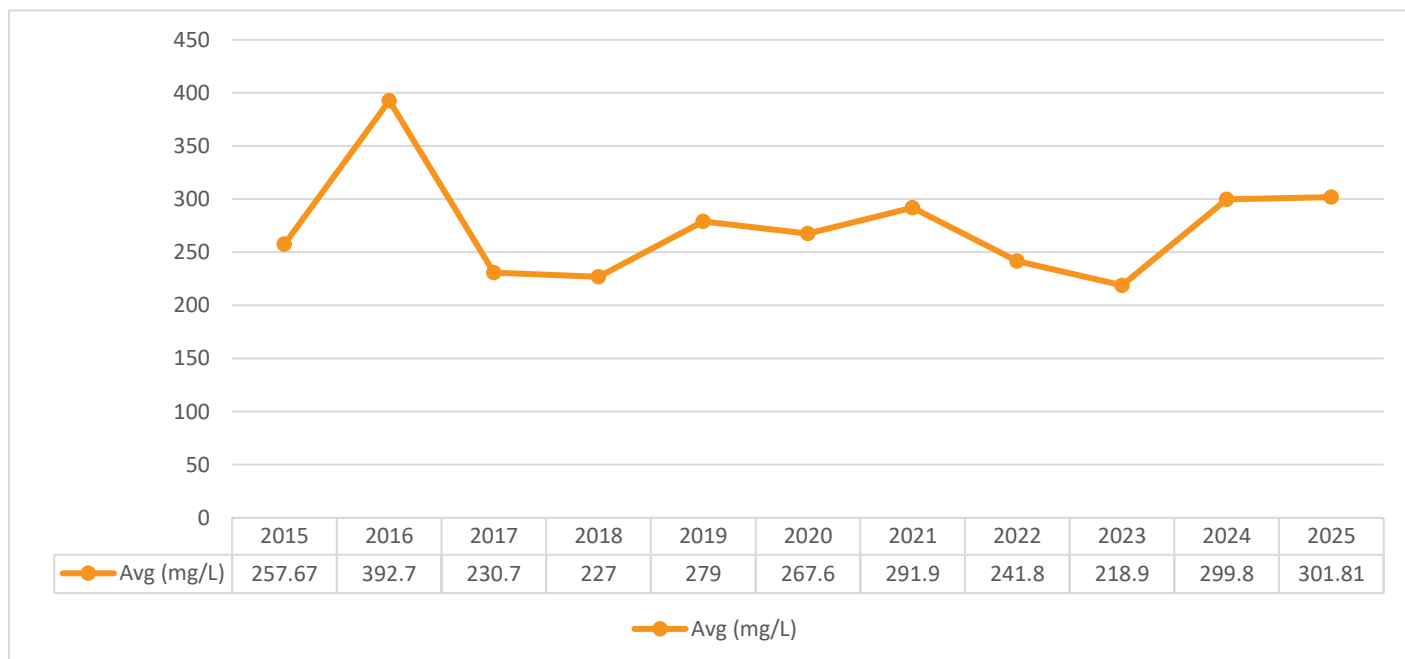
Graph 6. 2025 Monthly Total Suspended Solids Influent Sample Results



Total Suspended Solids Historical Review

The Total Suspended Solids annual average has remained relatively stable between 2015 and 2025 with the peak annual average in 2016. Although not confirmed, raw influent concentrations could be related to abattoir and septage receiving.

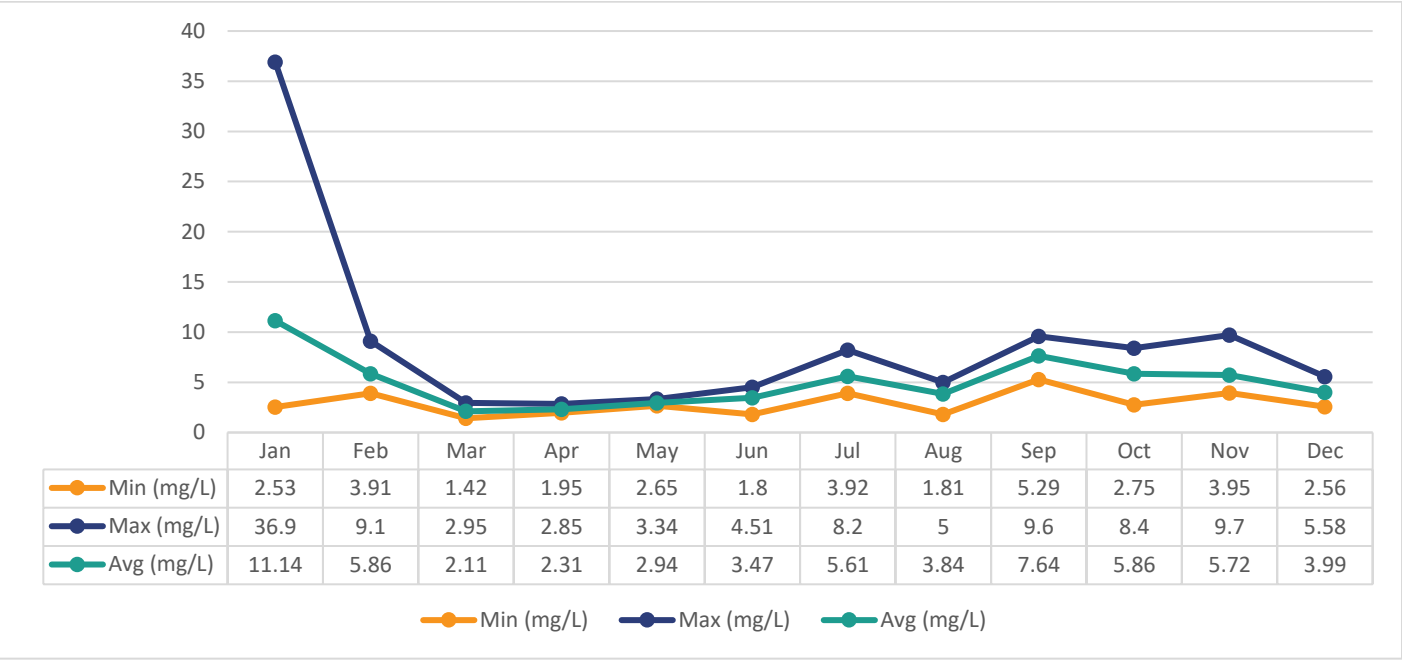
Graph 7. Historical Influent Total Suspended Solids Sample Results 2015 - 2025



Total Phosphorus (TP)

Environmental Compliance Approval (ECA) #1696-BPLL4R requires at least one composite sample be collected and analyzed weekly for Total Phosphorus. The monthly average Total Phosphorus results ranged from 2.11 mg/L to 11.14 mg/L.

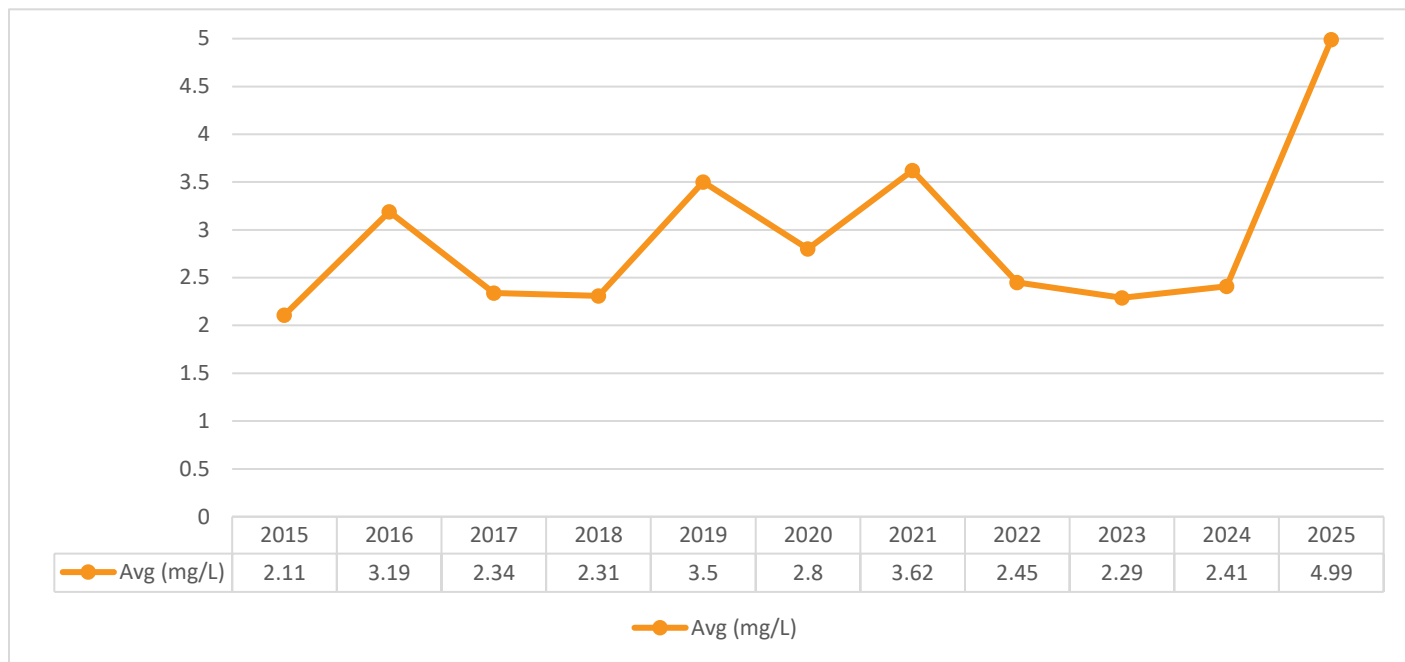
Graph 8. 2025 Monthly Total Phosphorus Influent Sample Results



Total Phosphorus Historical Trends

The Total Phosphorus annual average has increased between 2015 and 2021 with the minimum value being 2.11 mg/L and the maximum value being 4.99 mg/L. The Total Phosphorus has however decreased from 2021 to 2022 and remained relatively stable until it increased in 2025. Although not confirmed, raw influent concentrations could be related to abattoir and septage receiving.

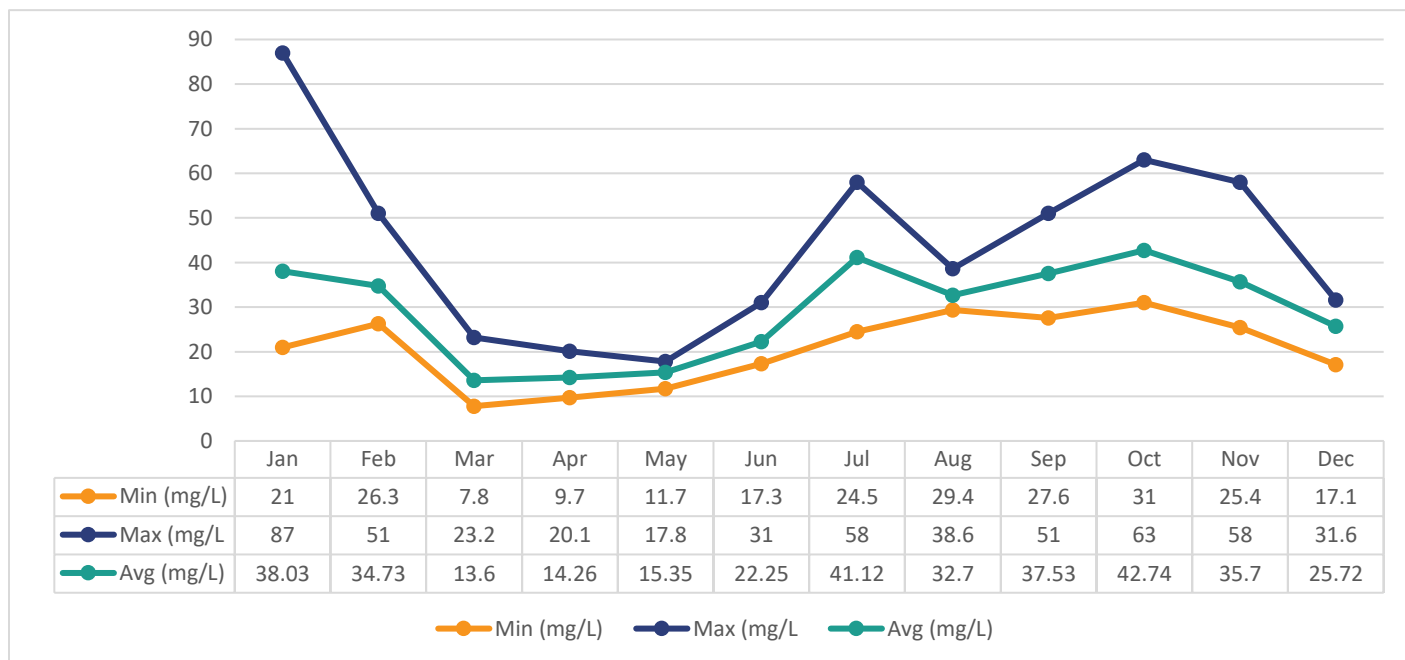
Graph 9. Historical Influent Total Phosphorus Sample Results 2015 - 2025



Total Kjeldahl Nitrogen (TKN)

Environmental Compliance Approval (ECA) #1696-BPLL4R requires at least one composite sample be collected and analyzed weekly for Total Kjeldahl Nitrogen. The monthly average Total Kjeldahl Nitrogen results ranged from 13.6 mg/L to 42.74 mg/L.

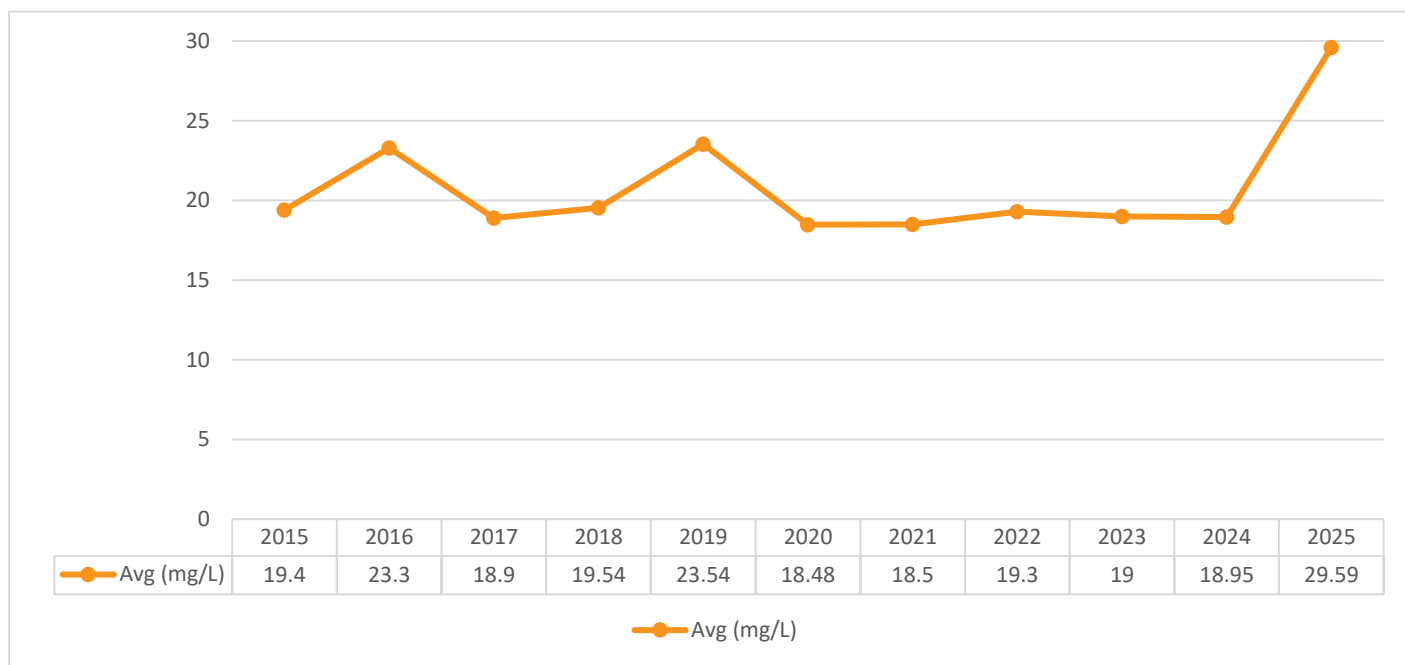
Graph 10. 2025 Monthly Total Kjeldahl Nitrogen Influent Sample Results



Total Kjeldahl Nitrogen Historical Review

The Total Kjeldahl Nitrogen annual average has remained fairly consistent between 2015 and 2024, but increased in 2025. The minimum annual average occurred in 2020 and the maximum annual average occurred in 2025. Although not confirmed, raw influent concentrations could be related to abattoir and septage receiving.

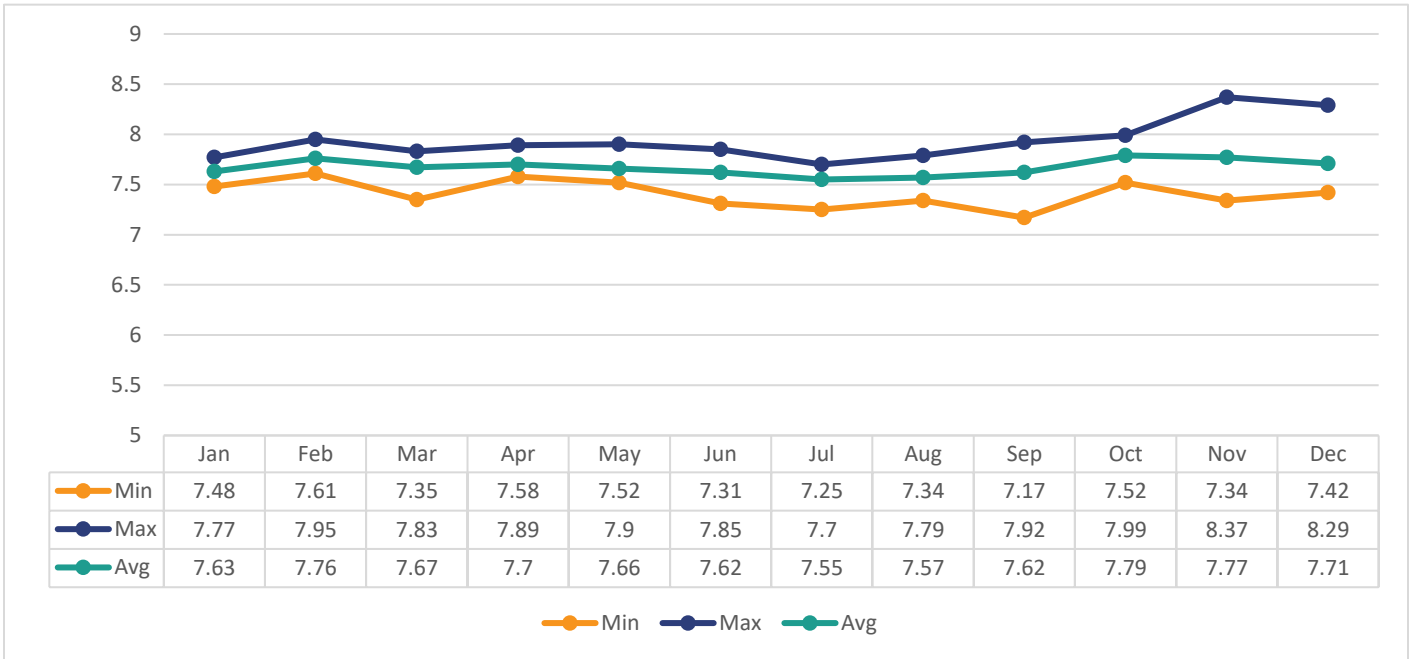
Graph 11. Historical Influent Total Kjeldahl Nitrogen Sample Results 2015 - 2025



pH

Environmental Compliance Approval (ECA) #1696-BPLL4R does not require a pH sample be collected nor prescribes the sample frequency on the influent. The monthly average pH results were fairly consistent throughout 2025 ranging from 7.55 to 7.79.

Graph 12. 2025 Monthly pH Influent Comparisons

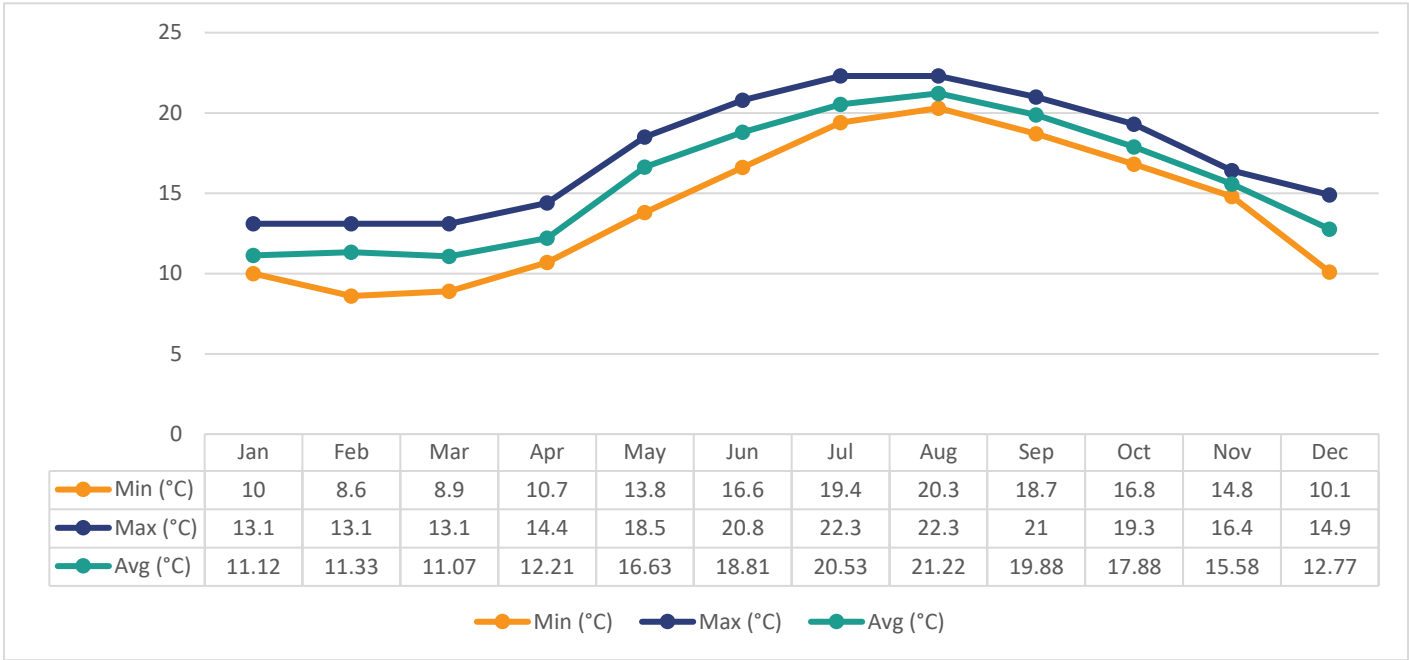


Historical pH data is only available from 2016 to 2025 and the pH levels in 2025 fluctuated between 7.17 and 8.37.

Temperature

Environmental Compliance Approval (ECA) #1696-BPLL4R does not require a temperature sample be collected or prescribe sample frequency on the influent. Samples were collected throughout 2025. Variations in results were consistent with seasonal fluctuations. Historically, the influent water temperature drops in the freezing season (i.e. winter) and raises in the non-freezing season (i.e. summer) and this trend continued throughout 2025. Historical data is only available from 2016 to 2025 and the temperature in 2025 ranged from 8.6 °C to 22.3 °C.

Graph 13. 2025 Monthly Influent Temperature Comparisons



Imported Sewage

Imported sewage is sewage that is hauled to the sewage treatment plant by licensed waste haulers. At the Lindsay WPCP, Imported Sewage consists of sewage hauled to the Receiving Station at 38 Lagoon Rd., Lindsay and abattoir waste hauled to the Lindsay WPCP onsite storage lagoon.

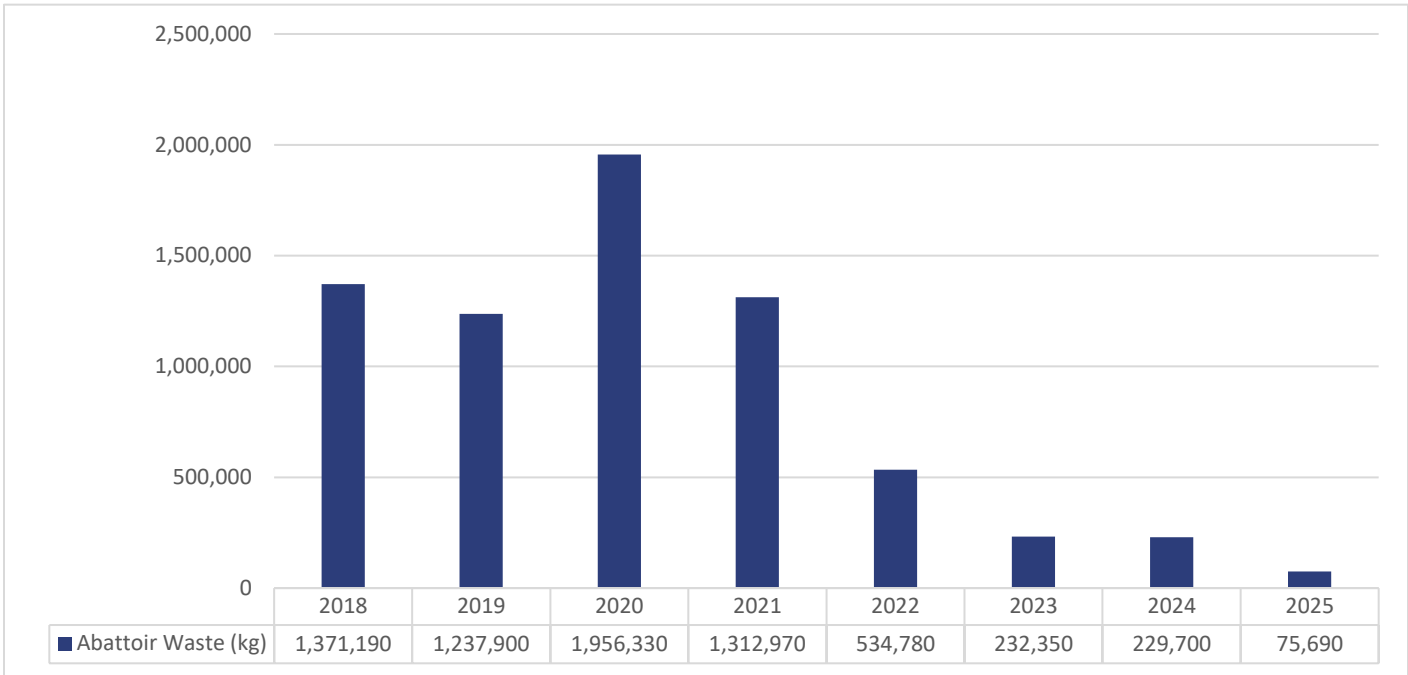
Environmental Compliance Approval (ECA) #1696-BPLL4R requires monthly sampling of Imported Sewage.

Abattoir Waste

Waste from local Abattoirs is hauled to the Lindsay WPCP and deposited into Lagoon #5, which acts as a storage lagoon. During high flow event, excess raw water from the collection system is diverted into Lagoon #5 where it is stored until the collection system flows subside enough to feed the water in Lagoon #5 back into the facility inlet to be treated. The abattoir waste mixes with the raw water in Lagoon #5 and is returned to the wastewater treatment plant through the inlet.

Trucks hauling abattoir waste are weighed at the Lindsay Landfill inbound scale and the outbound scale and the difference between the two readings is the amount of abattoir waste deposited into Lagoon #5. The amount of abattoir waste deposited in 2025 was 75,690 kg. This was a 67.05% decrease in abattoir waste deposited in 2024.

Graph 14. Historical Abattoir Volume Comparisons

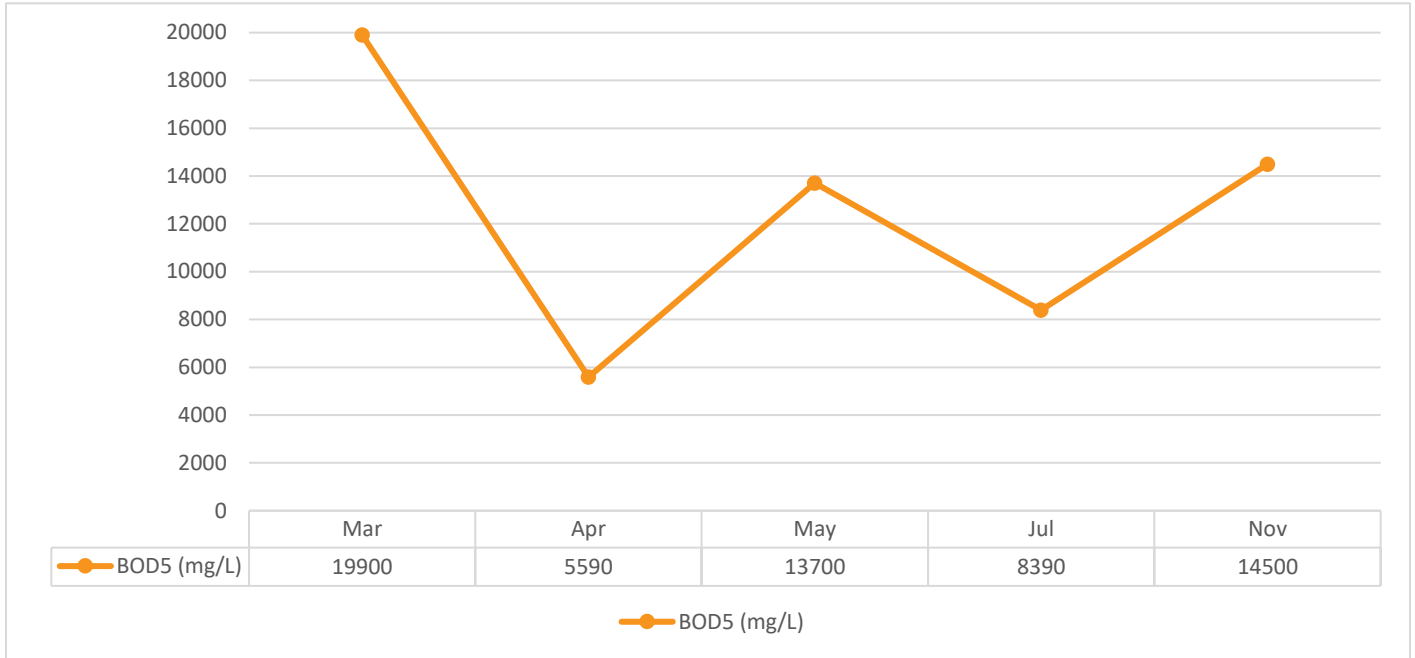


Environmental Compliance Approval (ECA) #1696-BPLL4R requires a grab sample be collected monthly and analyzed for BOD₅, Total Suspended Solids, Total Phosphorus and Total Kjeldahl Nitrogen for each type of imported sewage. Although not required by the ECA, Total Ammonia Nitrogen was sampled and analyzed monthly in 2025. An Abattoir sample was not collected in January, February, June, August, September, October and December 2025. See Section N for further details.

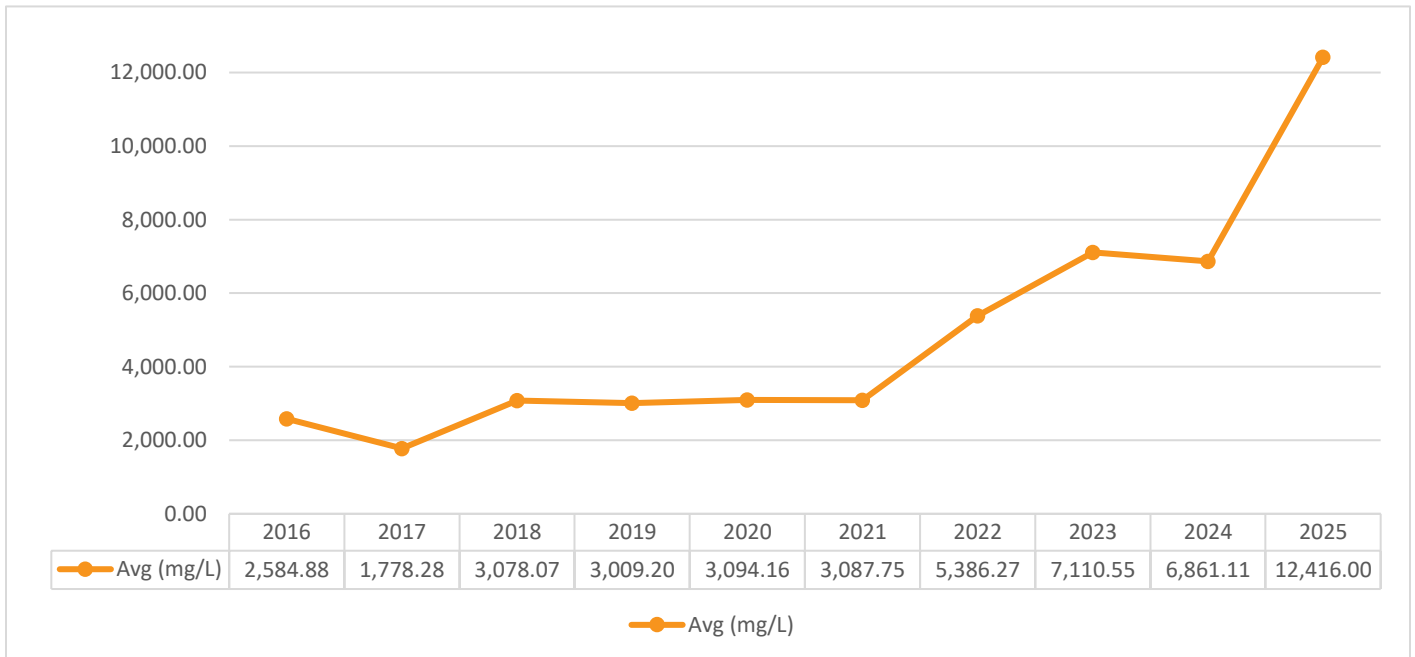
Biochemical Oxygen Demand (BOD₅)

Environmental Compliance Approval (ECA) #1696-BPLL4R requires one grab sample be collected monthly and analyzed for BOD₅. The BOD₅ sample results ranged from 5,590 mg/L to 19,900 mg/L in 2025.

Graph 15. 2025 Monthly BOD₅ Abattoir Waste Sample Results



Graph 16. Historical BOD₅ Abattoir Waste Sample Results 2016 - 2025

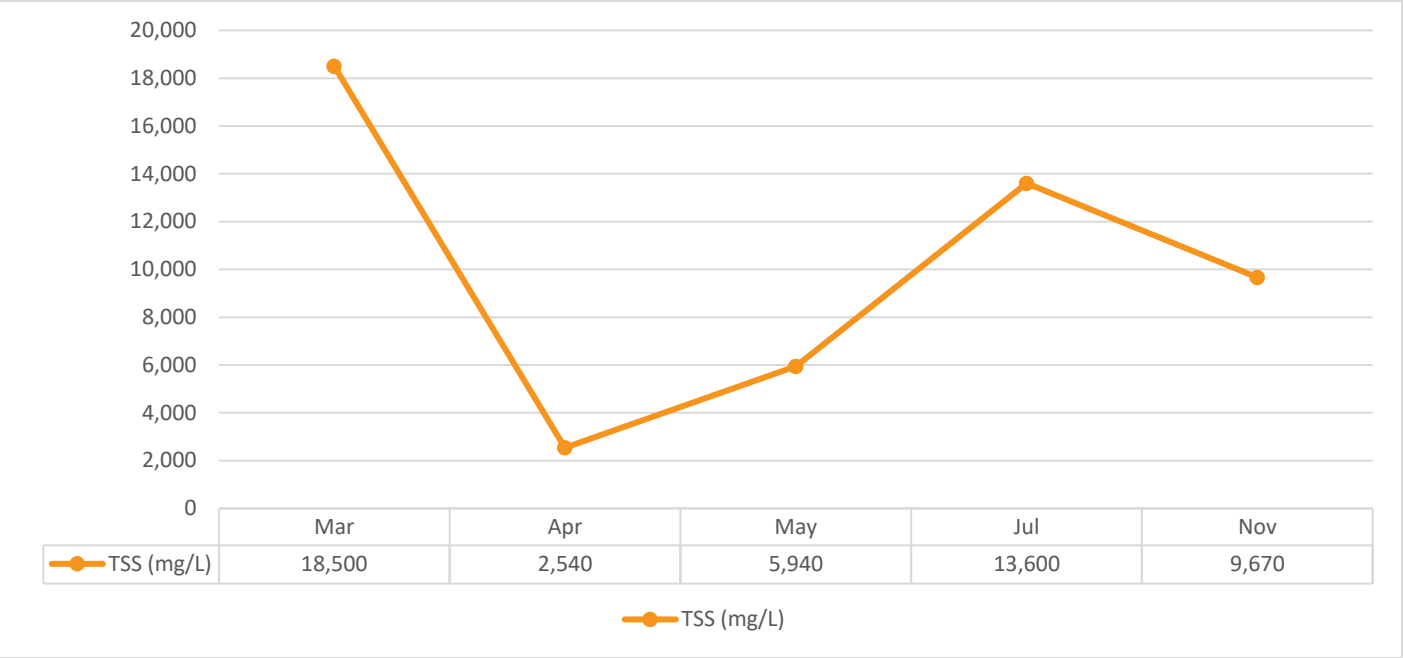


The BOD₅ annual average remained fairly consistent between 2016 and 2021. There was a large increase in average BOD₅ in 2022 and the average BOD₅ has continued to increase into 2025. The minimum annual average concentration occurred in 2017, and the maximum annual average concentration occurred in 2025.

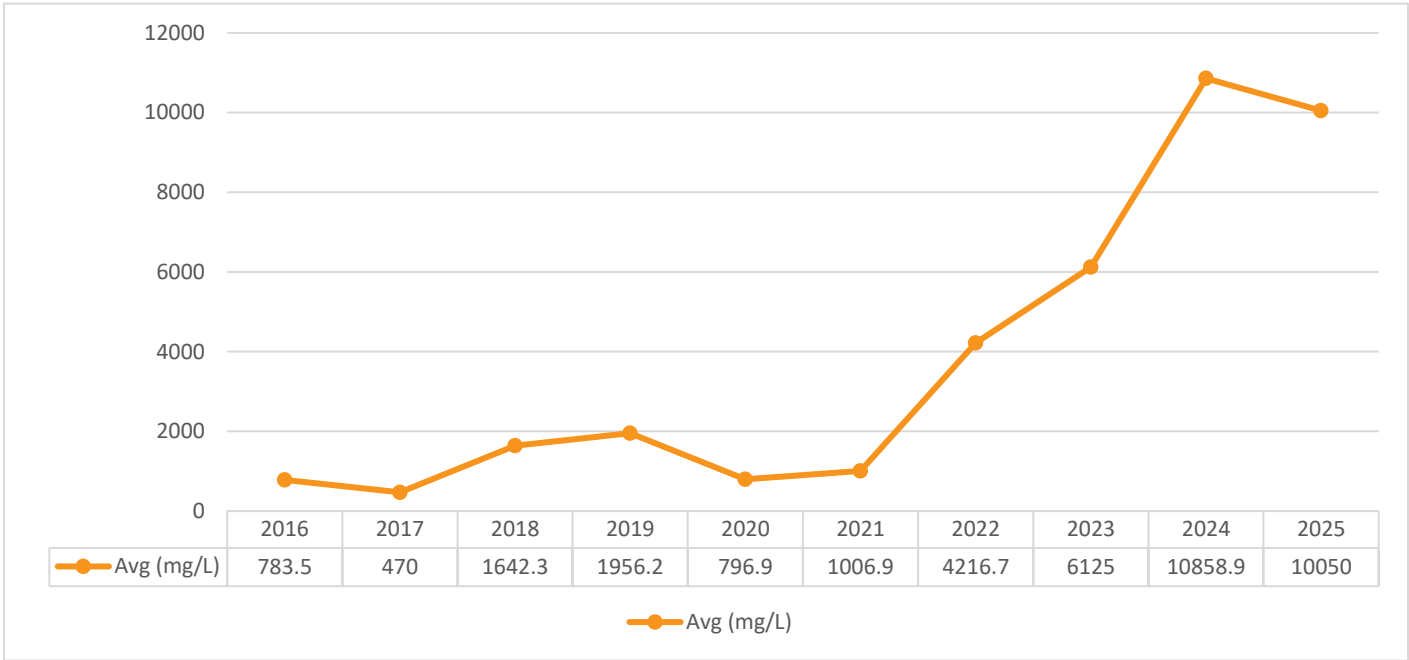
Total Suspended Solids

Environmental Compliance Approval (ECA) #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Suspended Solids. The Total Suspended Solids sample results ranged from 2,540 mg/L to 18,500 mg/L in 2025.

Graph 17. 2025 Monthly Total Suspended Solids Abattoir Waste Sample Results



Graph 18. Historical Total Suspended Solids Abattoir Waste Sample Results 2016 – 2025

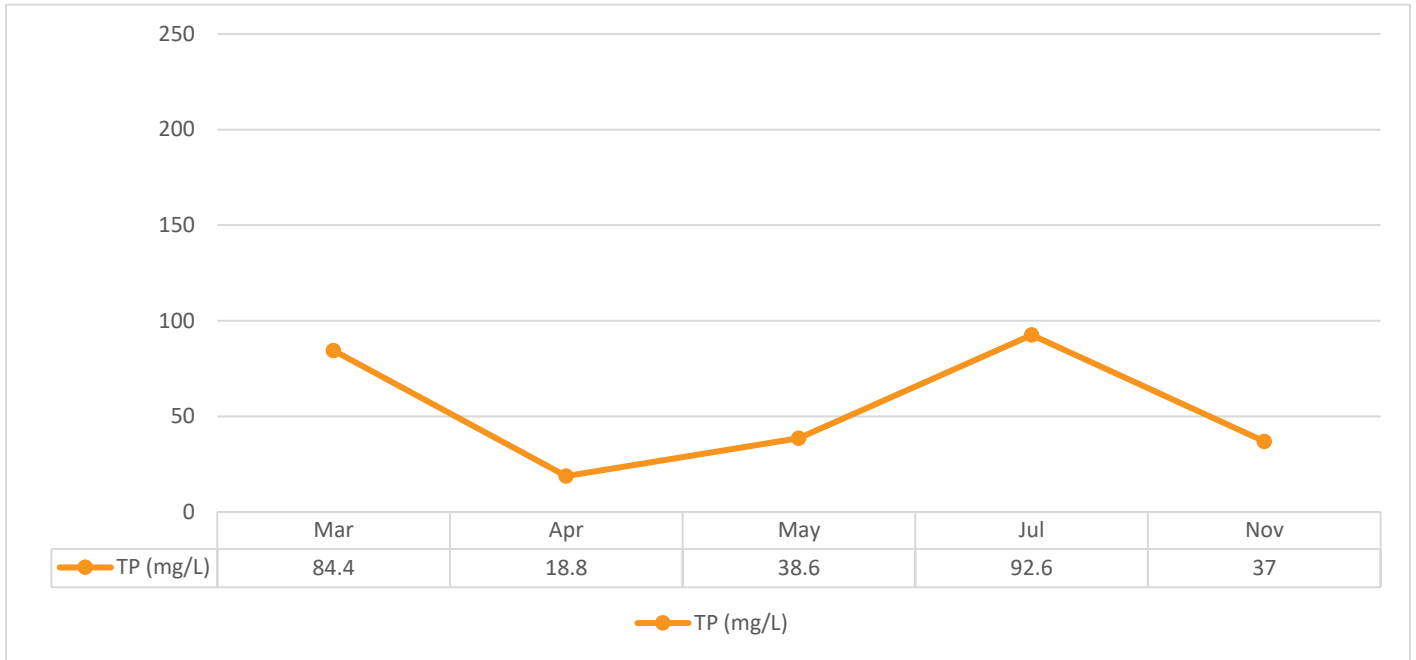


The Total Suspended Solids annual average has remained fairly consistent between 2016 and 2021. There was a significant increase in the annual average in 2022, continuing through 2025. The minimum annual average concentration occurred in 2017, and the maximum annual average concentration occurred in 2024.

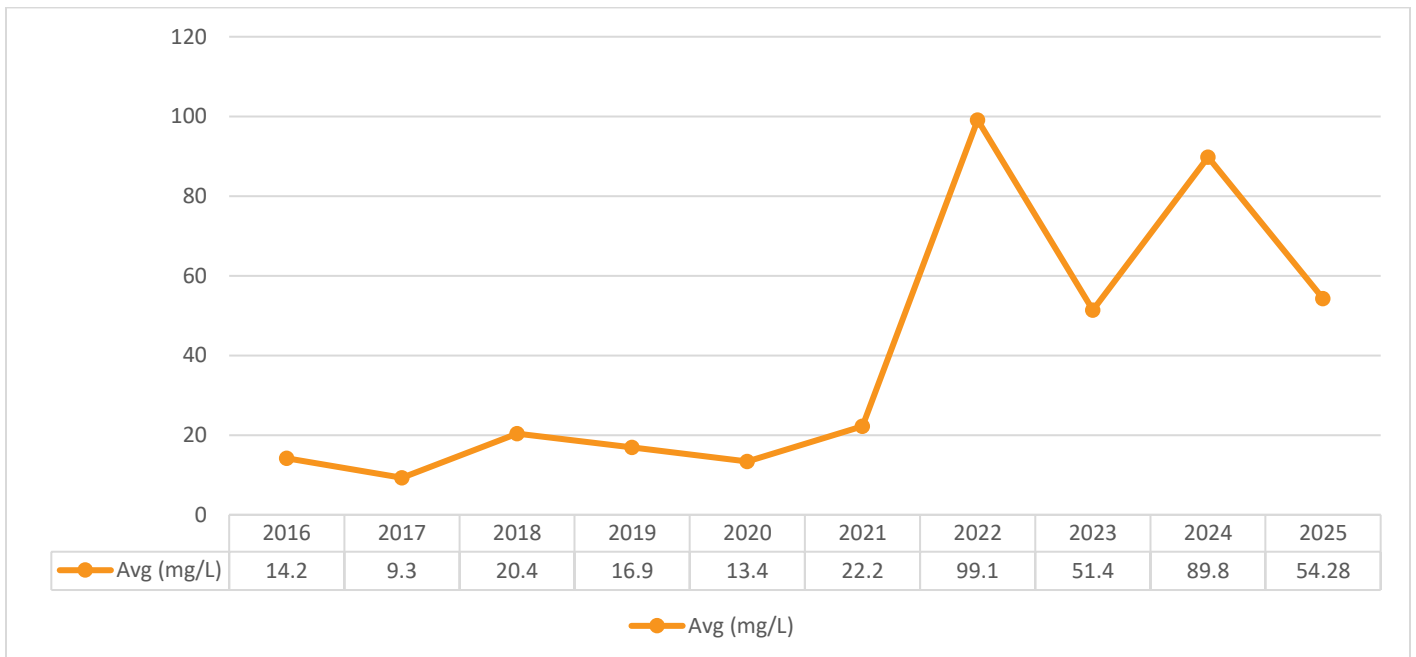
Total Phosphorus

Environmental Compliance Approval (ECA) #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Phosphorus. Results ranged from 18.8 mg/L to 92.6 mg/L in 2025.

Graph 19. 2025 Monthly Total Phosphorus Abattoir Waste Sample Results



Graph 20. Historical Total Phosphorus Abattoir Waste Sample Results 2016 - 2025



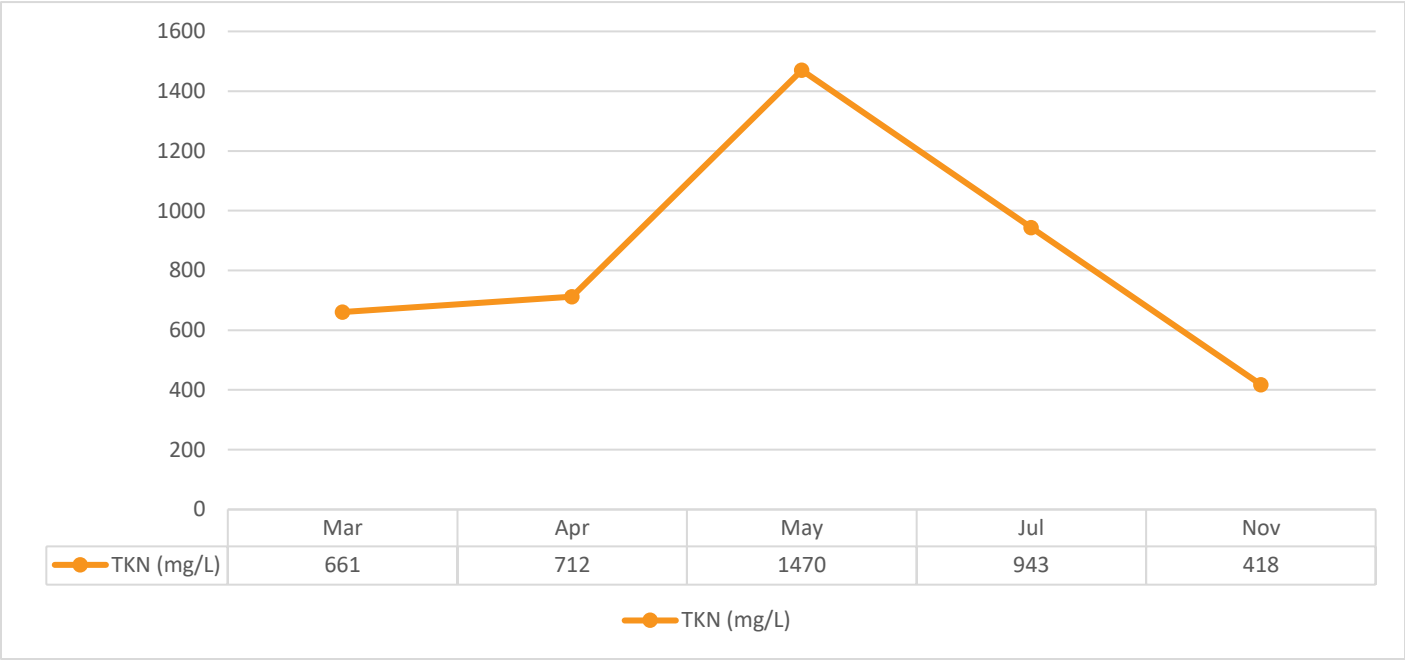
The Total Phosphorus annual average has remained fairly consistent between 2016 and 2021. There was a significant increase in the Total Phosphorus annual average in 2022, but dropping through 2023. There was another increase in the annual average in 2024, but dropping through

2025. The minimum annual average concentration occurred in 2017 and the maximum annual average concentration occurred in 2022.

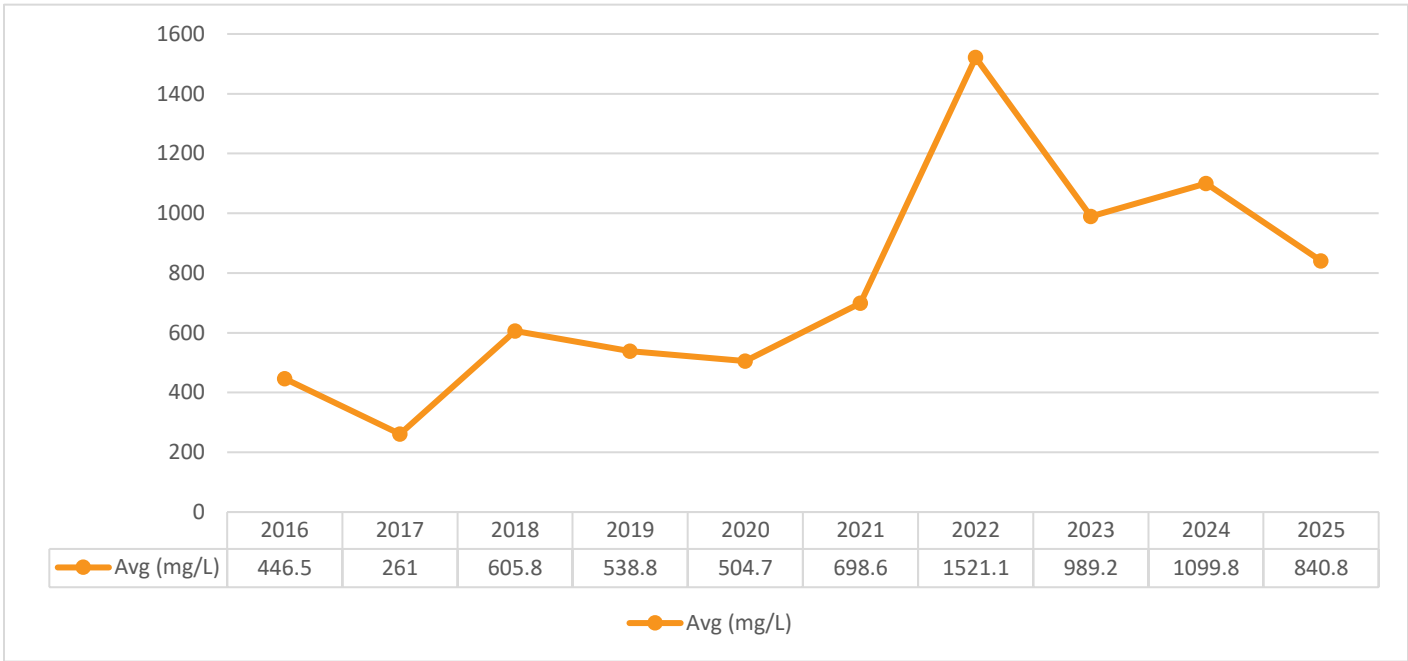
Total Kjeldahl Nitrogen (TKN)

Environmental Compliance Approval (ECA) #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Kjeldahl Nitrogen. The Total Kjeldahl Nitrogen results ranged from 418 mg/L to 1,470 mg/L in 2025.

Graph 21. 2025 Monthly Total Kjeldahl Nitrogen Abattoir Waste Sample Results



Graph 22. Historical Total Kjeldahl Nitrogen Abattoir Waste Sample Results 2016 - 2025

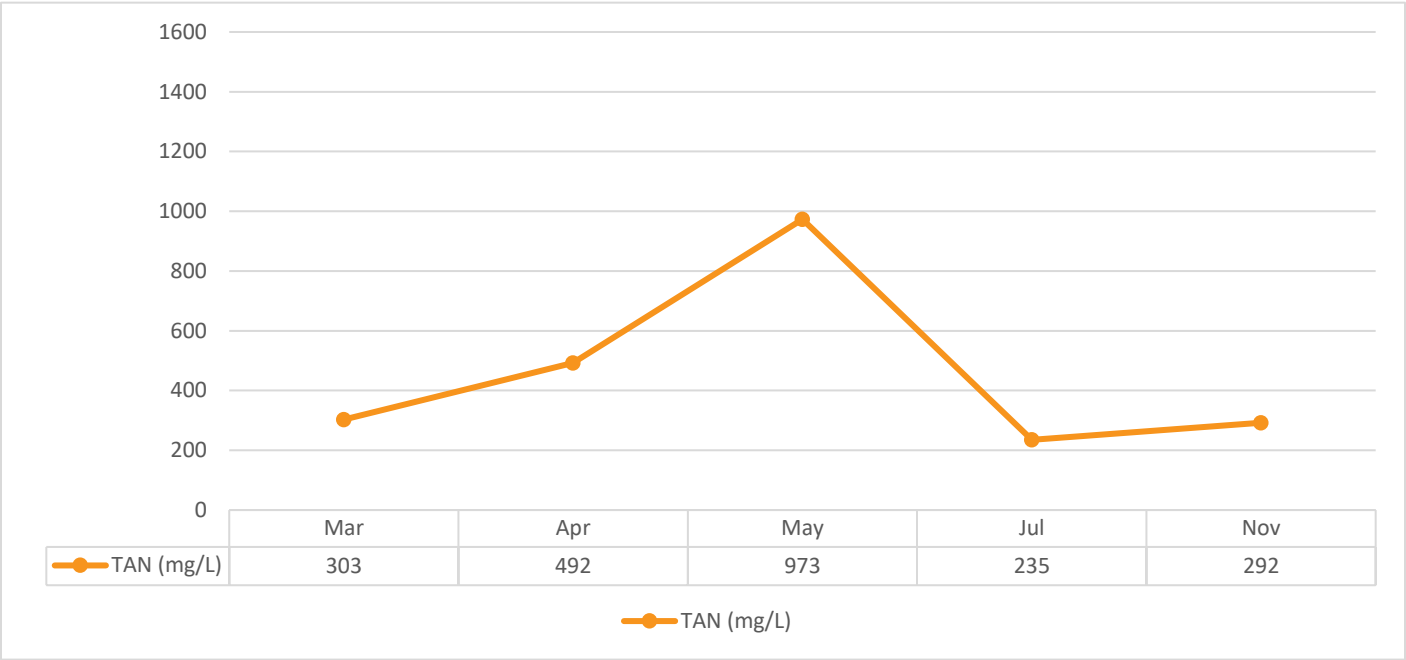


The Total Kjeldahl Nitrogen annual average has ranged between 261.0 mg/L and 1,521.1 mg/L. The minimum annual average concentration occurred in 2017 and the maximum annual average occurred in 2022. There was a significant increase from 2021 to 2022 with a decrease from 2022 to 2023. There was a slight increase from 2023 to 2024 with a decrease from 2024 to 2025.

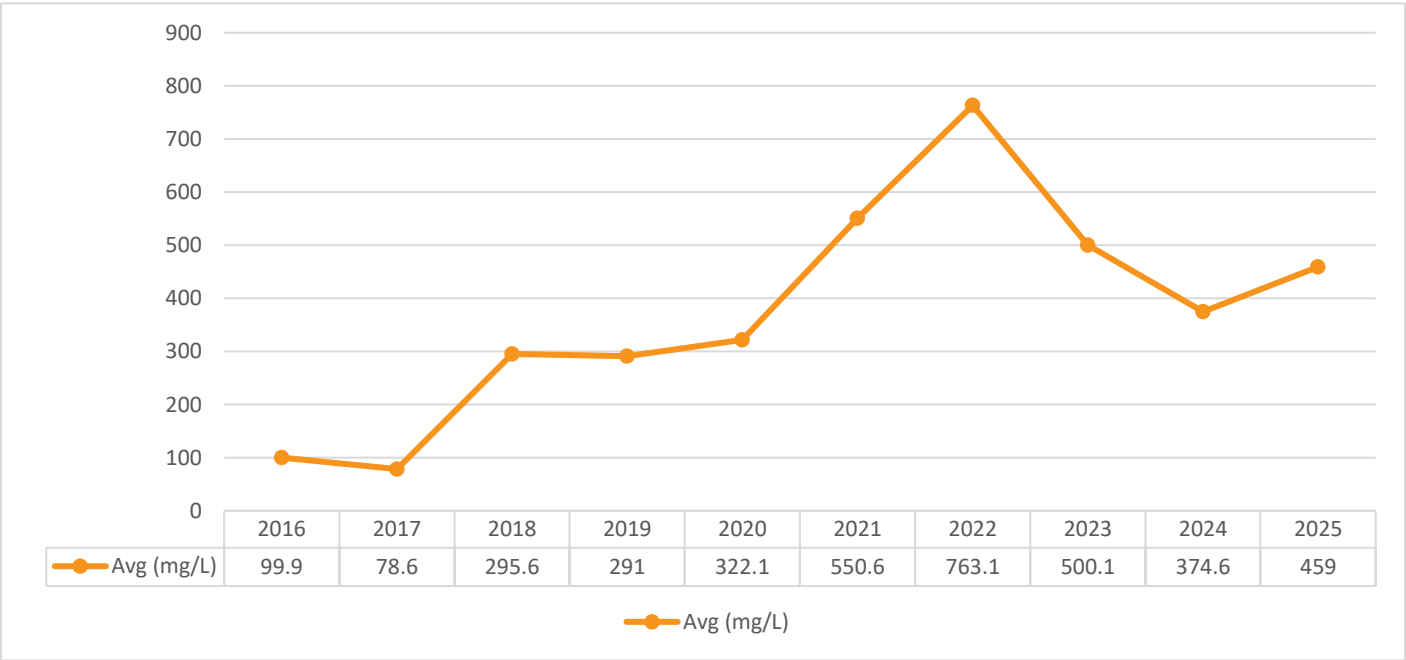
Total Ammonia Nitrogen (TAN)

One grab sample was collected of the Abattoir waste each month in 2025 and analyzed for Total Ammonia Nitrogen. The results ranged from 235 mg/L to 973 mg/L.

Graph 23. 2025 Monthly Total Ammonia Nitrogen Abattoir Waste Sample Results



Graph 24. Historical Total Ammonia Nitrogen Abattoir Waste Sample Results 2016 - 2025



Since 2016, the Total Ammonia Nitrogen annual average has fluctuated between 78.6 mg/L and 763.1 mg/L. The minimum annual average concentration occurred in 2017 and the maximum

annual average concentration occurred in 2022. There has been a steady increase in the annual average concentration since 2020 to 2022. There has been a steady decrease in the annual average concentration since 2022 to 2024, with an increase in 2025.

Receiving Station

Environmental Compliance Approval (ECA) #1696-BPLL4R requires a grab sample monthly of the Receiving Station Waste, testing for BOD₅, Total Suspended Solids, Total Phosphorus, and Total Kjeldahl Nitrogen. Although not required by the ECA, Total Ammonia Nitrogen was sampled and analyzed monthly in 2025.

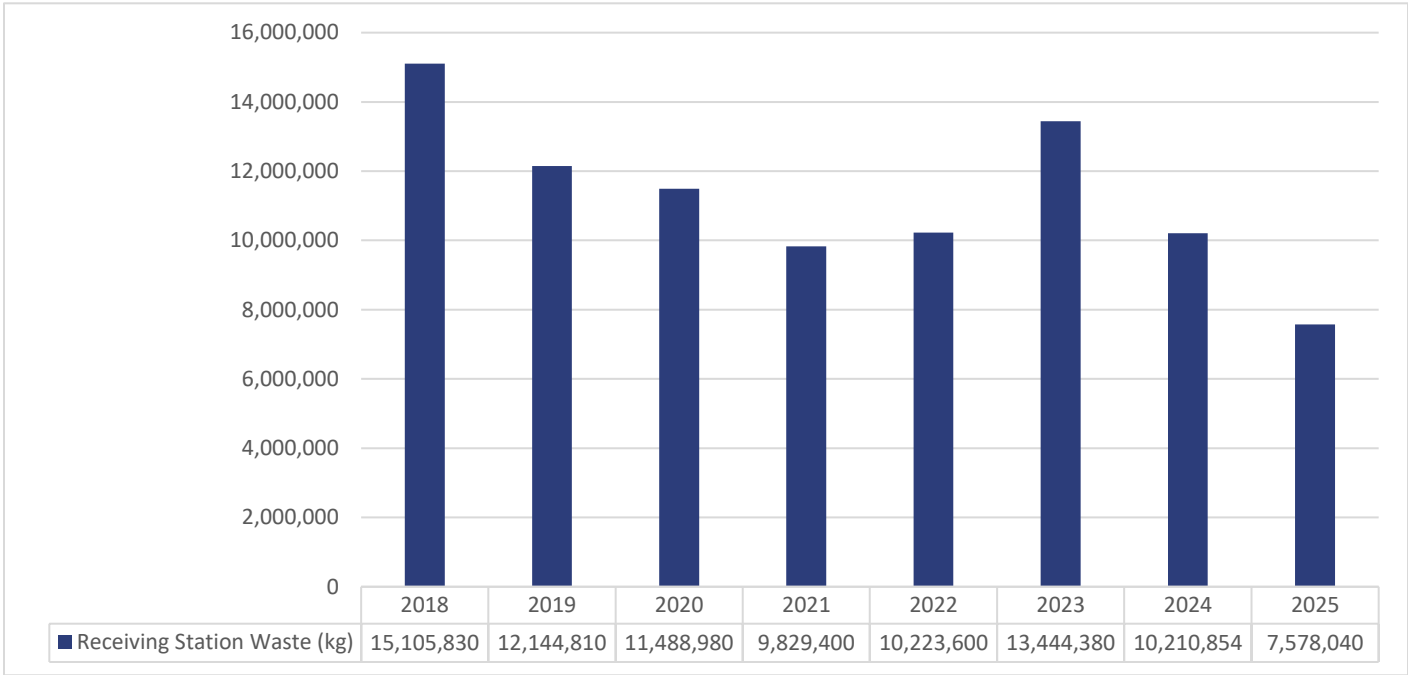
As sampling of the Receiving Station Waste began in November 2018 a historical review of the results is limited. The 2018 – 2025 results are included below. It should be noted that the sewage from the Receiving Station flows to the Inlet Building where the Inlet (Raw) samples are collected, so Receiving Station water would form a portion of the Inlet (Raw) sample results.

Table 1. Historical Receiving Station Sample Results

Parameter	Nov/Dec 2018	2019 Annual	2020 Annual	2021 Annual	2022 Annual	2023 Annual	2024 Annual	2025 Annual
BOD ₅ (mg/L)	3492	3094.2	4549.4	4797.77	5545.17	4408.4	3800.58	2686.67
Total Suspended Solids (mg/L)	1810	5397.5	8390.0	7046.85	6165.58	8034.4	7045.67	4772.58
Total Phosphorus (mg/L)	18.6	128.75	106.42	132.5	149.72	93.6	108.18	99.39
Total Kjeldahl Nitrogen (mg/L)	150	2239.5	1238.4	1148.05	2120.5	1225.7	1045.08	541.08
Total Ammonia Nitrogen (mg/L)	80.25	1417.8	753.74	788.35	1081.24	841.1	859.5	398.40

Trucks hauling waste are weighed at the Lindsay Ops Landfill inbound scale prior to arriving at the Receiving Station and again at the outbound scale after leaving the Receiving Station. The difference between the two scale readings is the amount of waste deposited into the Lagoon Rd. Receiving Station. The amount of waste deposited into the receiving station in 2025 was 7,578,040 kg. This was a 25.78 % decrease in receiving station waste deposited in 2024.

Graph 25. Historical Receiving Station Volume Comparisons



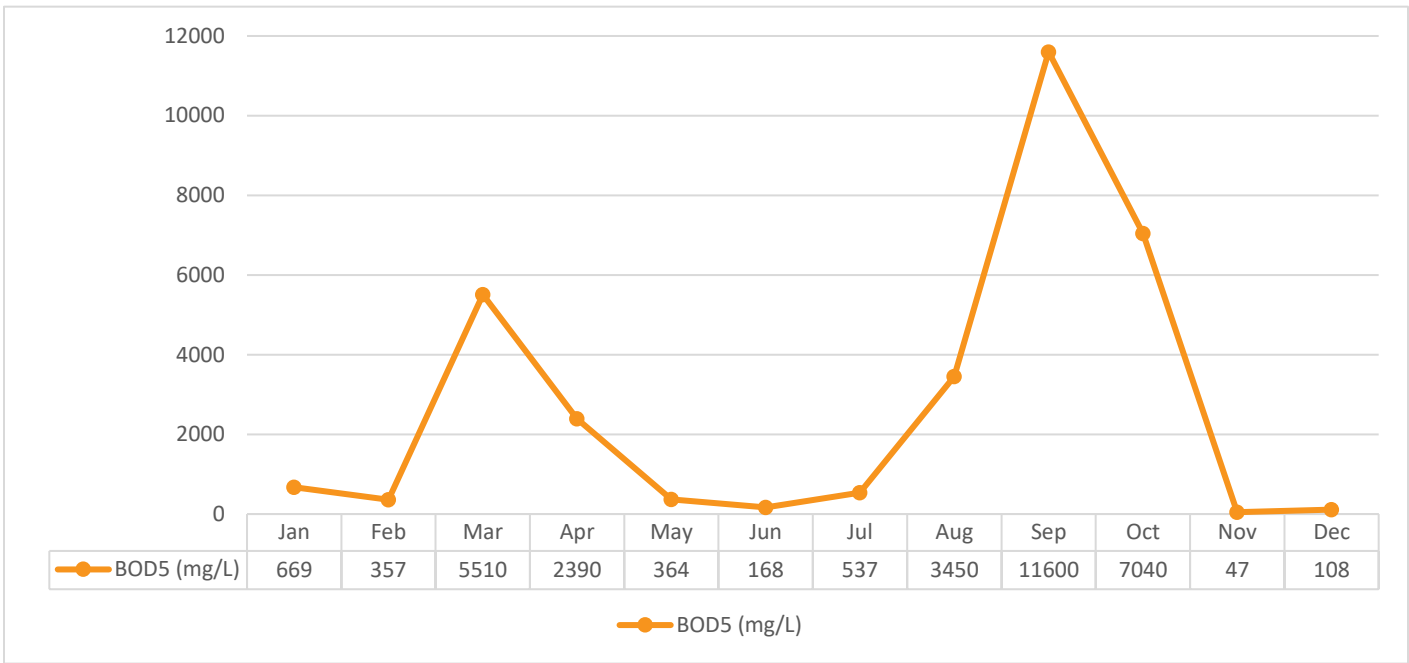
Sample Results

Environmental Compliance Approval (ECA) #1696-BPLL4R requires a grab sample be collected monthly and analyzed for BOD₅, Total Suspended Solids, Total Phosphorus and Total Kjeldahl Nitrogen. Although not required by the ECA, Total Ammonia Nitrogen was sampled and analyzed monthly in 2025.

Biochemical Oxygen Demand (BOD₅)

Environmental Compliance Approval (ECA) #1696-BPLL4R requires one grab sample be collected monthly and analyzed for BOD₅. The BOD₅ sample results ranged from 47 mg/L to 11,600 mg/L in 2025.

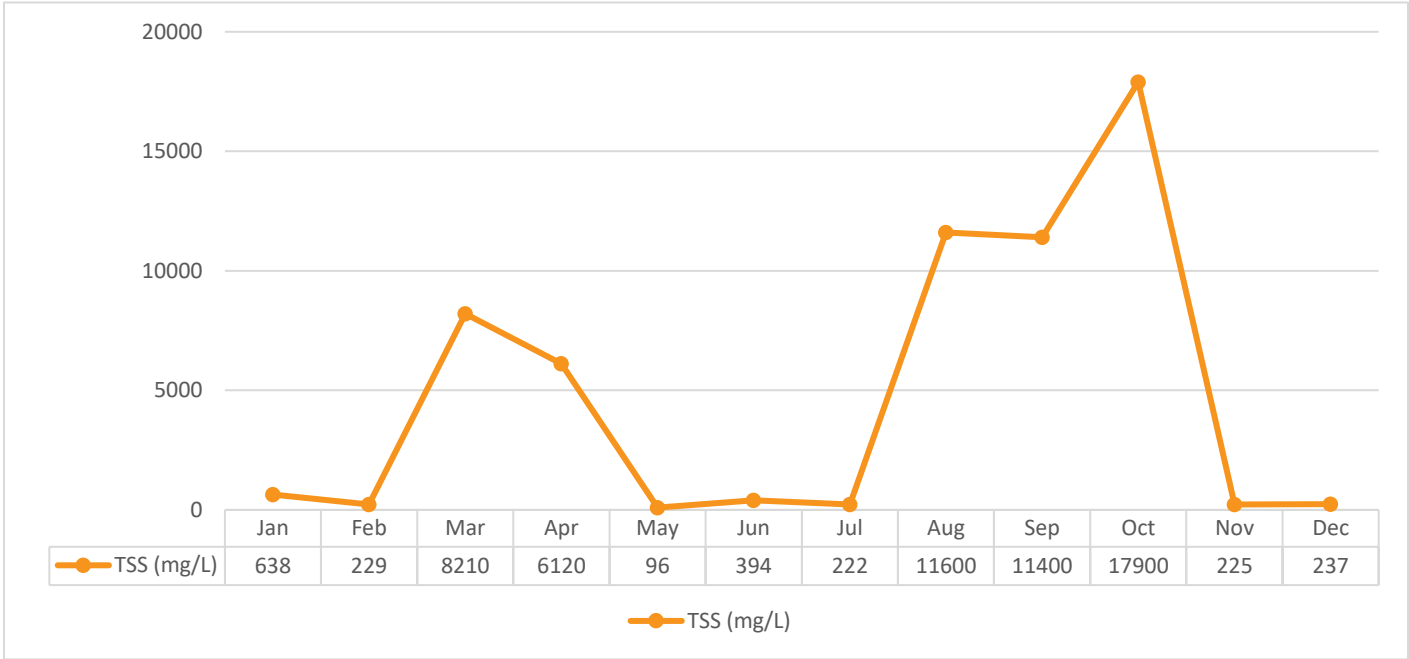
Graph 26. 2025 Monthly BOD₅ Receiving Station Waste Sample Results



Total Suspended Solids (TSS)

Environmental Compliance Approval (ECA) #1696-BPLL4R requires a grab sample be collected monthly and analyzed for Total Suspended Solids. The Total Suspended Solids sample results ranged from 96 mg/L to 17,900 mg/L in 2025.

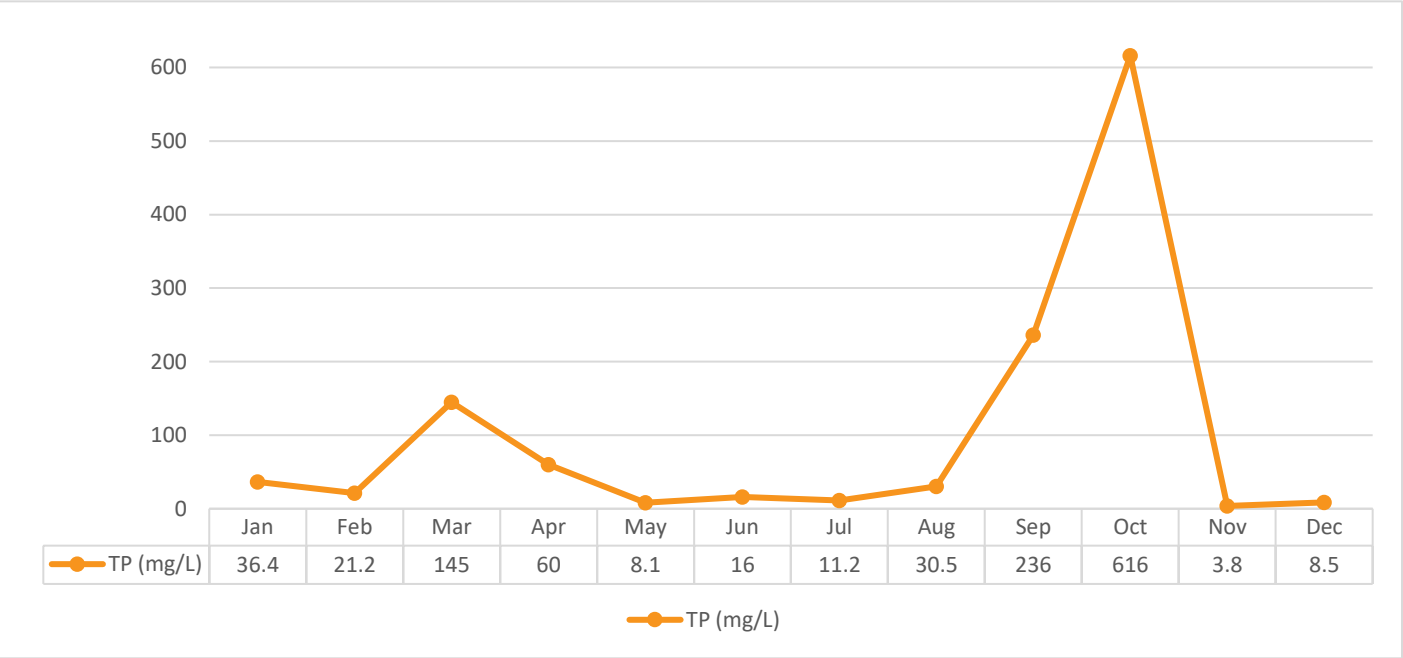
Graph 27. 2025 Monthly Total Suspended Solids Receiving Station Waste Sample Results



Total Phosphorus (TP)

Environmental Compliance Approval (ECA) #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Phosphorus. Results ranged from 8.1 mg/L to 616 mg/L in 2025.

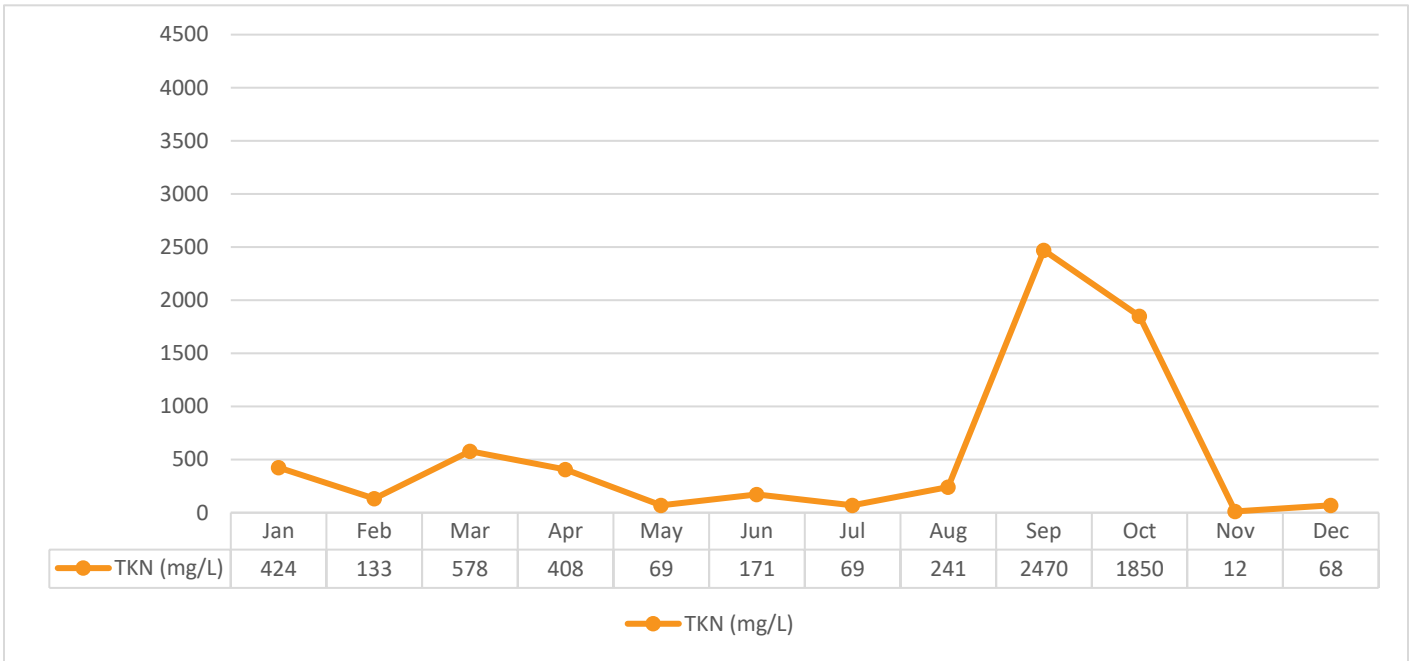
Graph 28. 2025 Monthly Total Phosphorus Receiving Station Waste Sample Results



Total Kjeldahl Nitrogen (TKN)

Environmental Compliance Approval (ECA) #1696-BPLL4R requires one grab sample be collected monthly and analyzed for Total Kjeldahl Nitrogen. Monthly Total Kjeldahl Nitrogen results ranged from 12 mg/L to 2,470 mg/L in 2025.

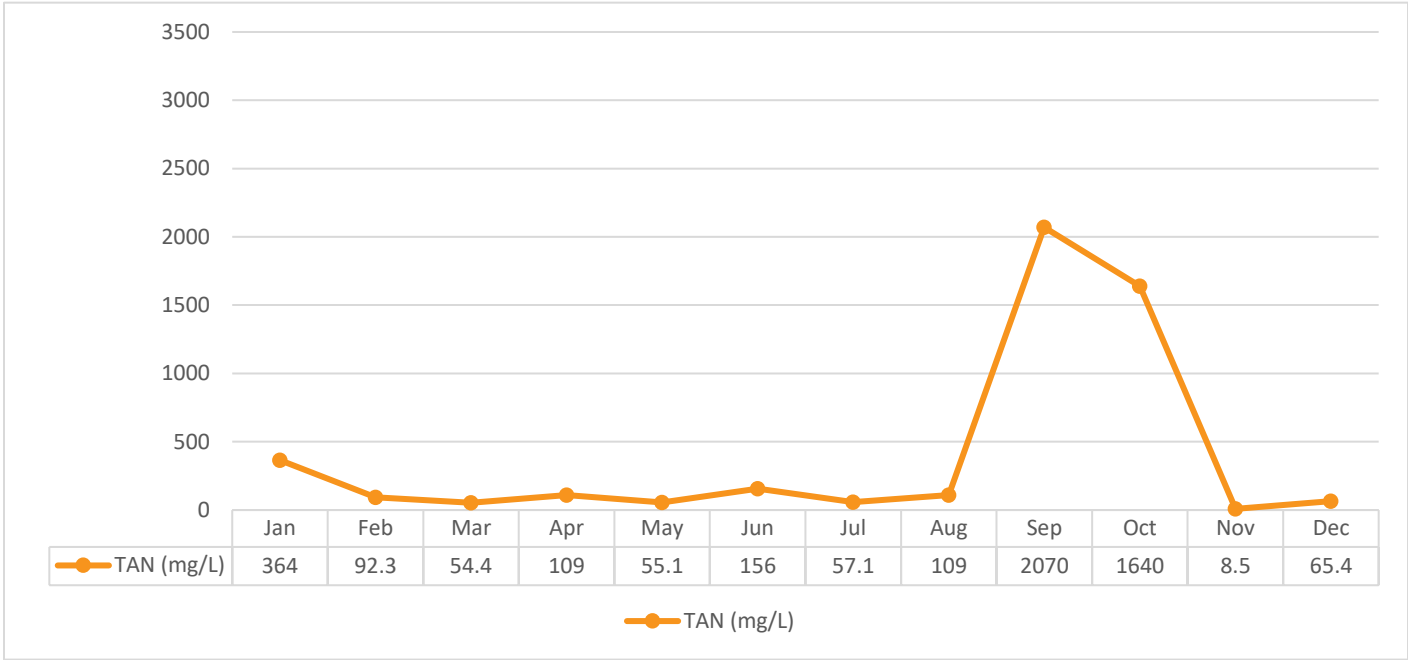
Graph 29. 2025 Monthly Total Kjeldahl Nitrogen Receiving Station Waste Sample Results



Total Ammonia Nitrogen (TAN)

One grab sample was collected from the Receiving Station waste each month in 2025 and analyzed for Total Ammonia Nitrogen. The monthly average concentration results ranged from 8.5 mg/L to 2,070 mg/L.

Graph 30. 2025 Monthly Total Ammonia Nitrogen Receiving Station Waste Sample Results



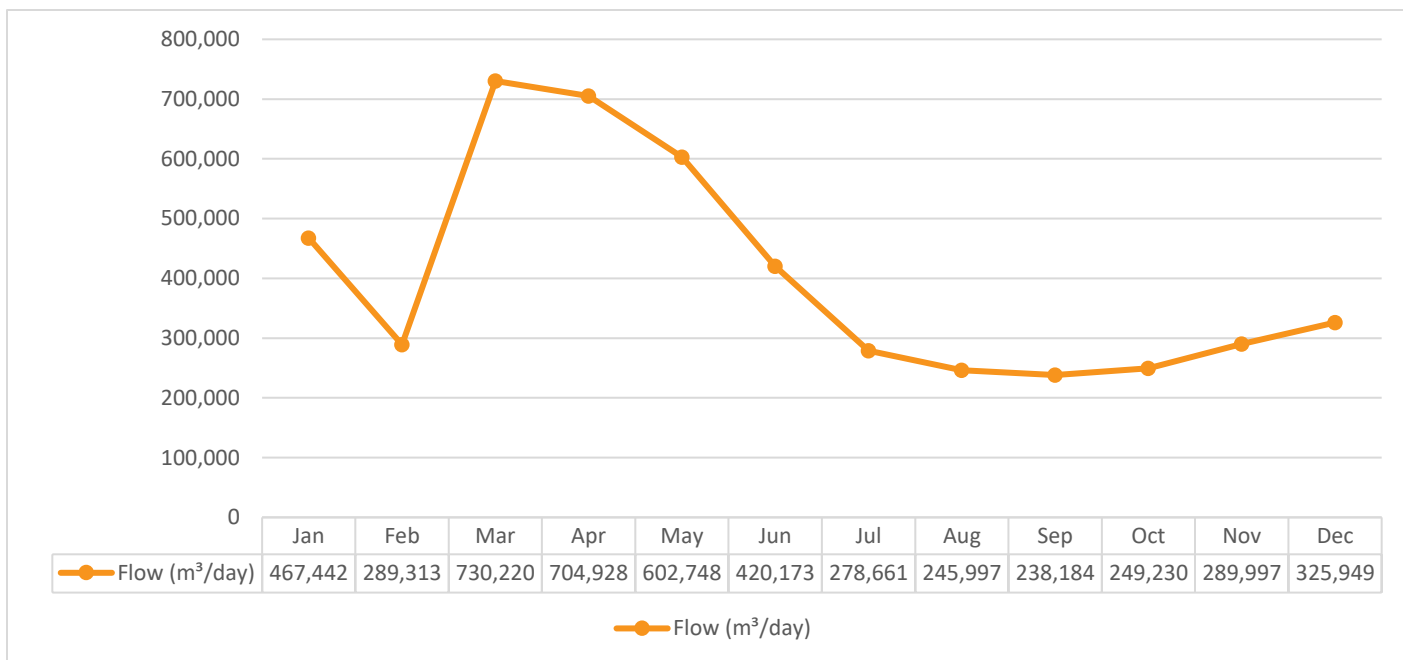
Summary of Final Effluent Monitoring Data to Limits and Objectives

(b) Environmental Compliance Approval (ECA) #1696-BPLL4R requires a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits, including an overview of the success and adequacy of the works be included in the report.

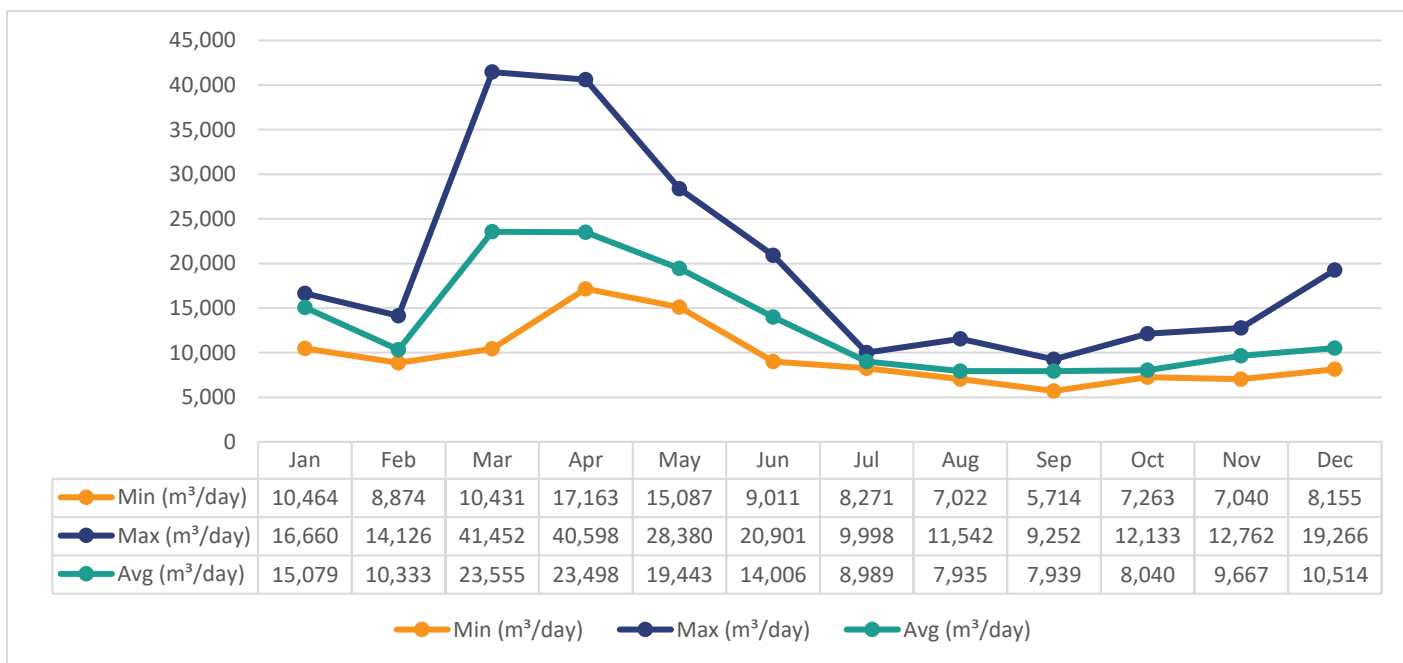
The 2025 Lindsay WPCP annual average daily Effluent flow was 13,268.06 m³/day and the total Effluent flow in 2025 was 4,842,842 m³.

Effluent Flow Monthly Totals

Graph 31. 2025 Final Effluent Monthly Flows



Graph 32. 2025 Final Effluent Daily Minimum, Maximum and Average Flows



Note: See **Table 8: 2025 Lindsay WWTP Operational Challenges** for information when final effluent totalized daily flow exceeded the limit set out in ECA #1696-BPLL4R

Final Effluent Lab Results

With the substantial completion of Phase 1 Upgrade and Expansion project at the Lindsay WPCP, new limits as outlined in Environmental Compliance Approval (ECA) #1696-BPLL4R Schedule B and C came into effect. This resulted in changes to Final Effluent parameters design objectives listed in Schedule B, and compliance limits for the Final Effluent parameters listed in the table(s) included in Schedule C. These changes came into effect February 1, 2023.

Table 2. CBOD₅ Objective and Limits

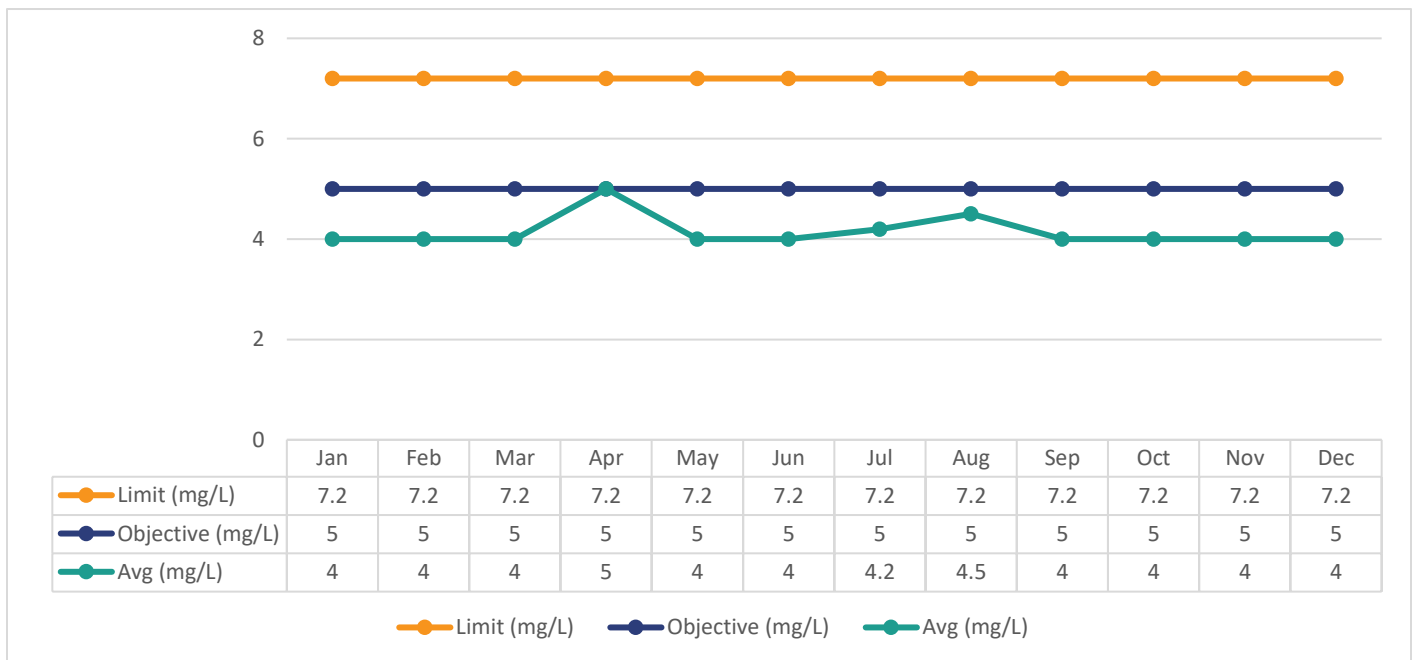
Current	Objective (mg/L)	5.0
	Limit (mg/L)	7.2
	Loading Limit (kg/d)	176.4

Note: The objective, limit and loading limit is a monthly average.

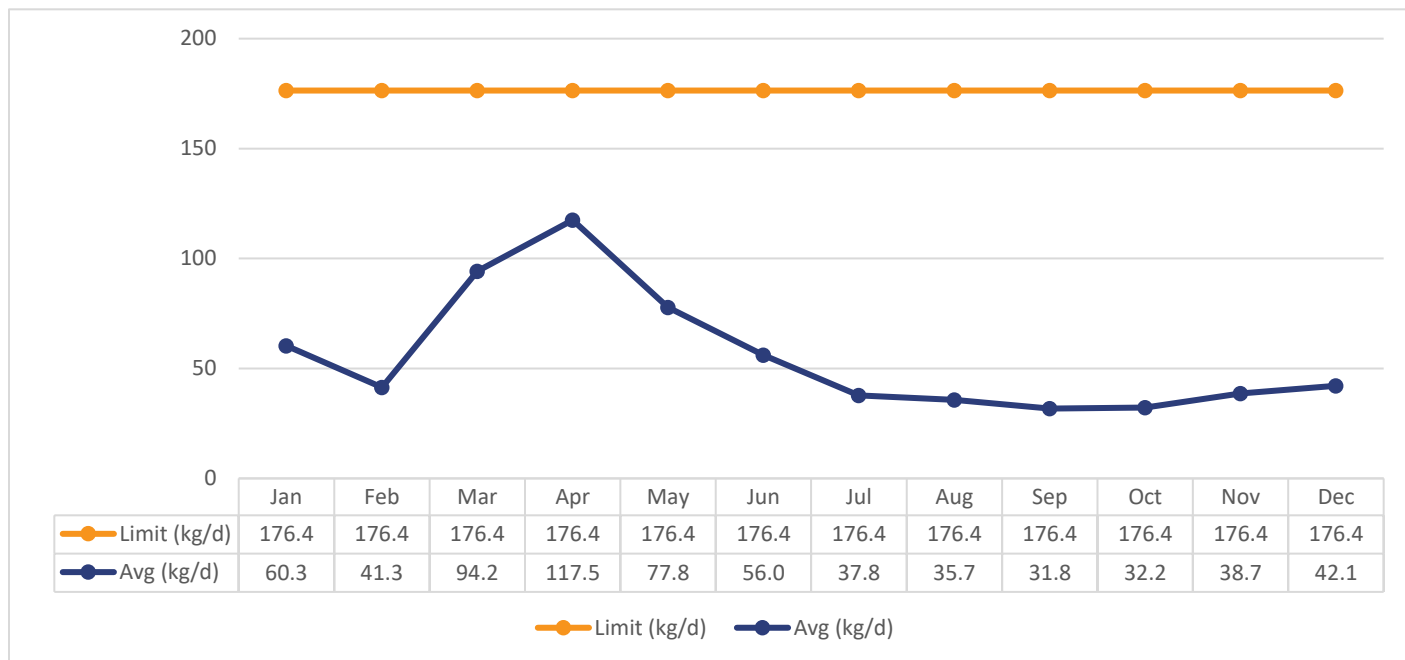
The monthly average concentration results ranged from 4.0 mg/L to 5.0 mg/L in 2025.

The monthly CBOD₅ average concentration results and monthly average waste loading throughout 2025 were in compliance with the limits outlined in the ECA.

Graph 33. 2025 Monthly Final Effluent CBOD₅ Concentration Comparisons



Graph 34. 2025 Monthly Final Effluent CBOD₅ Average Waste Loading Comparisons



Total Suspended Solids (TSS)

The table below outlines the TSS design objectives and compliance limits set in the Environmental Compliance Approval (ECA) #1696-BPLL4R.

Table 3. Total Suspended Solids Objective and Limits

Current	Objective (mg/L)	7.4
	Limit (mg/L)	11.0
	Loading Limit (kg/d)	238.0

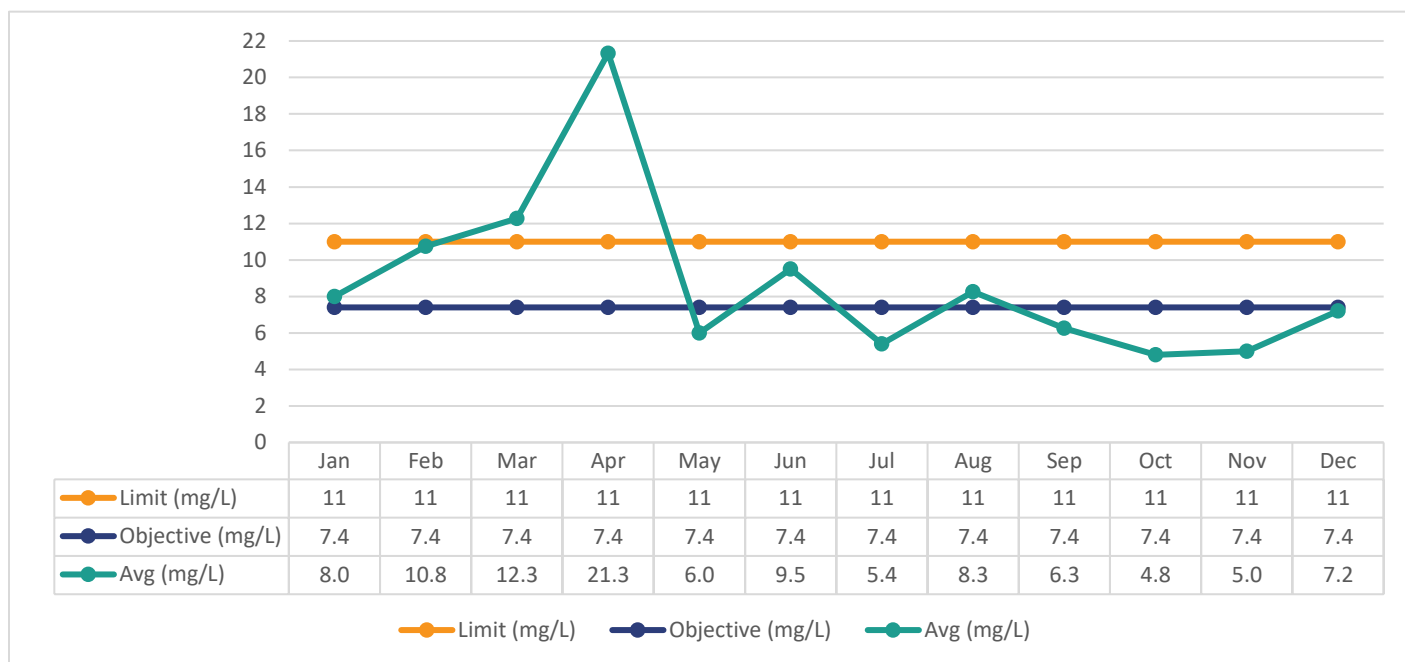
Note: The objective, limit and loading limit is a monthly average.

The monthly average concentration results ranged from 4.8 mg/L to 21.3 mg/L in 2025.

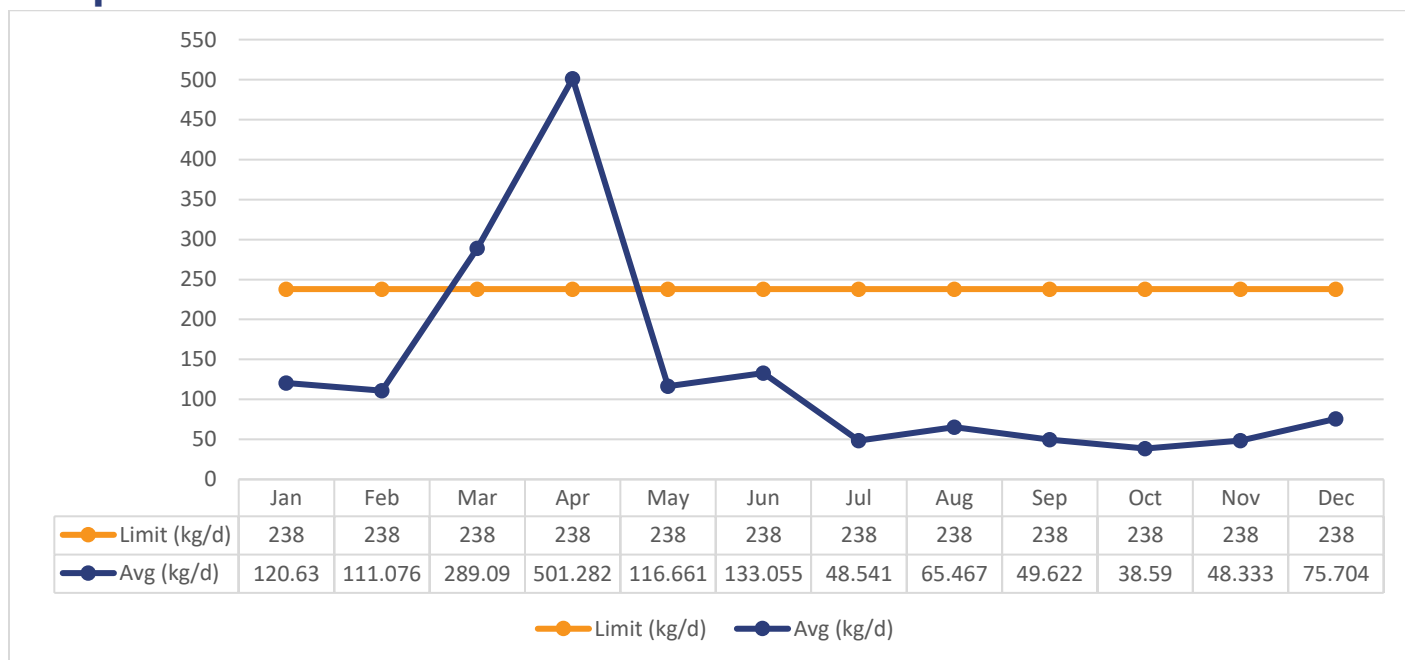
The monthly average waste loading concentration results ranged from 38.59 kg/day to 501.25 kg/day.

The TSS monthly concentration effluent objective was not met in January, February, March, April, June and August in 2025. The TSS monthly concentration limit and the monthly average waste loading concentration limit was not met in March and April. The TSS monthly concentration effluent objective were not met due to high flows from heavy rain and snow melt and having alternating North and South Clarifiers offline due to capital improvements. Throughout 2025, the Total Suspended Solids monthly removal rates ranged from 87.73% to 98.64%.

Graph 35. 2025 Monthly Final Effluent TSS Concentration Comparisons



Graph 36. 2025 Monthly Final Effluent TSS Average Waste Loading Comparisons



Total (Ammonia+Ammonium) Nitrogen (TAN)

The table below outlines the TAN design objectives and compliance limits set in the Environmental Compliance Approval (ECA) #1696-BPLL4R.

Table 4. Total Ammonia Nitrogen Objective and Limits

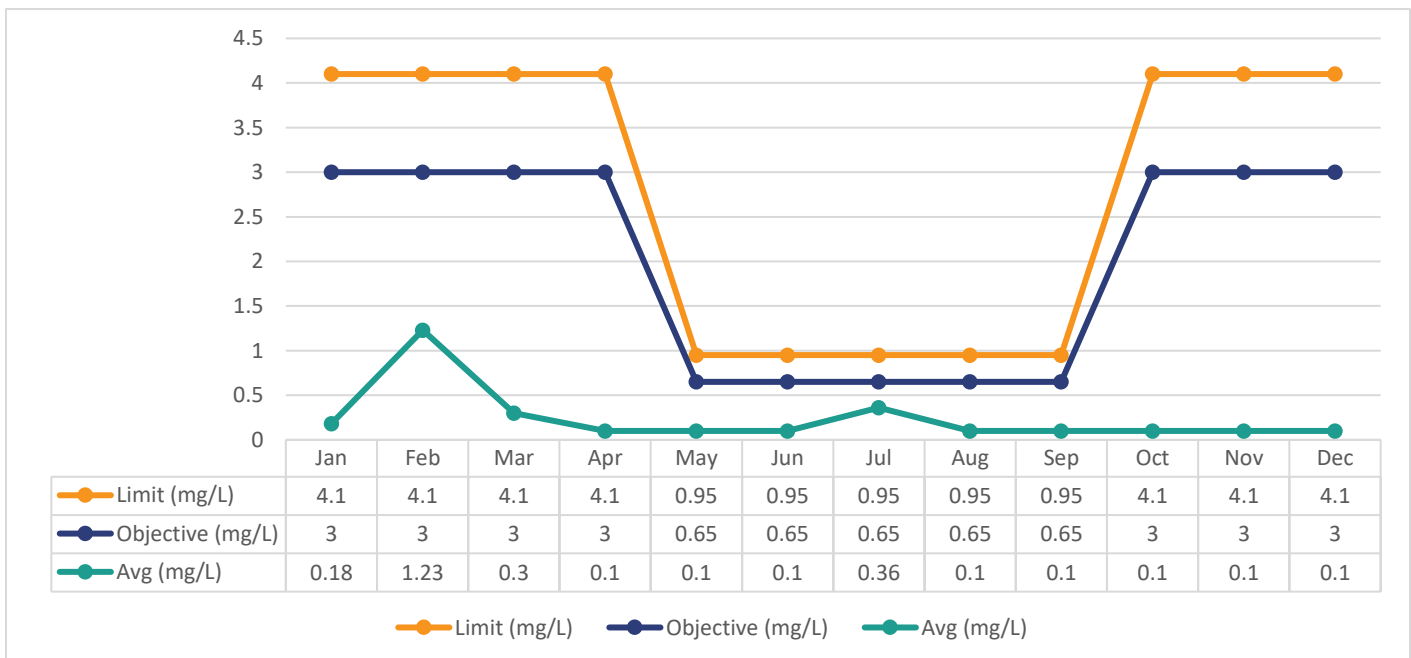
Current	May – Sept 30 Objective (mg/L)	0.65
	Oct 1 – Apr 30 Objective (mg/L)	3.0
	May 1 – Sept 30 Limit (mg/L)	0.95
	Oct 1 – Apr 30 Limit (mg/L)	4.1
	May 1 – Sept 30 Loading Limit (kg/d)	23.4
	Oct 1 – Apr 30 Loading Limit (kg/d)	99.5

Note: The objective, limit and loading limit is a monthly average.

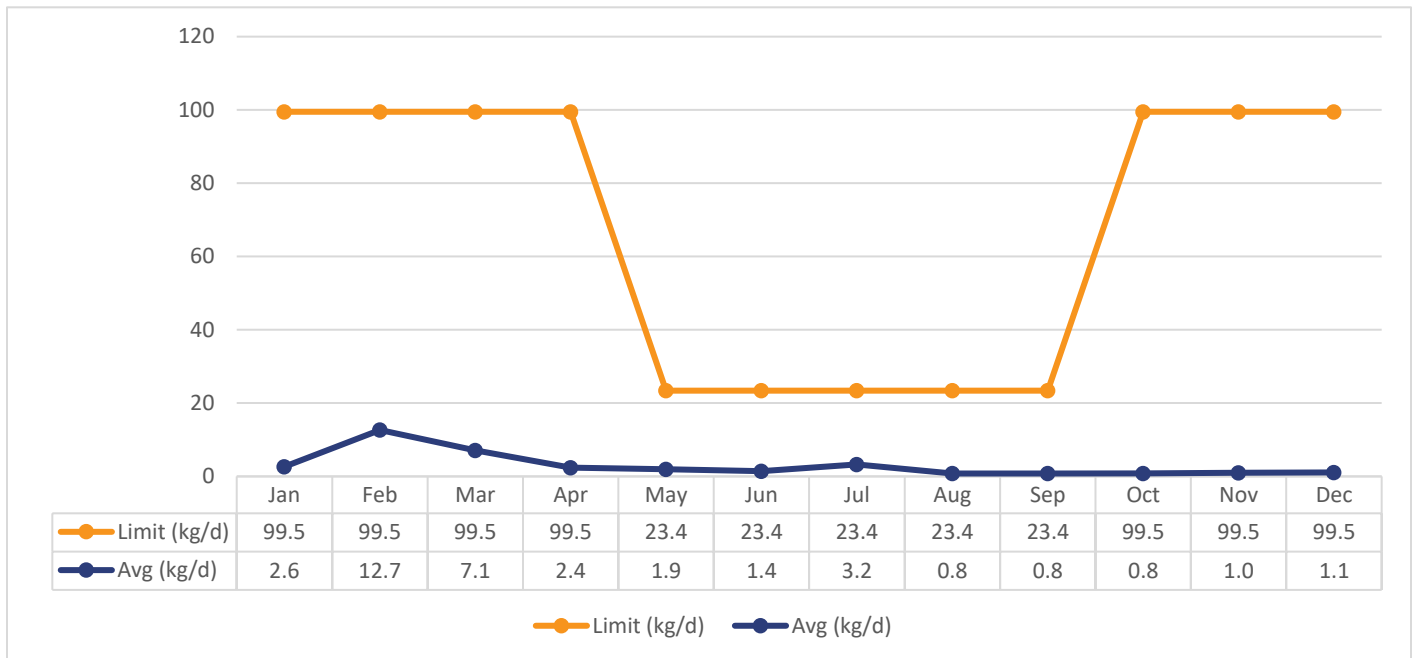
The Lindsay WPCP has seen steady results, very often receiving individual results less than the laboratory method detection limit of 0.1 mg/L throughout 2025.

The monthly Total (Ammonia + Ammonium) Nitrogen average concentration results and monthly average waste loading results throughout 2025 were in compliance with the limits outlined in the ECA.

Graph 37. 2025 Monthly Final Effluent TAN Concentration Comparisons



Graph 38. 2025 Monthly Final Effluent TAN Average Waste Loading Comparisons



Total Phosphorus (TP)

The table below outlines the Total Phosphorus design objectives and compliance limits set in Environmental Compliance Approval (ECA) #1696-BPLL4R.

Table 5. Total Phosphorus Objective and Limits

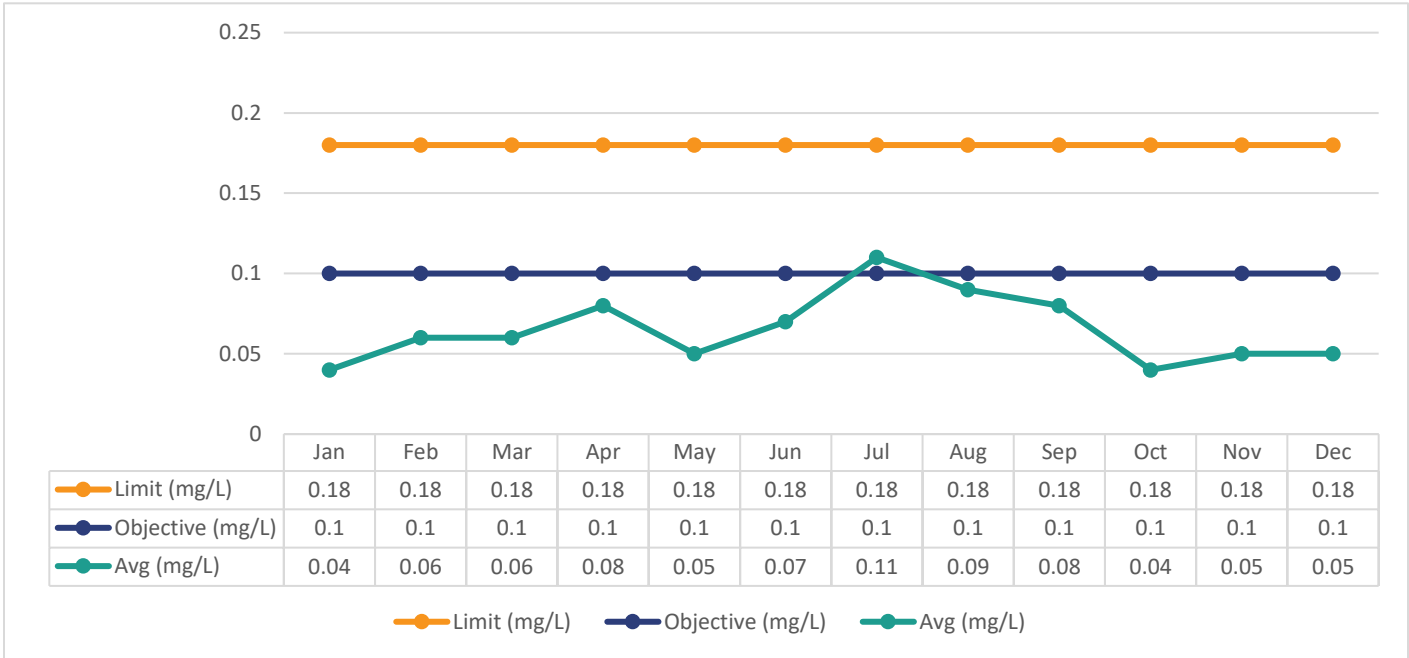
Current	Objective (mg/L)	<0.1
	Limit (mg/L)	0.18
	Loading Limit (kg/d)	4.3

Note: The objective, limit and loading limit is a monthly average.

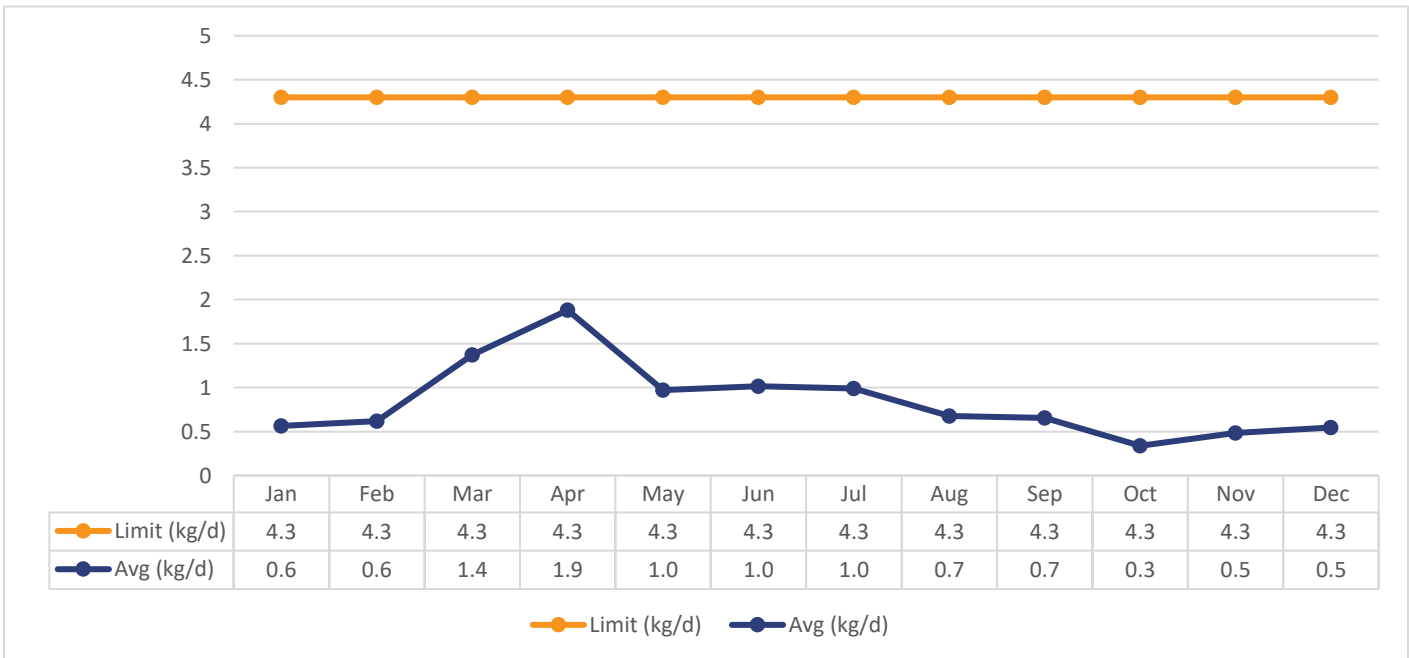
The monthly Total Phosphorus average concentration results throughout 2025 were less than the concentration objectives, except in July and close to the objective in April and August.

The monthly Total Phosphorus average concentration limits and monthly average waste loading limits throughout 2025 were in compliance with the limits outlined in the ECA.

Graph 39. 2025 Monthly Final Effluent Total Phosphorus Concentration Comparisons



Graph 40. 2025 Monthly Final Effluent Total Phosphorus Average Waste Loading Comparisons



E. coli

The table below outlines the *E. coli* design objectives and compliance limits set in Environmental Compliance Approval (ECA) #1696-BPLL4R.

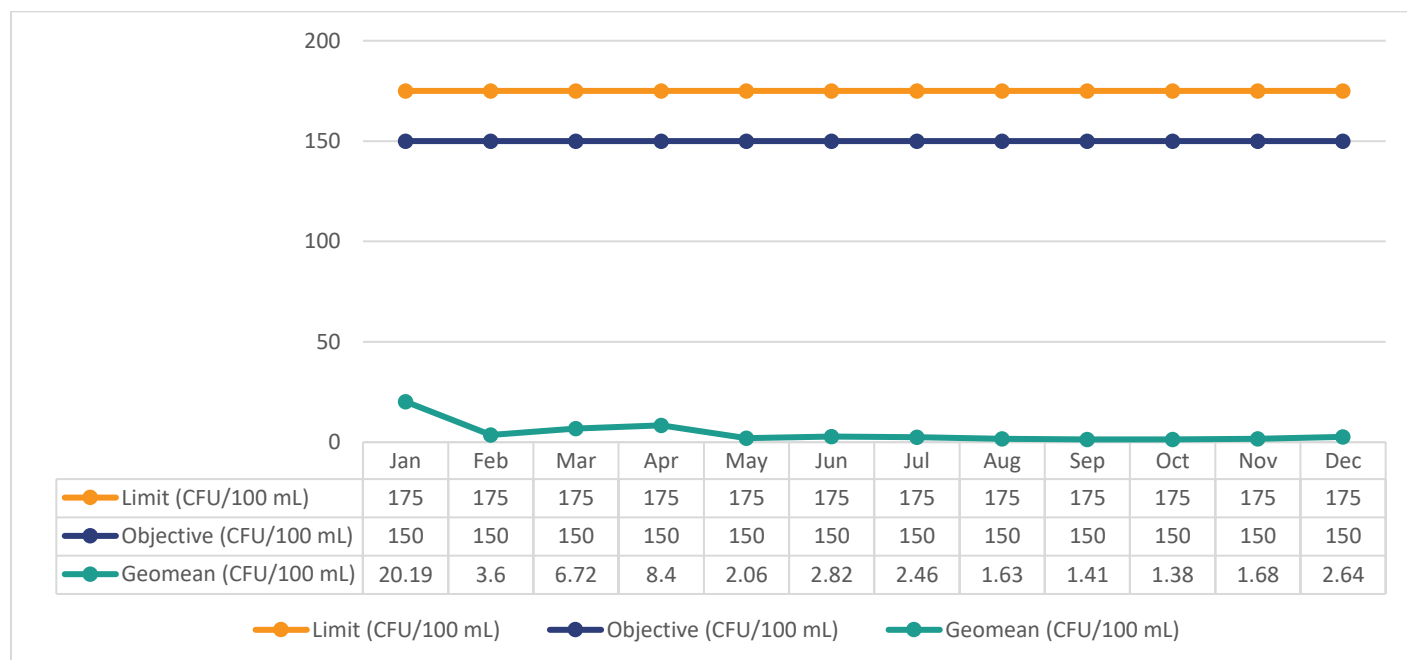
Table 6. *E. coli* Objective and Limits

Current	Objective (CFU/mL)	150 Monthly GMD*
	Limit (CFU/mL)	175 Monthly GMD*

*Geometric Mean Density

The final effluent results were less than the *E. coli* monthly geometric mean density limit and objective throughout 2025.

Graph 41. 2025 Monthly Final Effluent *E. coli* Concentration Comparisons



Acute Lethality to Rainbow Trout and Daphnia Magna

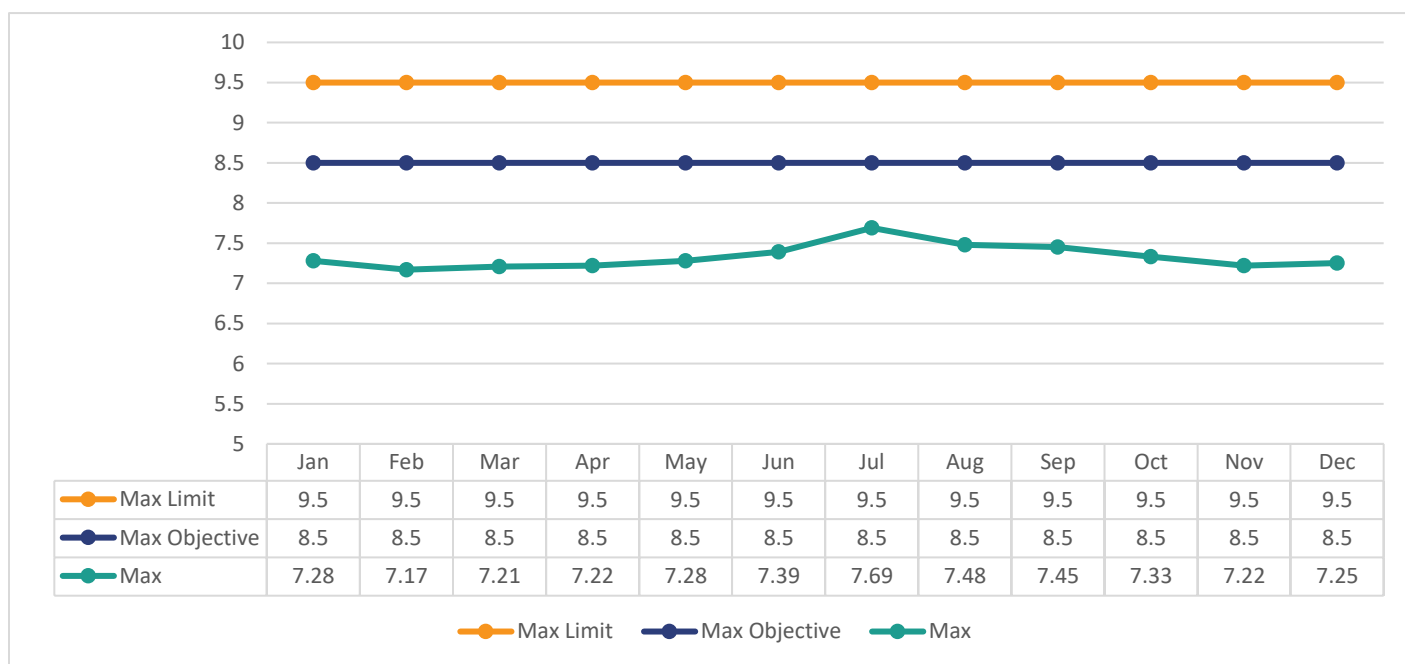
Quarterly effluent samples were collected for analysis for acute lethality to Rainbow Trout and *Daphnia Magna* and a summary of the results are provided in **Appendix I: Acute Lethality Analysis Results**. Samples were collected on January 7, April 8, July 3 and October 1 2025. All of the 2025 samples resulted in a 0% mortality rate for both Rainbow Trout and *Daphnia Magna*.

pH

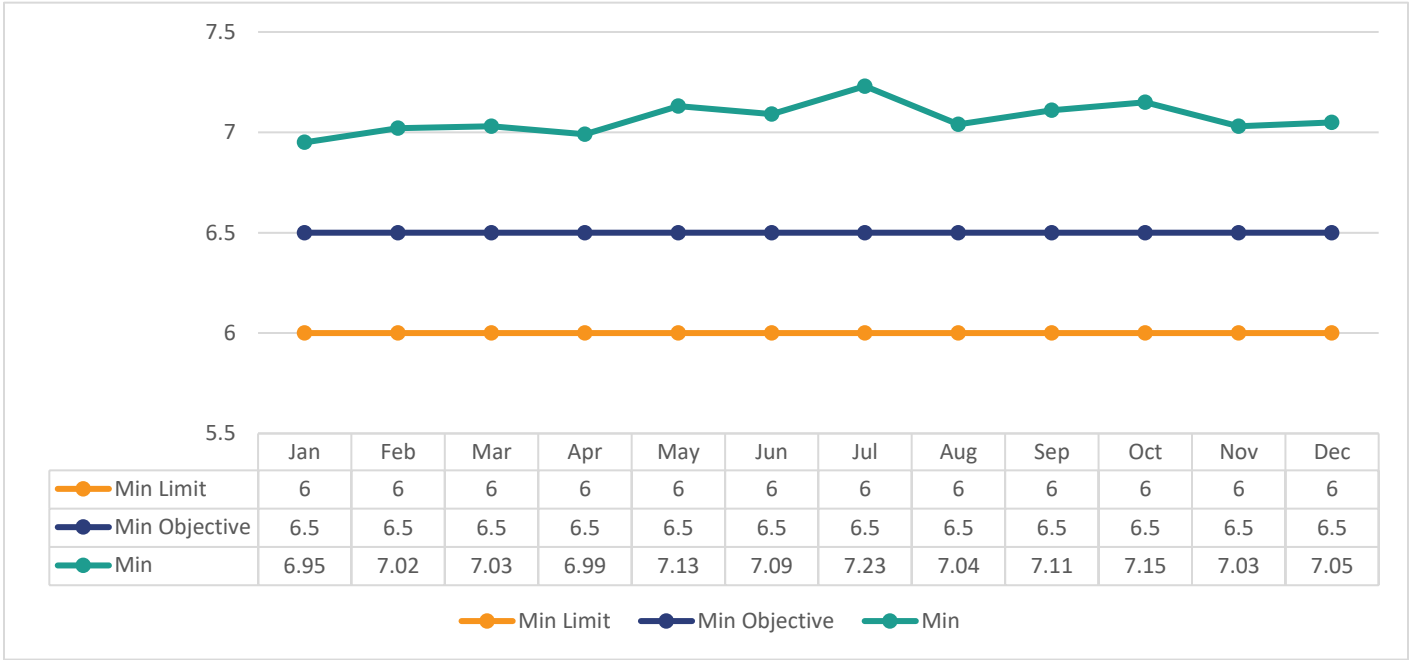
Environmental Compliance Approval (ECA) #1696-BPLL4R set a pH compliance limit within the range of 6.0 to 9.5, inclusive, at all times on the effluent. Every pH reading in 2025 was within the compliance limits set by the ECA.

Environmental Compliance Approval (ECA) #1696-BPLL4R set the pH objective of each single sample result between 6.5 and 8.5, inclusive, at all times on the effluent. Every pH reading in 2025 was within the compliance objectives set by the ECA.

Graph 42. 2025 Monthly Final Effluent Maximum pH Concentration Comparisons



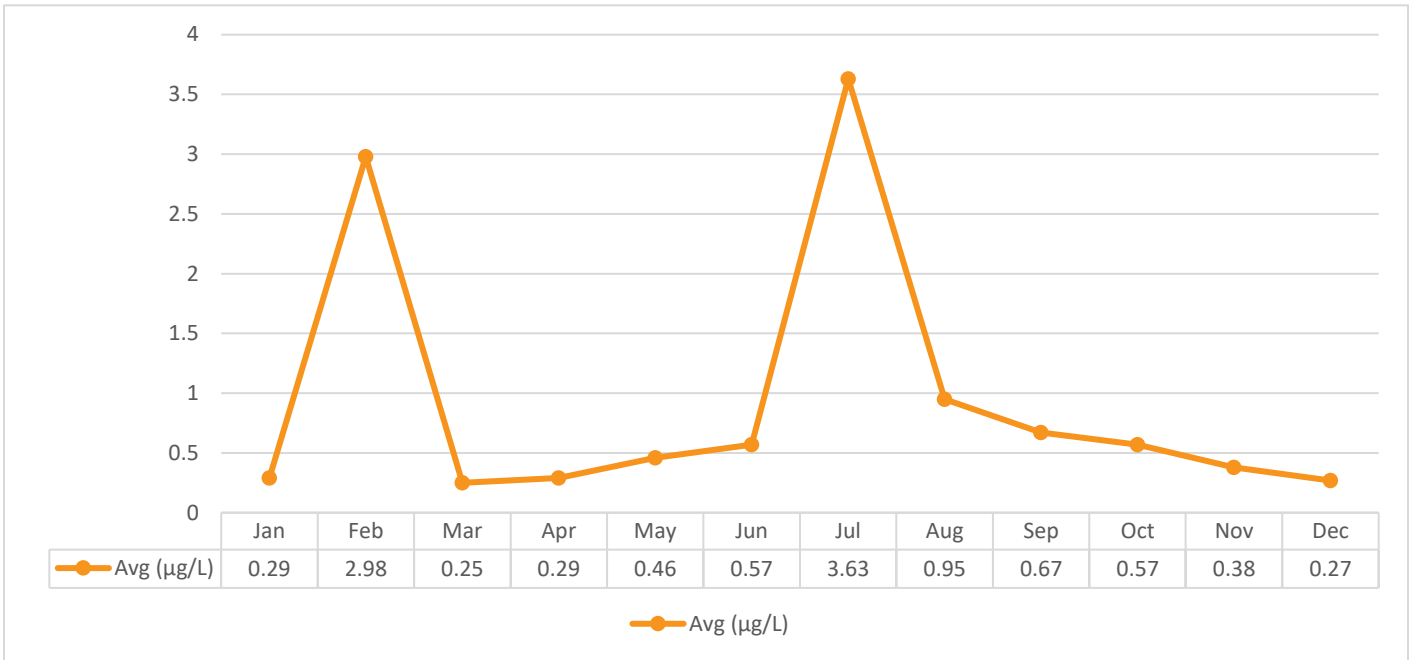
Graph 43. 2025 Monthly Final Effluent Minimum pH Concentration Comparisons



Unionized Ammonia

Unionized Ammonia is calculated monthly based on the final effluent Total Ammonia Nitrogen results and the field pH and Temperature collected at the same time as the TAN sample. The average monthly results ranged between 0.25 µg/L and 3.63 µg/L. Environmental Compliance Approval (ECA) #1696-BPLL4R does not set an Unionized Ammonia limit or objective.

Graph 44. 2025 Monthly Final Effluent Unionized Ammonia Average Concentration



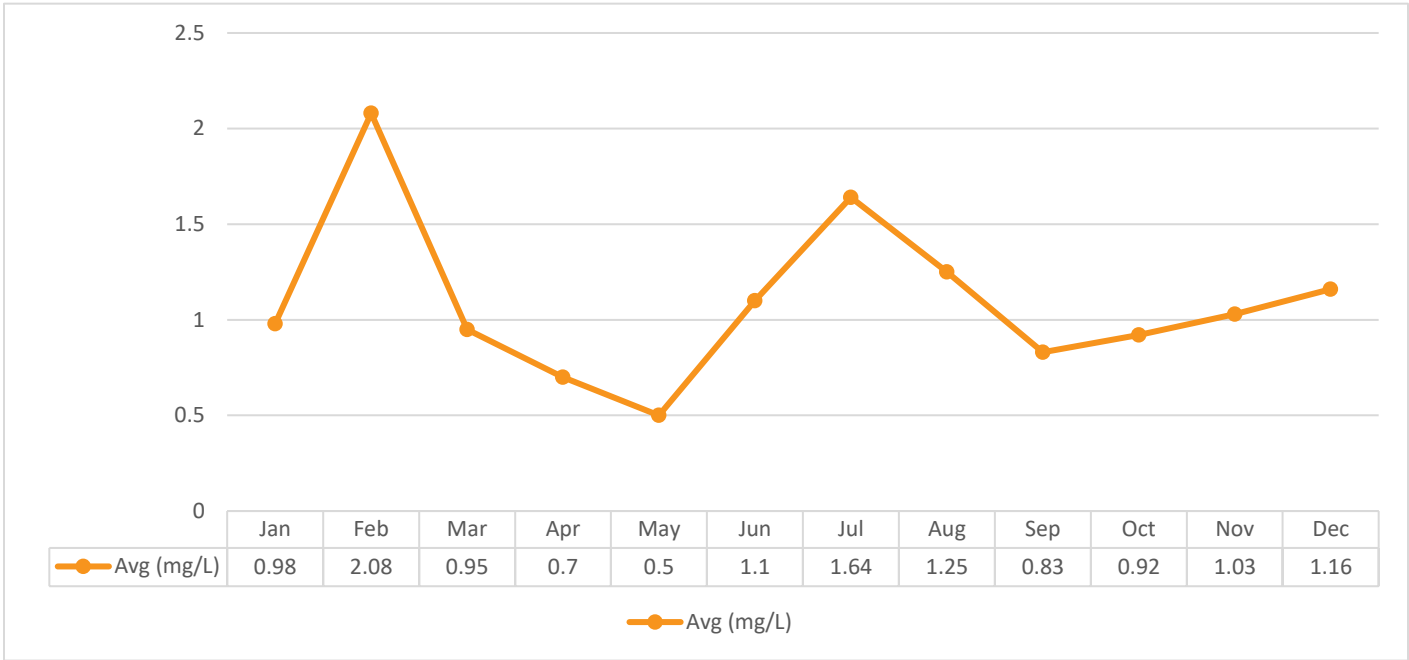
Additional Parameters

The following parameters are requirements of Environmental Compliance Approval (ECA) #1696-BPLL4R, but are not designated average concentration limits or average waste loading limits.

Total Kjeldahl Nitrogen (TKN)

Total Kjeldahl Nitrogen is sampled weekly and the average monthly results ranged between 0.50 mg/L and 2.08 mg/L in 2025.

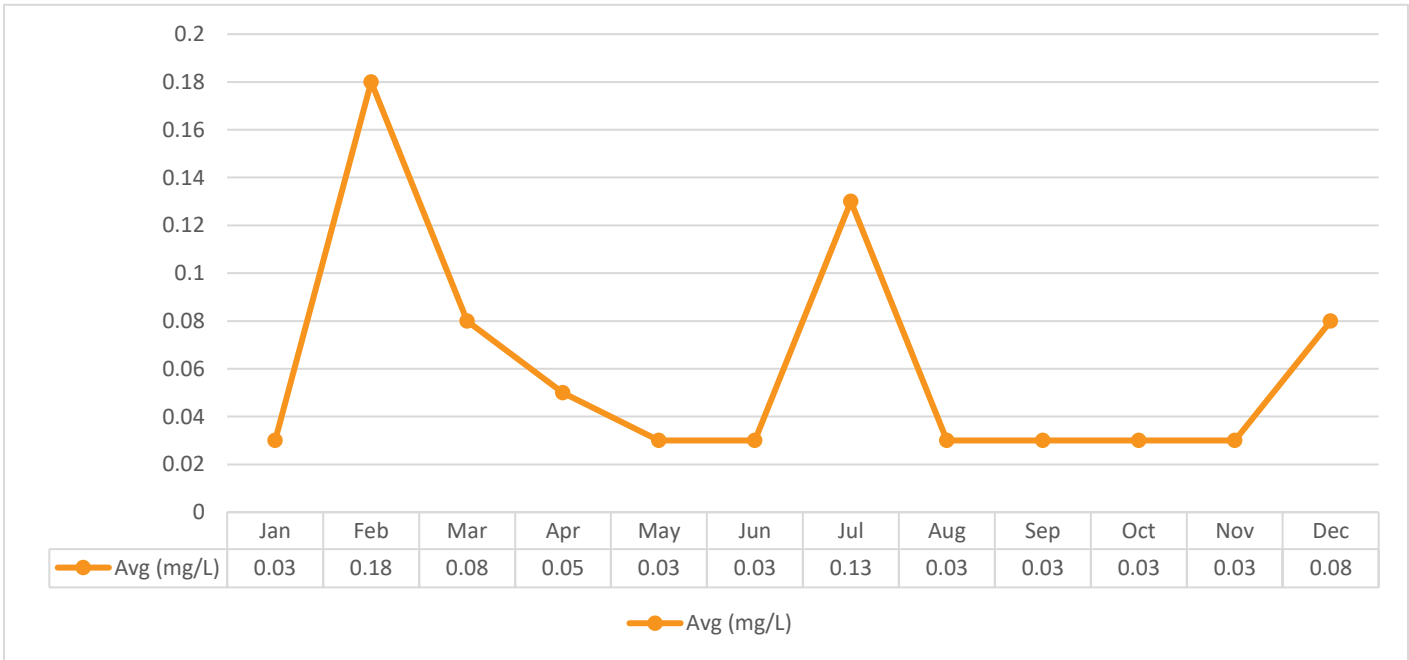
Graph 45. 2025 Monthly Final Effluent TKN Average Concentration



Nitrite as Nitrogen

Nitrite is sampled weekly and the average monthly results ranged between the laboratory method detection limit of <0.03 mg/L and 0.18 mg/L in 2025.

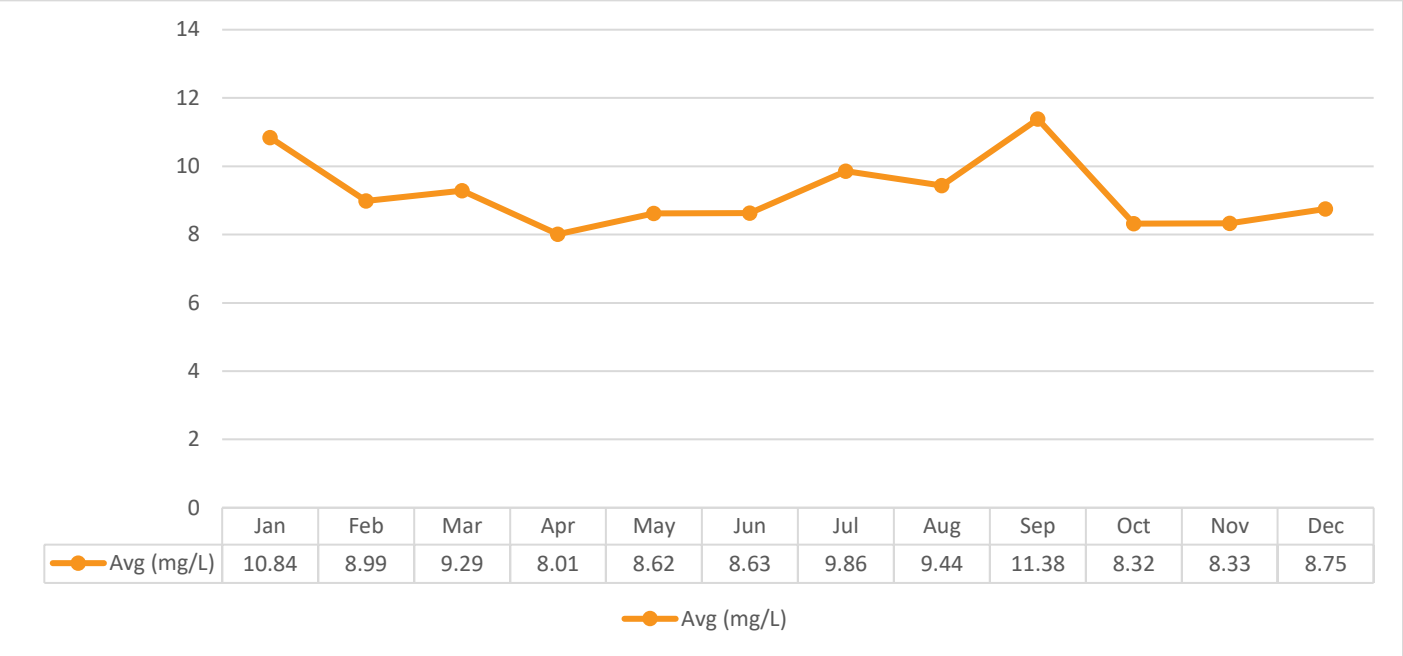
Graph 46. 2025 Monthly Final Effluent Nitrite Average Concentration



Nitrate as Nitrogen

Nitrate is sampled weekly and the average monthly results ranged between 8.01 mg/L and 11.38 mg/L in 2025.

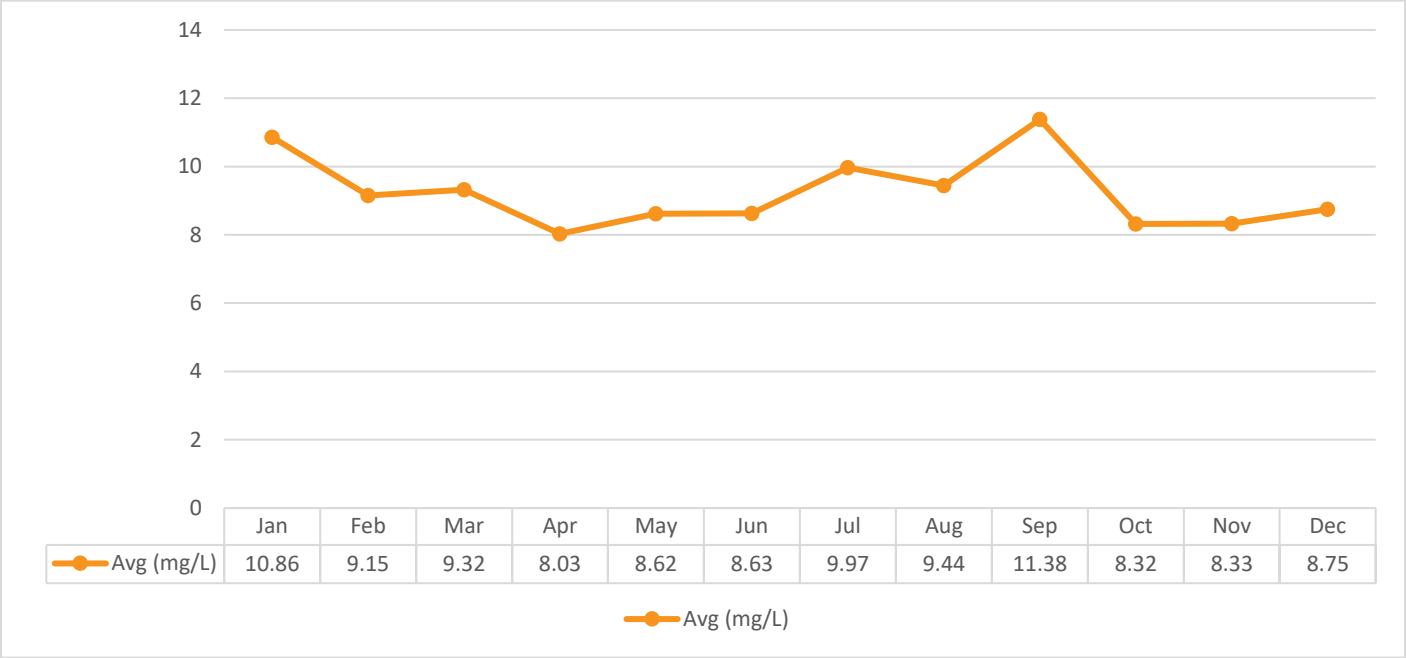
Graph 47. 2025 Monthly Final Effluent Nitrate Average Concentration



Nitrite + Nitrate as Nitrogen

Nitrite + Nitrate is sampled weekly and the average monthly results ranged between 8.03 mg/L and 11.38 mg/L in 2025.

Graph 48. 2025 Monthly Final Effluent Nitrite + Nitrate Average Concentration



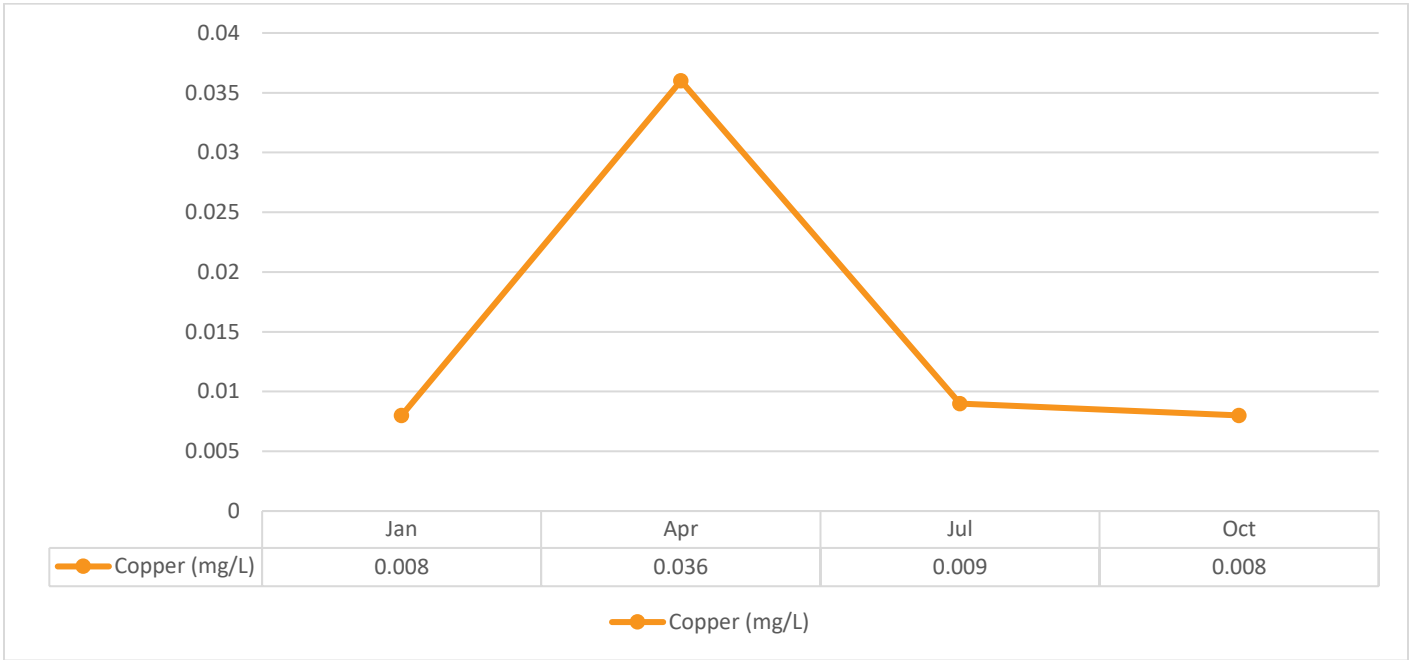
Final Effluent Samples Used for Leachate Related Monitoring

Samples are collected of the Final Effluent quarterly for the purpose of Leachate related monitoring for the Lindsay Ops Landfill as a requirement of Environmental Compliance Approval (ECA) #1696-BPLL4R.

Copper

Copper was sampled quarterly in 2025 and the results ranged between 0.008 mg/L and 0.036 mg/L.

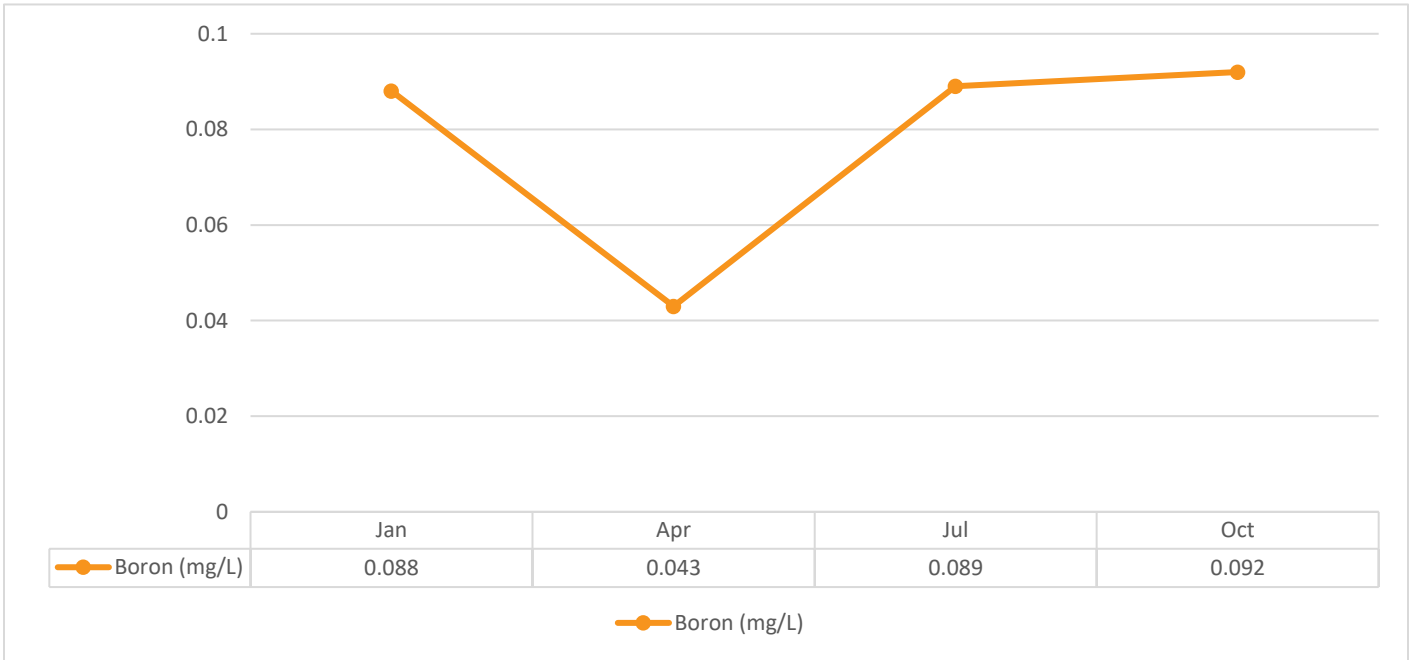
Graph 49. 2025 Final Effluent Copper Concentration



Boron

Boron was sampled quarterly in 2025 and the results ranged between 0.043 mg/L and 0.092 mg/L.

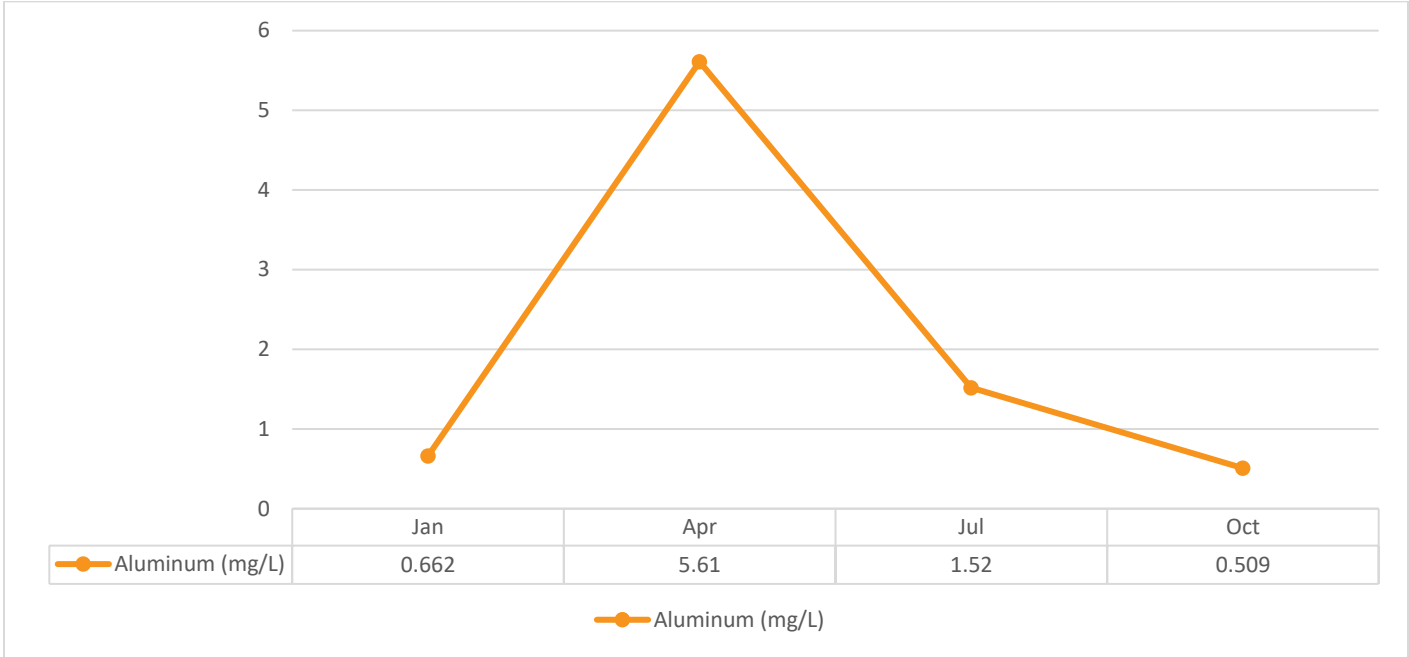
Graph 50. 2025 Final Effluent Boron Concentration



Aluminum (Total)

Aluminum was sampled quarterly in 2025 and the results ranged between 0.509 mg/L and 5.61 mg/L.

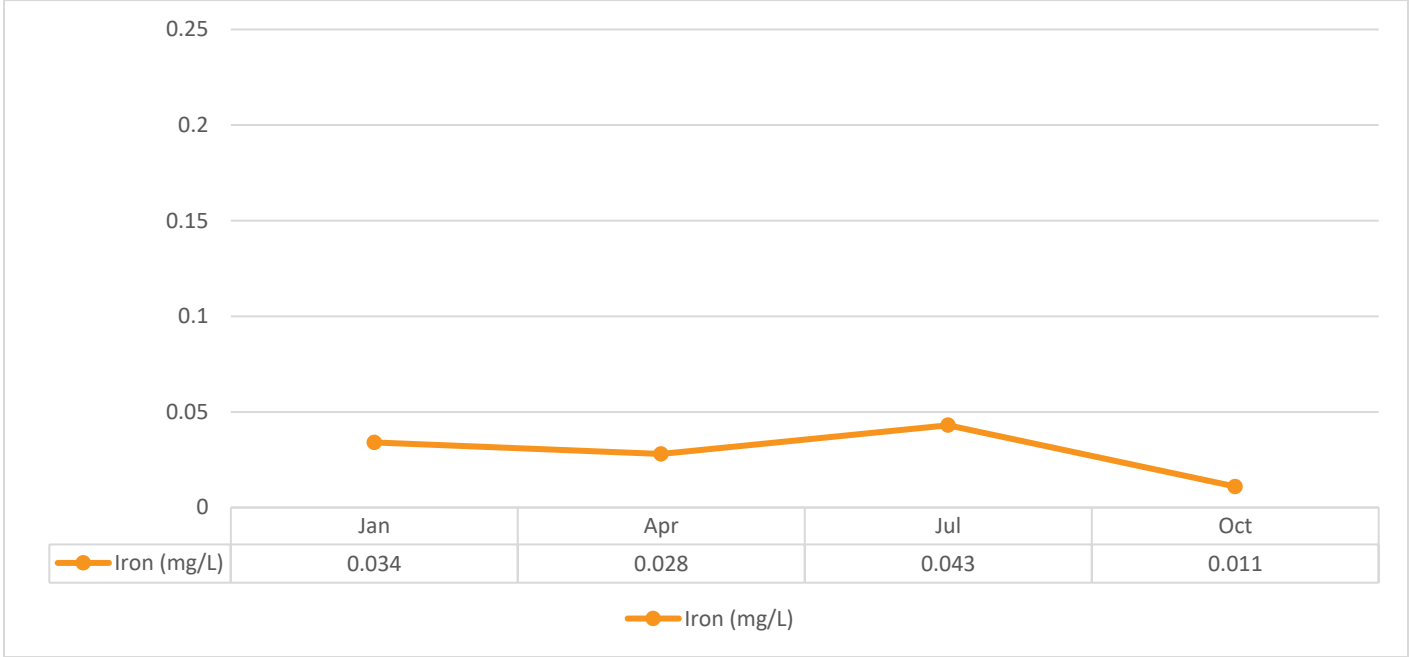
Graph 51. 2025 Final Effluent Aluminum Concentration



Iron (Total)

Iron was sampled quarterly in 2025 and the results ranged between 0.011 mg/L and 0.43 mg/L.

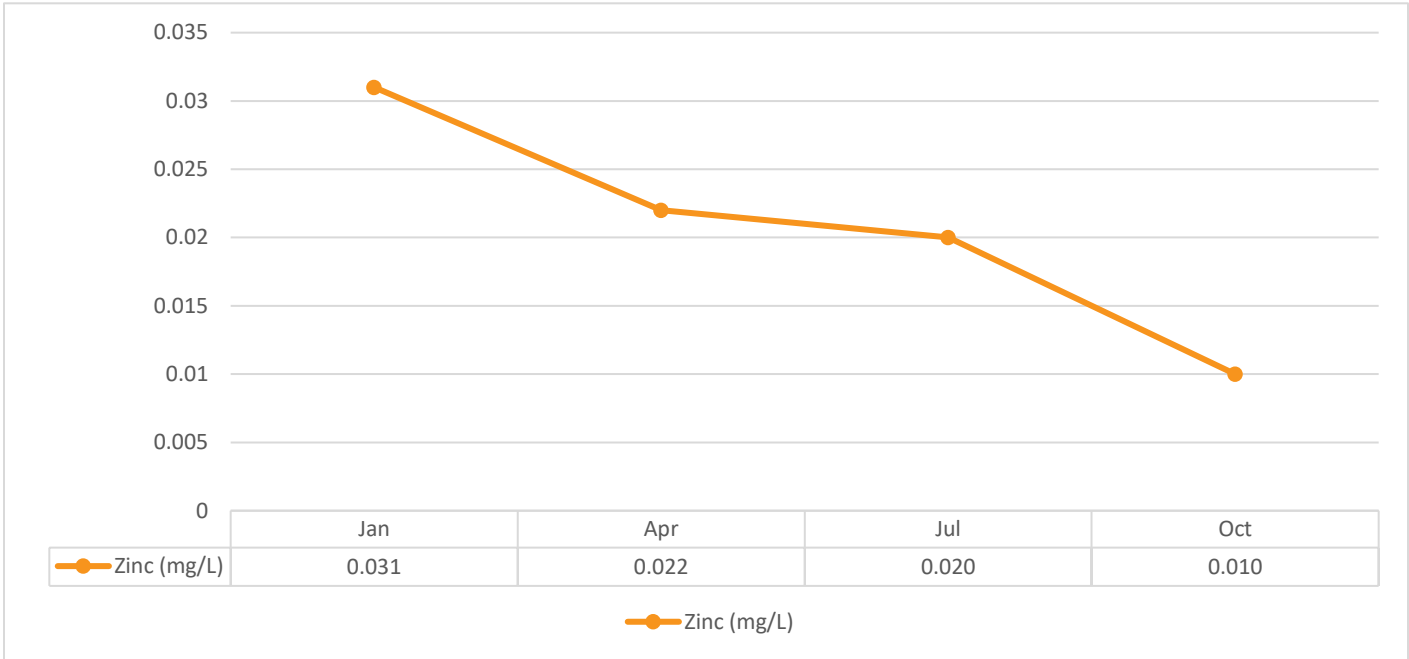
Graph 52. 2025 Final Effluent Iron Concentration



Zinc (Total)

Zinc was sampled quarterly in 2025 and the results ranged between 0.010 mg/L and 0.031 mg/L.

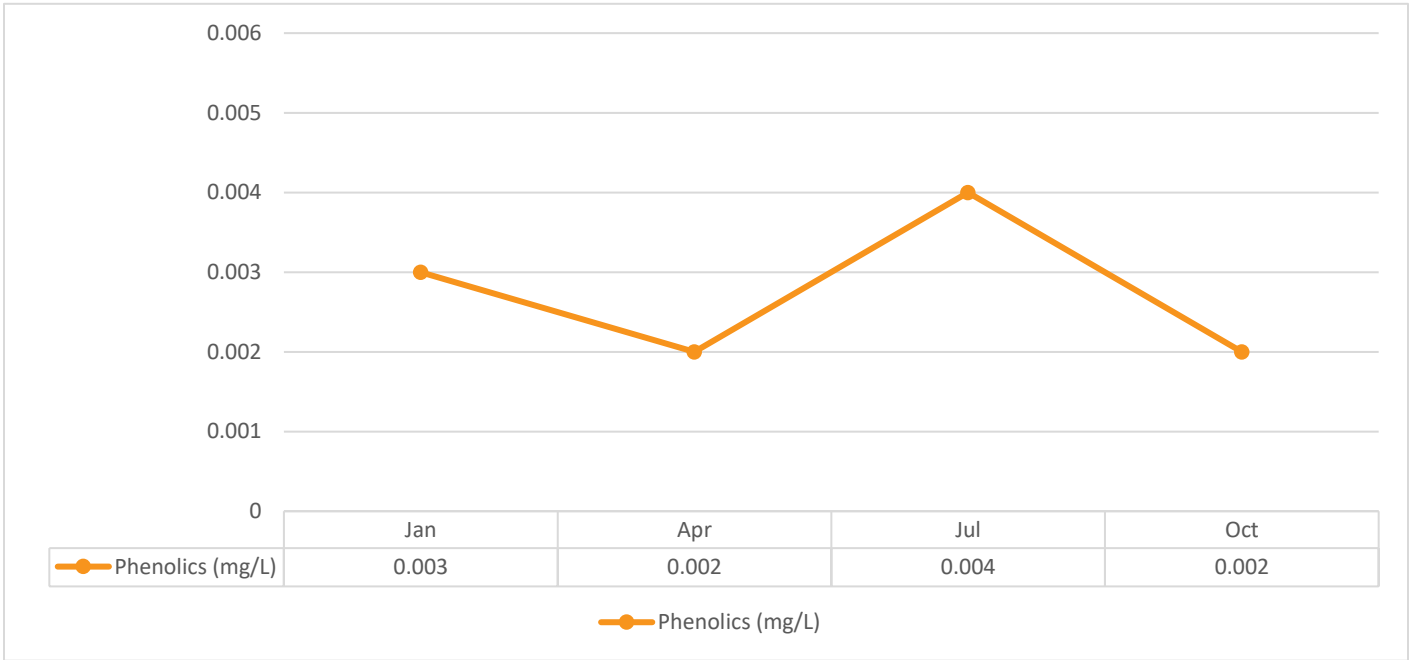
Graph 53. 2025 Final Effluent Zinc Concentration



4AAP-Phenolics

4AAP-Phenolics was sampled quarterly in 2025 and the results ranged between 0.002 mg/L and 0.004 mg/L.

Graph 54. 2025 Final Effluent 4AAP-Phenolics Concentration



Benzene

Benzene was sampled quarterly in 2025 and the results were consistent in each quarter at 0.50 µg/L.

Toluene

Toluene was sampled quarterly in 2025 and the results were consistent in each quarter at <0.5 µg/L.

Ethylbenzene

Ethylbenzene was sampled quarterly in 2025 and the results were consistent in each quarter at <0.50 µg/L.

Xylene

Xylene was sampled quarterly in 2025 and the results were consistent in each quarter at <0.50 µg/L.

Quarterly Samples

Environmental Compliance Approval (ECA) #1696-BPLL4R requires a grab sample be collected at least quarterly and analyzed for Bis(2-ethylhexyl) Phthalate, Cobalt, Magnesium, Manganese, Potassium and Strontium. Limits are not defined in the ECA.

Table 7. 2025 Final Effluent Results for Quarterly Samples Required by ECA

Parameter	January 7, 2025	April 1, 2025	July 2, 2025	October 1, 2025
Bis (2-ethylexyl) Phthalate (µg/L)	<2	<2	<2	<2
Cobalt (mg/L)	0.000203	0.000217	0.000167	0.000080
Magnesium (mg/L)	12.9	10.3	14.5	11.3
Manganese (mg/L)	0.00453	0.00659	0.00731	0.00253
Potassium (mg/L)	11.8	5.45	16.6	13.3
Strontium (mg/L)	0.414	0.400	0.310	0.244

Operational Challenges and Corrective Actions

(c) The following details describe all operating problems encountered during the reporting period and the corrective actions taken.

Table 8. Lindsay WPCP Operational Challenges

Month	Challenges	Corrective Actions
January	Actiflo 1 Inlet Control Valve	Contractor made a temporary change to programming. Inlet control valve replaced.
	UV Fault	Switch to "Low Intensity" for alarm set point.
	Riverview SPS Pump 2 Fault	Heaters turned up; resistor that is connected to common for pump 2 fault replaced.
	Ridout SPS Pump 2 "UTS Fault"	Blockage removed.
	Clarifier Heat Trace Not Working	Control panel flooded; thermostat was adjusted for North line to come on sooner. Wired backwards. Thermostat replaced.
	North Clarifier Offline For Capital Improvements	Flow through the plant controlled using the equalization lagoon. Adjustments made based on process monitoring and in-house lab tests.
February	Lindsay ST N SPS "Main Water Feed Leak"	Pinhole leak on copper fitting. Contractor replaced fitting.
	Fairgrounds SPS "Low Temp"	Louvers running with power out. Extra heater supplied to help with low temperature.
	Recirculating Pump 511 "Low Pressure"	Crack in stainless steel flange. Contractor welded flange.
	Equalization Pump Station "High/Low Level"	Possible condensation build-up on miltronics. Confirmed operation and observed pump cycle.
	WAS Broken Air Filter Housing	Fitting replaced. New air compressor installed.
March	Lindsay St N SPS "High Level"	Observed station flows – high. Monitored pump cycles.
	Actiflo 1 Fault	High flows, cleaned splitter box screens to equalize flow.
	Recirculation Pump 511 "Low Pressure"	Removed blockage inside pump.
	Coagulant/Polymer Fault	Polymer hopper empty. Add dry feed polymer to system hopper.
	UV Module 3 Fault	Replaced relay boards.
	River Park SPS "High Level"	Observed station flows – high. Monitored pump cycles.
	North Leachate SPS Pump 2 Contactor Fail	Replaced contactor.

Month	Challenges	Corrective Actions
	Ridout SPS Pump 1 Fault	Excessive start/stop due to high flows. Reset fault.
	Equalization Fault	Equalization lagoon in high level. Closed overflow weir gate. Actuator fault on over torque. Rags cleaned off divert slide gate.
	Flow Exceedances	Extremely high flows from spring melt/rainfall events. Lagoons full. Refer to Appendix VI: Bypasses, Overflows, Spills or Abnormal Events for the Certificate of Analysis.
	Ridout SPS Pump 2 Fault	Soft start fault. Reset pump and monitored pump cycles.
	South Clarifier RAS pump Fault	Fault on undervoltage. Reset VFD. Plant on emergency power.
	Actiflo 1 Injection Mixer Fault	Fault on undervoltage. Reset VFD. Plant on emergency power.
	Wellington SPS Power Fail/Pump 2 Fault	Station without power. Hooked up portable generator. Breaker was tripped and not allowing pumps to run. Reset breaker.
	Grit Chamber Paddle Drive Fault	Plant on emergency power. Reset fault.
	Multiple Generators Running – Ice Storm	Checked SPS's on emergency power. Fuel levels checked and fuel supplied to stations as needed.
April	Logie SPS Open Circuit – Trouble Fault	Generator not running. Coolant level low fault on generator. Reset fault. Coolant level was fine. Power restored to station.
	Flow Exceedances	Extremely high flows from spring melt/rainfall events. Refer to Appendix VI: Bypasses, Overflows, Spills or Abnormal Events for the Certificate of Analysis.
	Multiple Generators Running – Ice Storm	Checked SPS's on emergency power. Fuel levels checked and fuel supplied to stations as needed.
	Recirculation Pump 511 "Low Pressure"	Removed blockage inside pump.
	Rivera Park SPS Overflow Event	Lagoon levels too high. Plant overwhelmed. Pumps shut off causing overflow at station. Refer to Appendix VI: Bypasses, Overflows, Spills or Abnormal Events for more information.
	Lindsay St N Pump 1 Motor Overheat	Reset fault. Pump returned to service.

Month	Challenges	Corrective Actions
	North Clarifier Rake Arm Not Working	Rake arm loose and getting stuck on scum pit inlet. Contractor repaired rake arm.
	Rivera Park SPS "High Level" Fault	Wet well miltronics and flowmeters failed due to overflow. Awaiting parts to replace.
	Alum Clarifier Bulk Tank Pinhole Leak	Patched tank with epoxy for temporary fix. Contractor welded area where leak occurred.
	Aeration Train 1 Inlet Valve Repair	Awaiting parts for repair.
	RAS Pump 402 VFD Fail	Power outage. Reset VFD. Power restored.
	Grit Chamber Paddle Drive Fault	Power outage. Reset fault. Power restored.
	Degritted Flow Meter Fail	Pump out dry well chamber. Allow flow meter to dry out.
	Recirculation Pump 520 "Low Pressure"	Removed blockage inside pump.
	Recirculation Pump 520 Control Fail	Cleared blockage. Pump will not come on. Notified Electrician/UPIT.
May	Actiflo Fault	High flows. Adjusted overflow weir gate. Closed lagoon equalization valve and cleaned splitter box screens.
	Lindsay St N SPS Main Water Line Leak	Contractor replaced reducing coupling causing leak.
	Alum Transfer Pump Replacement	Contractor replaced new pump.
	Aeration Pipe Air Leak	Contractor repaired clamp to stop the leak.
	WAS Fault	Compressor not holding pressure. Replaced air compressor.
	Lagoon Equalization "High Level"	Open wet well. Condensation causing false reading on miltronics.
	Ridout SPS Pump 2 Fault	Removed rags from inside impeller.
	Lindsay St N SPS Pump Faults	All pumps failed. Reset pumps.
	Inlet Basement Sump Pump Repair	Contractor replaced sump pump.
June	Lindsay St N SPS Pump 1 Bearing Overheat	Check valve failed. Replaced check valve.
	UV Bank A Exhaust Fan	Replaced.
	Lagoon Equalization Station "High Level"	Open wet well. Condensation causing false reading on miltronics.
	Scum Pump 2 Removed	Pump not moving water. Sent away for repairs.
	MX361 Mixer Failed Temperature Sensor	Sent away for repairs.

Month	Challenges	Corrective Actions
	Fairgrounds SPS Generator Fault/UPS Fault	Reset UPS. Building temperature was high. Exhaust fan enabled to prevent heating.
	Recirculation Pump 520 Leak	Packing gland leaking. Replaced by contractor.
July	Fairgrounds SPS Generator Fault "Low Coolant Temp"	Block heater faulty. Contractor replaced block heater.
	Jennings Creek SPS Generator Fault	Batteries dead for generator. Replaced batteries.
	Rivera Park Pump 4 Install	New pump installed.
	Central Leachate Pump 2 Install	Pump 2 installed.
	Ridout SPS Temperature Generator Fault	Low oil pressure. Diesel exhaust fluid tank topped up by contractor.
	Actiflo 1 Fault	Polymer hopper low. Added dry feed to polymer system.
	Ridout SPS Pump 2 "UTS Fault"	Removed blockage and increased ramp time.
	Ridout SPS Pump 2 "SCR Fault"	Replaced SCR.
	South Clarifier Offline For Capital Improvements	Flow through the plant controlled using the equalization lagoon. Adjustments made based on process monitoring and in-house lab tests.
	WAS Fault	Air compressor tripped. Reset breaker.
August	WAS Fault	Air compressor consistently tripping. New air compressor installed.
	Grit Paddle Drive Control Fault	Thermistor tripped. High temperature inside motor. Motor to be replaced.
	Mary SPS "Low Level"	Confined space entry to re-arrange floats that are caught.
	Actiflo 1 Fault	Coagulant low flow. Flows very low. Adjusted alarm set point.
	Jennings Creek SPS Pump 1 & 2 Fault	Reset VFD.
	North Clarifier Offline For Capital Improvements	Flow through the plant controlled using the equalization lagoon. Adjustments made based on process monitoring and in-house lab tests.
	South Clarifier Offline For Capital Improvements	Flow through the plant controlled using the equalization lagoon. Adjustments made based on process monitoring and in-house lab tests.
	Riverview SPS "Low Level"	Reset fault and inspected wet well.
September	Riverview SPS "Low Level"	Reset fault and inspected wet well. Bracket to be replaced.

Month	Challenges	Corrective Actions
	Logie SPS "Trouble – Short Circuit"	Station on emergency power. Power restored.
	Ridout SPS Generator Running	Station on emergency power. Power restored.
	Ridout SPS PLC Communication Loss	Blown fuse found in SCADA pack. Replaced fuse.
	South Clarifier Offline for Capital Improvements	Flow through the plant controlled using the equalization lagoon. Adjustments made based on process monitoring and in-house lab tests.
	Mary SPS Pump 1/Supervisory Fault	Pump not running. Pump has failed mechanically. Pulled pump and replaced.
October	Scum Pit Wet Well "High Level"	Floats tied up. Pump station down in hand.
	Lindsay St N SPS "Unrestored High-Level Alarm"	Set off intrusion alarm and requested alarm company complete a hard reset on zone 9 – high level.
	Jennings SPS Pump 1 and Pump 2 VFD Fault	Reset VFD.
	South Clarifier Offline for Capital Improvements	Flow through the plant controlled using the equalization lagoon. Adjustments made based on process monitoring and in-house lab tests.
	Mary SPS "High Level"	Check SCADA remotely. Power fail. Power restored and alarm cleared.
November	Central Leachate SPS Pump 1 Fault (Overload)	Unable to reset overload. Pump 2 in service and electrician notified.
	Mary SPS "High Level"	No alarm active. Suspected due to power blip.
	Mary SPS Power Failure	Check SCADA remotely. No active alarms.
	Inlet Gas Detector B Alarm	Purged inlet building.
	South Clarifier Offline for Capital Improvements	Flow through the plant controlled using the equalization lagoon. Adjustments made based on process monitoring and in-house lab tests.
	Mary SPS "High Level"	Acknowledged alarm, cleared.
December	Ridout SPS – Pump 2 Fault (Bad SCR)	Notified electrician to replace SCR. Pump 2 and 3 in service.
	Mary SPS "High Level"	Acknowledged alarm, cleared.
	Rivera Park SPS "Low Fuel"	Contractor changed low level alarm set point. Removed wire for low fuel level until topped up.
	Low Inlet Oxygen Gas Alarm	Defective sensor, lowered alarm set points.

Month	Challenges	Corrective Actions
	Logie SPS "Low Coolant Level"	Contractor found leak, tightened the hose and topped up coolant.
	Faigrounds SPS "Low Temperature"	Alarm cleared from generator running.
	Jennings SPS "Burglary"	Right side door slightly open, closed the doors and confirm secured.
	Mary SPS Power Failure	Check SCADA remotely, alarm has cleared.
	Riverview SPS "Low Level"	Reset alarm.
	Logie SPS "Open Circuit"	Open circuit station on emergency power, tank filled recently and showing 5/8 on gauge.

Maintenance Summary

(d) OCWA uses a Work Maintenance System (WMS) to schedule normal maintenance activities and track repairs. WMS is a maintenance tracking system that can generate work orders as well as give summaries of completed and scheduled work. During the year, the operating authority at the facility generates scheduled work orders on a weekly, monthly and annual basis. The service work is recorded in the work order history. This ensures routine and preventative maintenance is carried out and assets are maintained to manufacturer's and/or industry standards. Emergency and capital repair maintenance is completed and added to the system

Refer to **Appendix III: WMS Work Order Summary** for details of equipment upgrades, repairs and service performed in 2025.

Effluent Quality Assurance or Control

(e) Effluent quality assurance is maintained in several ways. Laboratory samples are sent to an accredited laboratory (SGS Canada Inc. – Lakefield or Nautilus Environmental) for analysis of all effluent parameters. Sampling calendars are issued to the operator which denote frequency of sampling. Calendars are used as a tracking mechanism throughout the month to ensure all required samples are collected. These calendars are submitted to the Process Compliance Technician at the end of each month for review. Raw and effluent samples are collected as per the Amended Environmental Compliance Approval and the results are reviewed on a regular basis to ensure compliance with the site's objectives and limits.

Work orders illustrating all scheduled and preventative maintenance to be completed are issued to the operator and/or mechanic. OCWA conducts internal audits of the facility and develops Action Plans to ensure deficiencies are identified.

Calibrations

(f) Calibrations on effluent monitoring equipment were performed by Franklin Empire on December 15-16, 2025 for equipment located at the Lindsay Water Pollution Control Plant and Sewage Pumping Stations. Masstec Weighing Systems completed calibrations on the Inbound and Outbound scales at the Lindsay Ops Landfill on December 10, 2025.

Please see **Appendix IV: Calibration Reports**.

Best Efforts to Achieve Design Objectives of Condition 6

(g) OCWA uses a number of best efforts to achieve the Effluent Objectives. Effluent quality assurance and control measures include in-house sampling and testing for operational parameters such as suspended solids, pH, phosphorus, dissolved oxygen, etc. In-house testing provides real time results which are then used to enhance process and operational performance. OCWA also collects raw sewage and effluent samples as per the ECA and reviews these results on a regular basis to ensure compliance with ECA objectives and limits.

OCWA uses a computerized maintenance management system, which generates work orders to ensure maintenance of equipment is proactively performed. In addition, OCWA provides regular status reports to the Owner, which includes operational data, equipment inventory, financial statements, maintenance activities and capital improvement recommendations.

OCWA has developed comprehensive manuals detailing operations, maintenance, instrumentation and emergency procedures. To ensure facilities are operated in compliance with applicable legal requirements, facility staff have access to a network of operational compliance and support experts at the cluster, regional and corporate level.

Continuous efforts were made to meet the Effluent Objectives in 2025 including:

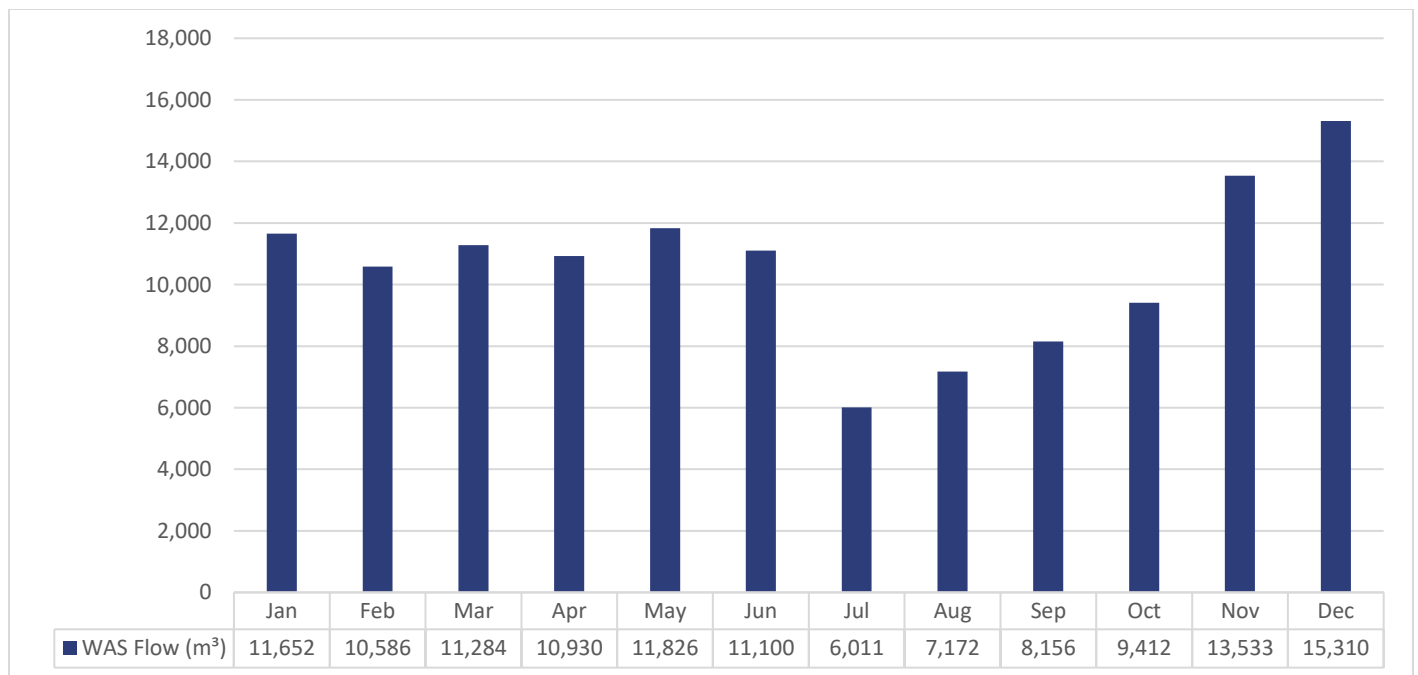
- Development of the sampling plan which meets or exceeds the minimum sampling requirements in the ECA;
- Visual Inspection of the entire process while performing rounds;
- Influent monitoring;
- Ensuring that chemicals are being dosed and adjusted as required;
- Continually optimizing the Actiflo process;
- Calibration of lab equipment;
- Annual calibration of flow meters;
- Performing preventative maintenance activities in accordance with work order schedules;
- Performing in-house lab tests on days that data is collected;
- Monitoring treatment processes by performing regular laboratory analysis and review of lab results;
- Sludge monitoring of primary clarifiers & adjustments to pumping volume based on tank levels to reduce solids carryover to the secondary clarifiers;

- Visual review of microbiological activity of activated sludge to ensure appropriate F/M ratio;
- Aeration blower maintenance;
- Pumping lagoon wastewater back to headworks has managed to reduce influent loadings when DO is low.

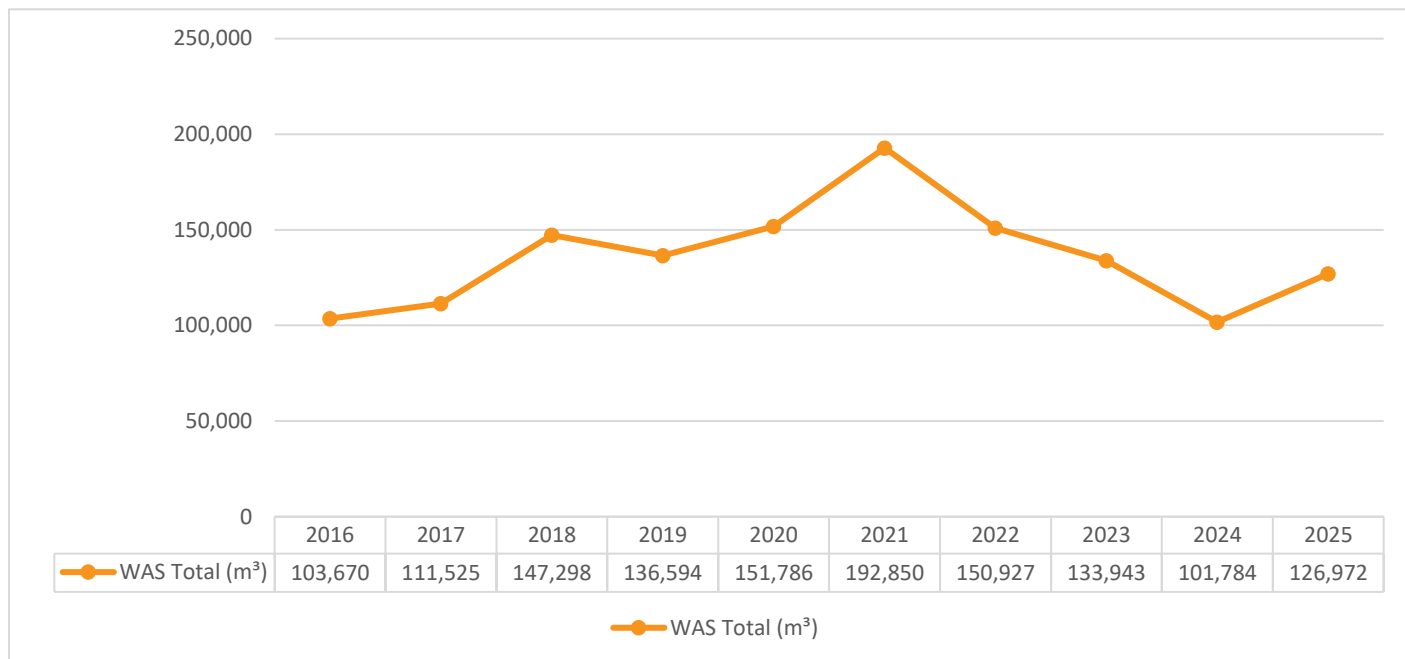
Sludge

(h) The total volume of sludge generated in 2025 was 126,972 m³ which was a 19.84% increase in the amount of sludge generated in 2024. Sludge is stored in onsite storage lagoons at the Lindsay WPCP and the volume is not expected to be appreciably different in the next reporting period.

Graph 55. 2025 Monthly Sludge Generation Volumes



Graph 56. Historical Sludge Volume Comparisons



Sludge Removal

Sludge was removed from the Lindsay WPCP in September and October 2025. 2,448,000 kg of sludge was removed from Cell 4 and taken to local agricultural lands for spreading.

Complaints

(i) a summary of complaints received by the owner and operating authority is provided in the following table.

Table 9. Summary of Community Complaints

Date	Issue	Actions Taken
January 10, 2025	Resident reported rotten sewage smell outside house.	Supervisor/ORO reviewed, and was considered a private issue.
March 16, 2025	Resident reported not able to flush toilets and water backing up into basement shower on Orchard Park.	Operator checked manholes, sewer system operating but was surcharging due to excessive flows due to rainfall and snow melt. No spill occurred.
March 17, 2025	Sewer Backup reported on Division St. Blockage found in sewermain	GFL flushed sewer on Division St. MH403 to MH1188 to clear blockage.

Date	Issue	Actions Taken
		Resident on Division St. was pumping sewage from backup through a hose from basement to road. Reported as a spill, catchbasin cleaned up and spill report to SAC and MOH.
April 3, 2025	Multiple Residents reported backup into basement near Rivera Park SPS. Backup caused due to system surcharging during ice storm, rain event and snowmelt and resulting overflow at Rivera Park SPS.	Resident advised to call insurance company for cleanup. System surcharged until overflow event finished.
April 3, 2025	Multiple Residents in North Ward (Orchard Park Rd, William St. N) with backups, due to system experiencing high flow rates and surcharging due to rainfall and snowmelt.	Flushing contract called to ensure mains clear
April 9, 2025	Victoria Ave N resident reported sewer backup and plumber got equipment stuck in lateral. Later determined that during reconstruction of Regent St. sanitary lateral was not reconnected to system	Contractor was hired to reconnect sanitary lateral at the sewermain.
June 24, 2025	Resident on Birch Court, reported manhole sinking at end of driveway.	Manhole repaired on July 21, 2025
June 24, 2025	Resident reported sewer smell outside home on Albert St. N	Sewer flushing occurring in area.

By-pass, Spill or Abnormal Discharge Events

(j) A summary of By-pass, Overflows, situations outside Normal Operating Conditions, Spills within the meaning of Part X of EPA and Abnormal Discharge Events during 2025.

Bypasses

There were not any bypasses at the Lindsay WPCP in 2025.

Spills

There was one spill event that occurred at the Lindsay WPCP during 2025. The incident occurred on March 16, 2025 and was due to high flows from heavy rain and snow melt that overwhelmed the inlet bar screen and diversion bar screen in the inlet building. Approximately 50 m³ of raw wastewater spilled out of the channels and out of the inlet building into a small ditch. The operator raked the bar screen and the diversion bar screen to stop the spill. Refer to **Appendix VI: Bypasses, Overflows, Spills or Abnormal Events** for Report.

Overflows

There were not any overflows at the Lindsay WPCP in 2025.

Abnormal Discharge Events

There were not any abnormal discharge events at the Lindsay WPCP in 2025.

Refer to **Appendix VI: Bypasses, Overflows, Spills or Abnormal Events** for copies of the quarterly Bypass and Overflow reports, and Notice of Exceedance submitted to the Ministry of Environment, Conservation and Parks.

Situations Outside Normal Operating Conditions

“Normal Operating Conditions” means the condition when all unit process(es), excluding Preliminary Treatment System, in a treatment train is operating within its design capacity. In the instances of Situations Outside Normal Operating Conditions, Environmental Compliance Approval (ECA) #1696-BPLL4R directs to collect daily sample(s) of the Final Effluent, on any day when there is any situation outside Normal Operating Conditions and sampled for CBOD₅, TSS, Total Phosphorus, TKN. As a best practice, samples are also tested for TAN, Nitrite, Nitrate and Nitrite + Nitrate.

There were instances of Situations outside Normal Operating Conditions in 2025.

Table 10. Summary of Situations Outside Normal Operating Conditions

Date	Situation Outside of Normal Operating Conditions	Reason	Samples Collected Y/N	Date Composite Sampler Set	Date Composite Samples Collected
March 16, 2025	The final flow through the Actiflo units exceeded the rated design capacity of 30,100 m ³ /day. The final flow through Actiflo Unit 1 and Actiflo Unit 2 exceeded the rated design capacity of 15,050 m ³ /day.	Extremely high flows from spring melt/rainfall events.	Y	March 16, 2025	March 17, 2025

Date	Situation Outside of Normal Operating Conditions	Reason	Samples Collected Y/N	Date Composite Sampler Set	Date Composite Samples Collected
March 20, 2025	A sample was collected due to the high flows observed coming into the plant. *The composite sample was only representative of approximately 13 hours as the sampler needed to be reset for the flow exceedance.	Extremely high flows from spring melt/rainfall events.	Y	March 20, 2025	March 20, 2025
March 20, 2025	The final flow through the Actiflo units exceeded the rated design capacity of 30,100 m ³ /day. The final flow through Actiflo Unit 1 and Actiflo Unit 2 exceeded the rated design capacity of 15,050 m ³ /day.	Extremely high flows from spring melt/rainfall events.	Y	March 20, 2025	March 21, 2025
March 21, 2025	The final flow through the Actiflo units exceeded the rated design capacity of 30,100 m ³ /day. The final flow through Actiflo Unit 1 and Actiflo Unit 2 exceeded the rated design capacity of 15,050 m ³ /day.	Extremely high flows from spring melt/rainfall events.	Y	March 21, 2025	March 22, 2025
March 28, 2025	A sample was collected due to the high flows observed coming into the plant.	Extremely high flows from spring melt/rainfall events.	Y	March 28, 2025	March 29, 2025
March 29, 2025	The final flow through the Actiflo units exceeded the rated design capacity of 30,100 m ³ /day. The final flow through Actiflo Unit 1 and Actiflo Unit 2 exceeded the rated design capacity of 15,050 m ³ /day.	Extremely high flows from spring melt/rainfall events.	Y	March 29, 2025	March 30, 2025

Date	Situation Outside of Normal Operating Conditions	Reason	Samples Collected Y/N	Date Composite Sampler Set	Date Composite Samples Collected
March 30, 2025	The final flow through the Actiflo units exceeded the rated design capacity of 30,100 m ³ /day. The final flow through Actiflo Unit 1 and Actiflo Unit 2 exceeded the rated design capacity of 15,050 m ³ /day.	Extremely high flows from spring melt/rainfall events.	Y	March 30, 2025	March 31, 2025
March 31, 2025	The final flow through the Actiflo units exceeded the rated design capacity of 30,100 m ³ /day. The final flow through Actiflo Unit 1 and Actiflo Unit 2 exceeded the rated design capacity of 15,050 m ³ /day.	Extremely high flows from spring melt/rainfall events.	Y	March 31, 2025	April 1, 2025
April 1, 2025	The final flow through the Actiflo units exceeded the rated design capacity of 30,100 m ³ /day. The final flow through Actiflo Unit 1 and Actiflo Unit 2 exceeded the rated design capacity of 15,050 m ³ /day. The sample was collected in addition to the regular weekly sample.	Extremely high flows from spring melt/rainfall events.	Y	April 1, 2025	April 2, 2025
April 2, 2025	The final flow through the Actiflo units exceeded the rated design capacity of 30,100 m ³ /day. The final flow through Actiflo Unit 2 exceeded the rated design capacity of 15,050 m ³ /day.	Extremely high flows from spring melt/rainfall events.	Y	April 2, 2025	April 3, 2025
April 3, 2025	The final flow through the Actiflo units exceeded the rated design capacity of 30,100 m ³ /day. The final flow through Actiflo Unit 1 and Actiflo Unit 2 exceeded the rated design capacity of 15,050 m ³ /day.	Extremely high flows from spring melt/rainfall events.	Y	April 3, 2025	April 4, 2025

Table 11. Situations Outside Normal Operating Conditions Sample Summary

Date	CBOD ₅	TSS	TP	TKN	TAN	Nitrite	Nitrate	Nitrite + Nitrate
March 17, 2025	<4	8	<0.03	<0.5	<0.1	<0.03	8.97	8.97
March 20, 2025	<4	17	0.08	0.8	<0.1	<0.03	9.84	9.84
March 21, 2025	<4	9	0.03	0.8	0.1	0.06	9.67	9.73
March 22, 2025	<4	14	<0.03	<0.5	<0.1	<0.03	10.6	10.6
March 29, 2025	<4	8	0.03	1.0	<0.1	<0.03	9.26	9.26
March 30, 2025	<4	22	0.07	1.0	0.2	<0.03	8.22	8.22
March 31, 2025	<4	24	0.19	3.4	2.2	0.23	6.00	6.23
April 1, 2025	8	50	0.06	0.9	<0.1	<0.03	7.90	7.90
April 2, 2025	<4	17	0.08	<0.5	0.1	<0.03	8.13	8.13
April 3, 2025	<4	21	0.08	0.6	<0.1	<0.03	6.88	6.88
April 4, 2025	<4	23	0.13	<0.5	<0.1	<0.03	6.16	6.16

Refer to **Appendix VI: Bypasses, Overflows, Spills or Abnormal Events** for the Certificate of Analysis.

Notice of Modifications to Sewage Works

(k) There were not any Notices of Modifications to Sewage Works initiated, worked on or completed in 2025.

A summary of all modifications completed which did not require a Notices of Modifications to Sewage Works are included in **Appendix III: WMS Work Order Summary**.

Conformance with Procedure F-5-1

(I) A summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted.

During the 2025 reporting period there was one incident of an overflow within the sanitary sewer system. The incident occurred at the Rivera Park SPS from April 3-April 6, 2025 and was due to extremely high flows from spring melt and rainfall events causing the capacity of the system to be exceeded. The volume of the overflow was approximately 40,000m³. Refer to **Appendix VI: Bypasses, Overflows, Spills or Abnormal Events** for the Certificate of Analysis.

The City of Kawartha concluded a Master Servicing Study and Capacity Assessment in 2025 for all facilities analyzing existing capacity and future growth requirements. This report made recommendation for future projects which includes an Environmental Assessment proposed for 2027 to review capacity of the Lindsay Water Pollution Control Plant. Sanitary sewer flushing is conducted on an annual basis (3 years of dead ends/trouble areas and 4th year is a full system flush). During this program, any manholes with infiltration issues are identified and are included in operational maintenance contracts for grouting, frame and cover replacements, etc. A summary of this work can be found in Table 14 below.

In 2025, the entire wastewater collection system was flushed and inspected by CCTV. The CCTV inspections were reviewed by an engineering consultant, who has prepared a list of deficiencies. Work to repair these deficiencies has been budgeted for completion in 2026.

Changes/Updates Construction Schedule

(m) Environmental Compliance Approval (ECA) #1696-BPLL4R states that the annual report must contain “any change or updates to the schedule for the completion of construction and commissioning operations of major process(es)/equipment groups in the Proposed Works”.

The replacement of the North clarifier column/ scraper, and the South clarifier weir covers has been completed.

Deviation from Monitoring Program

(n) Environmental Compliance Approval (ECA) #1696-BPLL4R states that the annual report must contain “a summary of any deviations from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year”.

The 2025 sample plan states that weekly samples would be collected on Tuesdays and monthly samples would be collected on the first Tuesday of each month. Annual samples were scheduled to be sampled on July 2, 2025. Weekly sampling occurring on Tuesdays did need to be considerate of holidays and there was a need to pre-plan alternate sample dates to accommodate holidays and accredited lab holiday hours in 2025. Due to the holidays and the accredited lab holiday hours the fifth week in September was collected on Wednesday.

As noted in an email from Sargo Okhovatian, Ministry of the Environment, Conservation and Parks – Review Engineer Assistant, dated October 12, 2018 since neither the City of Kawartha Lakes nor the Ontario Clean Water Agency has control of the delivery schedule of Imported Sewage, the monthly Imported Sewage samples are not required to be sampled on specific dates. As long as there is a minimum one sample from each Imported Sewage stream (Abattoir Waste and Receiving Station) each month then there will be no deviation from the Sample Plan.

There were deviations from the Sample Plan in 2025:

Table 12. Deviations from Sample Plan in 2025

Date	Deviation	Reason
January 2025	Monthly – Abattoir sample not collected	There was no abattoir hauled this month. Amount of abattoir waste has decreased slightly (see Graph 14)
February 2025	Monthly – Abattoir sample not collected	Operations staff were not notified by hauler of abattoir waste being delivered. Amount of abattoir waste has decreased slightly (see Graph 14).
February 18, 2025	Weekly – Raw and treated sample scheduled for February 18, 2025 but was taken on February 19, 2025.	Sample date moved due to weather – Heavy snow fall/storm, removal of snow.
April 1, 2025	Weekly – Raw sample scheduled for April 1, 2025 but was taken on April 2, 2025.	Raw sample line plugged.
April 1, 2025	Quarterly – Acute Lethality scheduled for April 1, 2025 but was taken on April 8, 2025.	Sample date moved due to weather - Ice storm caused wide spread power outages.
June 2025	Monthly – Abattoir sample not collected	Operations staff were not notified by hauler of abattoir waste being delivered. Amount of abattoir waste has decreased slightly (see Graph 14).
July 15, 2025	Weekly – Raw and treated sample scheduled for July 15,	Sampler was not started.

Date	Deviation	Reason
	2025 but was taken on July 16, 2026.	
August 2025	Monthly – Abattoir sample not collected	There was no abattoir hauled this month. Amount of abattoir waste has decreased slightly (see Graph 14)
August 5, 2025	Weekly – Raw sample scheduled for August 5, 2026 but was taken on August 6, 2026.	Raw sampler GFI tripped.
September 2025	Monthly – Abattoir sample not collected	Operations staff were not notified by hauler of abattoir waste being delivered. Amount of abattoir waste has decreased slightly (see Graph 14).
October 2025	Monthly – Abattoir sample not collected	There was no abattoir hauled this month. Amount of abattoir waste has decreased slightly (see Graph 14)
December 2025	Monthly – Abattoir sample not collected	There was no abattoir hauled this month. Amount of abattoir waste has decreased slightly (see Graph 14)

For the Lindsay WWTP 2026 Sample Plan refer to **Appendix II: 2026 Sample Plan**.

Reporting Requirements – Wastewater Collection System

In accordance with the Consolidated Linear Infrastructure – Environmental Compliance Approval (CLI-ECA) #141-W601 the owner shall prepare a performance report on a calendar basis and submit to the Ministry of Environment, Conservation and Parks by March 31 of the calendar year following the period being reported upon.

4.6 (a) a summary of all required monitoring data along with an interpretation of the data and any conclusions drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.

There are no required monitoring data requirements for the Lindsay Sewage Collection System.

4.6 (b) a summary of any operating problems encountered and corrective actions taken.

A summary of any operating problems encountered at any sewage pumping stations within the Lindsay Sewage Collection System are included in **Table 8. 2025 Lindsay WPCP Operational Challenges** above.

Below is a summary of any operating problems encountered in the rest of the collection system.

Table 13. Summary of Operating Problems in Collection System and Corrective Actions (not including pumping stations)

Date	Operational Issue	Corrective Action Taken
March 16-17, 2025	Sewer main blocked on Division St. from MH403 to MH1188, causing backup into homes.	GFL cleared blockage with flusher truck.
April 3, 2025	Sewer main blockage on William St. N from MH822 – MH116	Blockage cleared by GFL, main line sewer also flushed from MH717 to MH822 on William St. N between Eglington Ave and Orchard Park Rd
April 4, 2025	Sanitary Sewer Backup – 60 Victoria Ave N – caused from sanitary lateral not connected to sewer main on Regent St. during reconstruction project.	Sanitary lateral replaced and reconnected at Regent St.

4.6 (c) a summary of all calibration, maintenance, and repairs carried out on any major structure, equipment, apparatus, mechanisms, or thing forming part of the Municipal Sewage Collection System.

Calibrations on effluent monitoring equipment were performed by Franklin Empire in December 2025 for equipment located at the Lindsay Water Pollution Control Plant and associated Pumping Stations, as required. Refer to **Appendix IV: Calibration Reports**.

Attached is **Appendix III: WMS Work Order Summary**, a Work Order Summary report, showing all preventative and corrective maintenance activities performed at the Lindsay WPCP, including the pumping stations within the collection system, during 2025.

All other collection system repairs are summarized in the table below:

Table 14. Summary of Major Structure & Equipment Maintenance and Repair

Major Structure	Work Performed
Manhole Repairs	MH830 257 St. Josephs Rd – Rotated manhole structure during excavating for drop structure connection MH2874 Logie St. @ Hillside Dr. – Repair moduloc

Major Structure	Work Performed
	MH1477 40 Dormer Rd – Replace approximately 6” of brick with modoloc MH466 40 Birch Court – Replace approximately 6” of chimney MH649 11 Glenelg St. W – Replace 12” Brick and Asphalt around frame and cover MH329 8 Melbourne St. – Replace approximately 8.5” modoloc plus frame and cover MH1178 Melbourne St. W @ Sussex St. S - Replace 6” modoloc plus frame and cover MH587 99 Glenelg St. W – Replace approximately 4” modoloc plus frame and cover MH2860 24 Wellington St. - Replace approximately 3” modoloc plus frame and cover MH1226 Springdale Dr. @ Lawson Ave. - Replace approximately 14.5” modoloc plus frame and cover MH761 77 Springdale Dr. - Replace approximately 14” modoloc plus frame and cover MH416 14 Edwin St. - Replace approximately 14” modoloc plus frame and cover
Manhole Grouting	MH1104 – 17 Dunsford Court MH1221 – 47 Maryknoll Ave MH534 – 50 Maryknoll Ave MH1477 – Dormer Rd.
Full Sanitary Sewer Flushing and CCTV Inspection	Entire collection system flushing and CCTV inspection.

4.6 (d) a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.

A summary of complaints is above in **Table 9: Summary of Community Complaints.**

4.6 (e) a summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.

The table below provides a summary of the projects that saw alterations to the collection system in 2025.

Table 15. Summary of Alterations to Authorized System

Alteration to the Authorized System Project Name	Project Details	Does This Project Pose a Significant Drinking Water Threat (SDWT)?
Lindsay St. S Sewer Extension	Extension of sanitary sewers along Lindsay St. S between Logie St. and Highway #7, ranging in size from 250-375 mm in diameter	Yes
Pottinger St. Reconstruction	Replacement of existing clay sanitary sewers with approximately 970 m of 200 mm diameter PVC sewers, including maintenance holes and sanitary laterals to property line.	No
Glenelg St. West Reconstruction	Replace existing sanitary sewers with 250 mm sanitary sewer from Cambridge St. S to Lindsay St. S, connecting to existing 525mm sanitary sewer at Lindsay St. S and existing 250 mm sanitary sewer at William St. S. Replace with 250 mm sanitary sewer from Cambridge St. S to Victoria Avenue S, connecting to existing 250 mm sanitary sewer at Victoria Ave. S	No
Sanitary Extension – Fleetwood Road, County Road 36, and Walsh Road	Extension of 200 mm sanitary sewers along Fleetwood Road, County Road 36, and Walsh Road to connect 132 Walsh Road	No

4.6 (f) a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including:

i) Dates;

ii) Volumes and durations

iii) If applicable, loadings for total suspended solids, BOD, total phosphorus, and total Kjeldahl nitrogen, and sampling results for E. coli;

iv) Disinfection, if any; and

v) Any adverse impact(s) and any corrective actions, if applicable.

The Lindsay Sewage Collection system experienced 1 collection system Overflow and 1 Spill in 2025. Please see Table 16 for the Summary of Events and Table 15 for the Sample Summary for the events. Please see the Operations Event Form included in **Appendix V: Bypasses, Overflows, Spills or Abnormal Events**.

Overflows

Table 16. Overflow/Spill Summary

Date	Type of Event	Total Volume (m ³)	Disinfect Y/N	Samples Collected Y/N	Reason
March 17, 2025	Spill – Residential Home Backup, pumping sewage onto road	Unknown	N	N	Sewer main blocked, causing backup into home, homeowner pumping contents of basement to road.
April 3-6, 2025	Rivera Park SPS Overflow	40,000	N	Y	Wet Weather Event

Sample Summary

Table 17. Overflow Sample Summary

Date	Location	BOD ⁵ (mg/L)	TSS (mg/L)	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	E. Coli (mpn/100mL)
April 3, 2025	Rivera Park SPS Overflow	<12	13	0.25	1.8	141360
April 6, 2025	Rivera Park SPS Overflow	94	61	1.11	11.7	>242000

4.6 (g) a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:

i) A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.

The City of Kawartha Lakes finalized a Master Servicing Study and Capacity Assessment in 2025 which made recommendations for future projects in order to address existing capacity and future growth requirements. The recommendation for the Lindsay Sewage Works is to undertake an Environmental Assessment to review the overall treatment and collection system to determine best solution to address current and future capacity requirements. This project is anticipated to begin in 2027 depending on budget approval.

Regular manhole inspections are completed by City operations staff to identify deficiencies that may contribute to inflow and infiltration (I&I) and increase the risk of overflows. The City maintains an ongoing manhole rehabilitation program, which includes grouting, modoloc replacement, and frame and cover replacement.

In areas where manholes are located in low-lying or flood-prone locations, rain stoppers are installed to prevent inflow during wet weather events, further reducing the risk of system overflows.

A summary of operational activities that were performed to help reduce overflow potential are summarized in **Table 14. Summary of Major Structure & Equipment Maintenance and Repair** above, their cost is below.

A project in 2025 included flushing and CCTV of the entire collection system to help identify deficiencies within the collection system that are contributing to infiltration and inflow, which will help eliminate bypasses and overflows. The budget amount for this project was \$800,000.

Full System Flushing - \$206,025

Manhole Rehabilitation - \$47,750

For 2026, \$62,500 has been budgeted to address any manhole deficiencies and \$45,000 has been budgeted to perform sanitary sewer flushing in dead-end/troubled areas.

ii) Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timeline.

The Lindsay Sewage Collection System does not contain combined sewers and therefore is not required to complete a Pollution Prevention and Control Plan (PPCP).

iii) An assessment of the effectiveness of each action taken.

N/A

iv) An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives.

N/A

v) Public reporting approach including proactive efforts

SOP WWC02 Wastewater Bypass/Overflow Notification Procedure has been developed and has been in practice since 2021, which clearly outlines all reporting protocols to both regulatory agencies and the public in various situations. This procedure was developed in consultation with Ontario Clean Water Agency, Ministry of Environment, Conservation and Parks and Ministry of Health.



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix I: Acute Lethality Analysis Results

Work Order : 256824

Sample Number : 85475

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2025-01-07
Location :	Lindsay ON	Sampling Time :	12:27
Substance :	Final Effluent	Date Received :	2025-01-09
Sampling Method :	Grab	Time Received :	14:45
Sampled By :	T. Smith	Temperature at Receipt :	2 °C
Sample Description :	Clear, colourless	Date Tested :	2025-01-10
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	7.6 days
Organism Batch :	Dm24-25	Average Brood Size :	27.8
Culture Mortality :	2.7% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	30 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride	LC50 :	7.1 g/L
Date Tested :	2024-12-31	95% Confidence Limits :	6.9 - 7.4 g/L
Organism Batch :	Dm24-25	Historical Mean LC50 :	6.4 g/L
Analyst(s) :	MK, CGR	Warning Limits (± 2SD) :	5.7 - 7.3 g/L
Statistical Method :	Spearman-Kärber		

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 256824

Sample Number : 85475

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.2	10.3	1542	20	117	380 mg/L

0 HOURS

Date & Time : 2025-01-10 14:45

Analyst(s) : PG

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.7	8.6	1544	20	99	380
100	B	0	0	7.7	8.6	1544	20	99	380
100	C	0	0	7.7	8.6	1544	20	99	380
Control	A	0	0	8.1	8.3	466	20	97	150
Control	B	0	0	8.1	8.3	466	20	97	150
Control	C	0	0	8.1	8.3	466	20	97	150

Notes:

24 HOURS

Date & Time : 2025-01-11 14:55

Analyst(s) : CB (SV)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	20
100	B	—	0	—	—	—	20
100	C	—	0	—	—	—	20
Control	A	—	0	—	—	—	20
Control	B	—	0	—	—	—	20
Control	C	—	0	—	—	—	20

Notes:

48 HOURS

Date & Time : 2025-01-12 14:45

Analyst(s) : CB (SSF)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.3	8.4	1553	20
100	B	0	0	8.3	8.4	1549	20
100	C	0	0	8.3	8.4	1550	20
Control	A	0	0	8.3	8.5	475	20
Control	B	0	0	8.3	8.5	476	20
Control	C	0	0	8.3	8.5	481	20

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

Test Data Reviewed By : JL

Date : 2025-01-15

Work Order : 256824

Sample Number : 85475

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2025-01-07
Location :	Lindsay ON	Sampling Time :	12:27
Substance :	Final Effluent	Date Received :	2025-01-09
Sampling Method :	Grab	Time Received :	14:45
Sampled By :	T. Smith	Temperature at Receipt :	2 °C
Sample Description :	Clear, colourless	Date Tested :	2025-01-10

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout. Environment Canada, EPS 1/RM/50 (March 2008), with deviation(s) as noted.

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	43.5 mm
Organism Batch :	T24-28	Range of Fork Lengths :	41 - 47 mm
Control Sample Size :	10	Mean Wet Weight :	0.6 g
Cumulative stock tank mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.3 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Sample Treatment :	pH Stabilization	Number of Replicates :	1
pH Adjustment :	Yes (as per EPS 1/RM/50)	Organisms Per Replicate :	10
pH Stabilization Technique :	pH Controller	Organisms Per Test Level :	10
Gas Mixture Used :	100% CO ₂	Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L
Test Aeration :	Yes	Total Pre-Aeration Time :	120 minutes
Volume Tested (L) :	18	Test Method Deviation(s) :	Yes (see 'COMMENTS')

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T24-28	LC50 :	4074 mg/L
Date Tested :	2025-01-03	95% Confidence Limits :	3590 - 4619 mg/L
Analyst(s) :	JGR, PG, NWP, CB	Historical Mean LC50 :	3509 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	2453 - 5020 mg/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.
- Noted Deviation: pH controllers are calibrated at the start of the test, and not daily as described in the test method. Extensive internal method validation of this approach has confirmed the accuracy and stability of the pH controllers over the course of the 96-h test. Additionally, pH of the test and control solutions is measured daily throughout the test.

Approved By : _____
 Project Manager

Work Order : 256824
 Sample Number : 85475

TOXICITY TEST REPORT

Rainbow Trout

EPS 1/RM/13

EPS 1/RM/50

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TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³	TAN (mg/L) ¹	NH ₃ (mg/L) ²
Initial Water Chemistry (100%) :	7.0	10.3	1570	15	109	<0.050	0.000
After 30 min pre-aeration :	7.0	10.1	1575	15	106	—	—

0 HOURS

Date & Time	2025-01-10	12:00							
Analyst(s) :	AJS/JGR								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³	Hardness (mg/L as CaCO ₃)	Total Chlorine (mg/L)
100%	0	0	7.2	9.3	1555	15	99	380	—
Control	0	0	8.0	9.5	765	15	100	—	—
Notes:									

Notes:

24 HOURS

Date & Time	2025-01-11	10:50						
Analyst(s) :	SV							
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²
100%	0	0	7.2	—	—	15	—	—
Control	0	0	8.1	—	—	15	—	—

Notes:

48 HOURS

Date & Time	2025-01-12	10:50						
Analyst(s) :	SV							
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²
100%	0	0	7.2	—	—	15	—	—
Control	0	0	8.2	—	—	15	—	—

Notes:

72 HOURS

Date & Time	2025-01-13	11:30						
Analyst(s) :	FM (JGR)							
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²
100%	0	0	7.1	—	—	16	—	—
Control	0	0	8.2	—	—	16	—	—

Notes:

96 HOURS

Date & Time	2025-01-14	11:10							
Analyst(s) :	NM								
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	TAN (mg/L) ¹	NH3 (mg/L) ²	Average pH (0 - 96 h)
100%	0	0	7.1	9.1	1571	15	—	—	7.1
Control	0	0	8.0	9.2	765	15	—	—	8.1

Notes:

¹ TAN = Total ammonia (as N); analysis conducted by Bureau Veritas S.A., Mississauga ON; MDL = 0.05 mg/L.

² NH₃ = Un-ionized ammonia (calculated from TAN, pH, and temperature according to the test method).

³ adjusted for temperature and barometric pressure

"—" = not measured/not required

Number impaired does not include number dead.

 Test Data Reviewed By : JL

 Date : 2025-01-17

Work Order : 257471

Sample Number : 86420

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2025-04-08
Location :	Lindsay ON	Sampling Time :	09:14
Substance :	Final Effluent (Grab)	Date Received :	2025-04-09
Sampling Method :	Grab	Time Received :	13:15
Sampled By :	T. Smith	Temperature at Receipt :	7 °C
Sample Description :	Clear, colorless	Date Tested :	2025-04-10
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	8.6 days
Organism Batch :	Dm25-06	Average Brood Size :	30.5
Culture Mortality :	1.0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	30 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-04-08	LC50 :	6.1 g/L
Organism Batch :	Dm25-06	95% Confidence Limits :	5.6 - 6.5 g/L
Analyst(s) :	CYW, CB	Historical Mean LC50 :	6.5 g/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	5.7 - 7.4 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 257471

Sample Number : 86420

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.2	9.7	1615	20	113	350 mg/L

0 HOURS

Date & Time : 2025-04-10 11:55

Analyst(s) : CB (PG)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.7	8.9	1626	20	103	350
100	B	0	0	7.7	8.9	1626	20	103	350
100	C	0	0	7.7	8.9	1626	20	103	350
Control	A	0	0	8.2	8.7	462	20	100	140
Control	B	0	0	8.2	8.7	462	20	100	140
Control	C	0	0	8.2	8.7	462	20	100	140

Notes:

24 HOURS

Date & Time : 2025-04-11 11:25

Analyst(s) : MK

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	20
100	B	—	0	—	—	—	20
100	C	—	0	—	—	—	20
Control	A	—	0	—	—	—	20
Control	B	—	0	—	—	—	20
Control	C	—	0	—	—	—	20

Notes:

48 HOURS

Date & Time : 2025-04-12 11:40

Analyst(s) : MK

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.3	8.3	1600	20
100	B	0	0	8.3	8.3	1608	20
100	C	0	0	8.3	8.4	1610	20
Control	A	0	0	8.2	8.4	470	20
Control	B	0	0	8.2	8.4	470	20
Control	C	0	0	8.2	8.4	470	20

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

 Test Data Reviewed By : EM

 Date : 2025-04-16

Work Order : 257471
 Sample Number : 86420

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2025-04-08
Location :	Lindsay ON	Sampling Time :	09:14
Substance :	Final Effluent (Grab)	Date Received :	2025-04-09
Sampling Method :	Grab	Time Received :	13:15
Sampled By :	T. Smith	Temperature at Receipt :	7 °C
Sample Description :	Clear, colourless	Date Tested :	2025-04-11

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	40.3 mm
Organism Batch :	T25-07	Range of Fork Lengths :	38 - 43 mm
Control Sample Size :	10	Mean Wet Weight :	0.5 g
Cumulative stock mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.3 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume of Sample :	21 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	20 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T25-07	LC50 :	4661 mg/L
Date Tested :	2025-04-01	95% Confidence Limits :	4255 - 5124 mg/L
Analyst(s) :	GF, JGR, NWP, SV	Historical Mean LC50 :	4029 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	2972 - 5460 mg/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 257471

Sample Number : 86420

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³
Initial Water Chemistry (100%) :	7.0	9.2	1621	15	97
After 30 min pre-aeration :	7.2	9.8	1648	14	100

0 HOURS

Date & Time	2025-04-11	9:15					
Analyst(s) :	GF (JGR)						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³
100%	0	0	7.2	9.8	1648	14	100
Control	0	0	8.1	9.8	739	14	100

Notes:

24 HOURS

Date & Time	2025-04-12	8:50					
Analyst(s) :	GR						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	—	—	—	15	
Control	0	0	—	—	—	15	

Notes:

48 HOURS

Date & Time	2025-04-13	9:40					
Analyst(s) :	GR						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	—	—	—	15	
Control	0	0	—	—	—	15	

Notes:

72 HOURS

Date & Time	2025-04-14	8:05					
Analyst(s) :	NWP						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	—	—	—	15	
Control	0	0	—	—	—	15	

Notes:

96 HOURS

Date & Time	2025-04-15	8:35					
Analyst(s) :	GF (JGR)						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	
100%	0	0	7.9	9.1	1625	15	
Control	0	0	8.1	9.1	691	15	

Notes:

"—" = not measured/not required

Number impaired does not include number dead.

³ adjusted for temperature and barometric pressure

Test Data Reviewed By : JJ

Date : 2025-04-15

Work Order : 258226

Sample Number : 87499

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2025-07-03
Location :	Lindsay ON	Sampling Time :	08:44
Substance :	FINAL EFFLUENT (GRAB)	Date Received :	2025-07-04
Sampling Method :	Grab	Time Received :	09:00
Sampled By :	T. Smith	Temperature at Receipt :	24 °C
Sample Description :	Clear, yellow	Date Tested :	2025-07-04
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	8.0 days
Organism Batch :	Dm25-12	Average Brood Size :	32.1
Culture Mortality :	1.0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	0 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-06-28	LC50 :	6.3 g/L
Organism Batch :	Dm25-12	95% Confidence Limits :	5.8 - 6.8 g/L
Analyst(s) :	ACS	Historical Mean LC50 :	6.4 g/L
Statistical Method :	Binomial	Warning Limits ($\pm$ 2SD) :	5.8 - 7.1 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 258226

Sample Number : 87499

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.3	7.5	1339	22	90	290 mg/L

0 HOURS

Date & Time : 2025-07-04 13:45

Analyst(s) : CYW (CB)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.3	7.5	1339	22	90	290
100	B	0	0	7.3	7.5	1339	22	90	290
100	C	0	0	7.3	7.5	1339	22	90	290
Control	A	0	0	8.2	8.6	453	20	100	140
Control	B	0	0	8.2	8.6	453	20	100	140
Control	C	0	0	8.2	8.6	453	20	100	140

Notes:

24 HOURS

Date & Time : 2025-07-05 12:55

Analyst(s) : CYW (NM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	21
100	B	—	0	—	—	—	21
100	C	—	0	—	—	—	21
Control	A	—	0	—	—	—	21
Control	B	—	0	—	—	—	21
Control	C	—	0	—	—	—	21

Notes: Two test organisms in Control B were floating but mobile.

48 HOURS

Date & Time : 2025-07-06 13:15

Analyst(s) : CYW (NM)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.4	8.0	1353	21
100	B	0	0	8.4	8.0	1351	21
100	C	0	0	8.4	8.0	1354	21
Control	A	0	0	8.3	8.2	463	21
Control	B	0	0	8.3	8.1	463	21
Control	C	0	0	8.3	8.1	464	21

Notes: Two test organisms in Control B were floating but mobile.

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

 Test Data Reviewed By : EM

 Date : 2025-07-09

Work Order : 258226
 Sample Number : 87499

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2025-07-03
Location :	Lindsay ON	Sampling Time :	08:44
Substance :	FINAL EFFLUENT (GRAB)	Date Received :	2025-07-04
Sampling Method :	Grab	Time Received :	09:00
Sampled By :	T. Smith	Temperature at Receipt :	24 °C
Sample Description :	Clear, yellow	Date Tested :	2025-07-04

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	41.0 mm
Organism Batch :	T25-14	Range of Fork Lengths :	35 - 44 mm
Control Sample Size :	10	Mean Wet Weight :	0.7 g
Cumulative stock mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.4 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume of Sample :	18 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	18 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride	LC50 :	3975 mg/L
Organism Batch :	T25-14	95% Confidence Limits :	3644 - 4336 mg/L
Date Tested :	2025-07-02	Historical Mean LC50 :	3963 mg/L
Analyst(s) :	GF, OHC, NWP, NM	Warning Limits (± 2SD) :	2964 - 5298 mg/L
Statistical Method :	Spearman-Kärber		

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

 Approved By : _____
 Project Manager

Work Order : 258226

Sample Number : 87499

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³
Initial Water Chemistry (100%) :	7.0	7.7	1293	16	81
After 30 min pre-aeration :	7.1	8.1	1300	16	87

0 HOURS

Date & Time	2025-07-04	12:00					
Analyst(s) :	JGR/GF (JGR)						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³
100%	0	0	7.1	8.1	1300	16	87
Control	0	0	8.0	9.6	666	15	99

Notes:

24 HOURS

Date & Time	2025-07-05	10:30				
Analyst(s) :	NWP					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	—	—	—	15
Control	0	0	—	—	—	15

Notes:

48 HOURS

Date & Time	2025-07-06	12:00				
Analyst(s) :	NM					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	—	—	—	15
Control	0	0	—	—	—	15

Notes:

72 HOURS

Date & Time	2025-07-07	10:10				
Analyst(s) :	OHC (NWP)					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	—	—	—	14
Control	0	0	—	—	—	14

Notes:

96 HOURS

Date & Time	2025-07-08	12:55				
Analyst(s) :	GF (SV)					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	7.9	9.4	1305	16
Control	0	0	8.0	9.4	623	16

Notes:

"—" = not measured/not required

Number impaired does not include number dead.

³ adjusted for temperature and barometric pressure

Test Data Reviewed By : EM

Date : 2025-07-10

Work Order : 259005

Sample Number : 88641

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2025-10-01
Location :	Lindsay ON	Sampling Time :	09:05
Substance :	Final Effluent (Grab)	Date Received :	2025-10-02
Sampling Method :	Grab	Time Received :	13:50
Sampled By :	T. Smith	Temperature at Receipt :	21 °C
Sample Description :	Clear, light green	Date Tested :	2025-10-03
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).		

48-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	<i>Daphnia magna</i>	Time to First Brood :	8.3 days
Organism Batch :	Dm25-19	Average Brood Size :	24.5
Culture Mortality :	2.3% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	30
Duration of Pre-Aeration :	0 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-09-23	LC50 :	6.3 g/L
Organism Batch :	Dm25-19	95% Confidence Limits :	5.8 - 6.8 g/L
Analyst(s) :	ACS, MZG, SSF	Historical Mean LC50 :	6.3 g/L
Statistical Method :	Binomial	Warning Limits ($\pm$ 2SD) :	5.7 - 6.9 g/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 259005

Sample Number : 88641

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%)*	Hardness (as CaCO ₃)
Initial Chemistry (100%) :	7.3	8.4	1223	21	98	280 mg/L

0 HOURS

Date & Time : 2025-10-03 12:05

Analyst(s) : MZG/ACS (PG)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation*	Hardness
100	A	0	0	7.3	8.4	1223	21	98	280
100	B	0	0	7.3	8.4	1223	21	98	280
100	C	0	0	7.3	8.4	1223	21	98	280
Control	A	0	0	8.3	8.5	464	21	99	140
Control	B	0	0	8.3	8.5	464	21	99	140
Control	C	0	0	8.3	8.5	464	21	99	140

Notes:

24 HOURS

Date & Time : 2025-10-04 11:10

Analyst(s) : MZG (PG)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	—	0	—	—	—	21
100	B	—	0	—	—	—	21
100	C	—	0	—	—	—	21
Control	A	—	0	—	—	—	21
Control	B	—	0	—	—	—	21
Control	C	—	0	—	—	—	21

Notes:

48 HOURS

Date & Time : 2025-10-05 11:40

Analyst(s) : MZG (SF)

Concentration (%)	Replicate	Dead	Immobile	pH	Dissolved O ₂	Conductivity	Temperature
100	A	0	0	8.2	8.1	1235	21
100	B	0	0	8.1	8.1	1236	21
100	C	0	0	8.1	8.1	1231	21
Control	A	0	0	8.1	8.2	477	21
Control	B	0	0	8.1	8.2	475	21
Control	C	0	0	8.1	8.2	474	21

Notes:

Number immobile does not include number dead.

"—" = not measured/not required

* adjusted for temperature and barometric pressure

Test Data Reviewed By : JJ

Date : 2025-10-09

Work Order : 259005
 Sample Number : 88641

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Lindsay WPCP	Sampling Date :	2025-10-01
Location :	Lindsay ON	Sampling Time :	09:05
Substance :	Final Effluent (Grab)	Date Received :	2025-10-02
Sampling Method :	Grab	Time Received :	13:50
Sampled By :	T. Smith	Temperature at Receipt :	21 °C
Sample Description :	Clear, light green	Date Tested :	2025-10-03

 Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout.
 Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	<i>Oncorhynchus mykiss</i>	Mean Fork Length :	40.1 mm
Organism Batch :	T25-24	Range of Fork Lengths :	37 - 43 mm
Control Sample Size :	10	Mean Wet Weight :	0.5 g
Cumulative stock mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.3 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume of Sample :	18 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	18 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T25-24	LC50 :	4086 mg/L
Date Tested :	2025-10-01	95% Confidence Limits :	3752 - 4449 mg/L
Analyst(s) :	JCS, NWP, JGR, PG	Historical Mean LC50 :	3700 mg/L
Statistical Method :	Spearman-Kärber	Warning Limits (± 2SD) :	2898 - 4724 mg/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By :

Project Manager

Work Order : 259005

Sample Number : 88641

TEST DATA

	pH	Dissolved O ₂ (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O ₂ Saturation (%) ³
Initial Water Chemistry (100%) :	7.2	8.9	1246	14	91
After 30 min pre-aeration :	7.3	9.1	1235	14	93

0 HOURS

Date & Time	2025-10-03	8:45					
Analyst(s) :	NWP						
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature	O ₂ Saturation ³
100%	0	0	7.3	9.1	1235	14	93
Control	0	0	8.3	9.9	719	14	100

Notes:

24 HOURS

Date & Time	2025-10-04	8:45				
Analyst(s) :	PG					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	—	—	—	15
Control	0	0	—	—	—	15

Notes:

48 HOURS

Date & Time	2025-10-05	9:30				
Analyst(s) :	PG					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	—	—	—	15
Control	0	0	—	—	—	15

Notes:

72 HOURS

Date & Time	2025-10-06	9:00				
Analyst(s) :	OHC (JGR)					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	—	—	—	15
Control	0	0	—	—	—	15

Notes:

96 HOURS

Date & Time	2025-10-07	9:00				
Analyst(s) :	OHC (JGR)					
Concentration	Dead	Impaired	pH	Dissolved O ₂	Conductivity	Temperature
100%	0	0	8.2	9.3	1235	15
Control	0	0	8.3	9.3	672	15

Notes:

"—" = not measured/not required

Number impaired does not include number dead.

³ adjusted for temperature and barometric pressure

Test Data Reviewed By : JJ

Date : 2025-10-09



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix II: 2026 Sample Plan



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

January 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days			1 Stat Holiday New Year's Day	2	3
4	5 ☐ Weekly ☐ Monthly ☐ Quarterly	6	7	8	9	10
11	12 ☐ Weekly	13	14	15	16	17
18	19 ☐ Weekly	20	21	22	23	24
25	26 ☐ Weekly	27	28	29	30	31



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage -	-BOD, TSS, TP, Total (Ammonia+ Abattoir (IndW) Ammonium) /nitrogen, TKN
Imported Sewage -	- BOD, TSS, TP, Total (Ammonia+ Septage Receiving Ammonium) /nitrogen, TKN
Station (InW2)	

<u>Annual</u>	
Biosolids - Grab	- Total Solids, Total Phosphorus, Total Lagoon 2 Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

February 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days					
1	2 ☐ Weekly ☐ Monthly	3	4	5	6	7
8	9 ☐ Weekly	10	11	12	13	14
15	16 Stat Holiday Family Day ☐ Weekly	17	18	19	20	21
22	23 ☐ Weekly	24	25	26	27	28



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

March 2026

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days					
1	2	3	4	5	6	7
	☐ Weekly ☐ Monthly					
8	9	10	11	12	13	14
	☐ Weekly					
15	16	17	18	19	20	21
	☐ Weekly					
22	23	24	25	26	27	28
	☐ Weekly					
29	30	31				
	☐ Weekly					



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

Annual	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

April 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3 Stat Holiday Good Friday	4
5	6 Stat Holiday Easter Monday	7 ☐ Weekly ☐ Monthly ☐ Quarterly	8	9	10	11
12	13 ☐ Weekly	14	15	16	17	18
19	20 ☐ Weekly	21	22	23	24	25
26	27 ☐ Weekly	28	29	30	Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days



Sampling Calendar **Lindsay WWTP (1313) Works # 110000383**

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Annual	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ **Operator Signature:** _____ **Date:** _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

May 2026

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days				1	2
3	4 ☐ Weekly ☐ Monthly	5	6	7	8	9
10	11 ☐ Weekly	12	13	14	15	16
17	18 Stat Holiday Victoria Day	19 ☐ Weekly	20	21	22	23
24	25 ☐ Weekly	26	27	28	29	30
31						



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ **Operator Signature:** _____ **Date:** _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

June 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days					
	1	2	3	4	5	6
	☐ Weekly ☐ Monthly					
7	8	9	10	11	12	13
	☐ Weekly					
14	15	16	17	18	19	20
	☐ Weekly					
21	22	23	24	25	26	27
	☐ Weekly					
28	29	30				
	☐ Weekly					



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ **Operator Signature:** _____ **Date:** _____

(all collection and submission complete as per ECA, WSER, etc. plus any special requirements).

Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

July 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days		1 Stat Holiday Canada Day	2	3	4
5	6 ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Annual ☐ Biosolids	7	8	9	10	11
12	13 ☐ Weekly	14	15	16	17	18
19	20 ☐ Weekly	21	22	23	24	25
26	27 ☐ Weekly	28	29	30	31	



Sampling Calendar **Lindsay WWTP (1313) Works # 110000383**

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Annual	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ **Operator Signature:** _____ **Date:** _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

August 2026

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days					1
2	3 Stat Holiday Civic Day	4 ☐ Weekly ☐ Monthly	5	6	7	8
9	10 ☐ Weekly	11	12	13	14	15
16	17 ☐ Weekly	18	19	20	21	22
23	24 ☐ Weekly	25	26	27	28	29
30	31 ☐ Weekly					



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium)

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

September 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7 Stat Holiday Labour Day	8 ☐ Weekly ☐ Monthly	9	10	11	12
13	14 ☐ Weekly	15	16	17	18	19
20	21 ☐ Weekly	22	23	24	25	26
27	28 ☐ Weekly	29	30 Stat Holiday T&R		Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

Weekly	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

Quarterly	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

Monthly	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

Annual	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____
 (all collection and submission complete as per ECA, WSER, etc. plus any special requirements).
 Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

October 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days			1	2	3
4	5 ☐ Weekly ☐ Monthly ☐ Quarterly	6	7	8	9	10
11	12 Stat Holiday Thanksgiving Day	13 ☐ Weekly	14	15	16	17
18	19 ☐ Weekly	20	21	22	23	24
25	26 ☐ Weekly	27	28	29	30	31



Sampling Calendar

Lindsay WWTP (1313) Works # 110000383

Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.

<u>Weekly</u>	
Raw – Grab	- pH, Temperature
Raw - Comp	-BOD, TSS, TP, TKN, TAN
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite
Final – Grab	-E.Coli, pH, Temperature
Final - Calculated	- Unionized Ammonia

<u>Quarterly</u>	
Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols
Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene
Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.

<u>Monthly</u>	
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP
Imported Sewage - Abattoir (InW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN

<u>Annual</u>	
Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium

Operator Name: _____ Operator Signature: _____ Date: _____

(all collection and submission complete as per ECA, WSER, etc. plus any special requirements).

Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.

November 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days					
1	2 ☐ Weekly ☐ Monthly	3	4	5	6	7
8	9 ☐ Weekly	10	11 Stat Holiday Remembrance Day	12	13	14
15	16 ☐ Weekly	17	18	19	20	21
22	23 ☐ Weekly	24	25	26	27	28
29	30 ☐ Weekly					

 Ontario Clean Water Agency Agence Ontarienne Des Eaux																	
Sampling Calendar Lindsay WWTP (1313) Works # 110000383																	
Imported sewage samples can be taken at any point in the month but all other samples must be collected on date indicated.																	
Weekly <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Raw – Grab</td> <td>- pH, Temperature</td> </tr> <tr> <td>Raw - Comp</td> <td>-BOD, TSS, TP, TKN, TAN</td> </tr> <tr> <td>Final – Comp</td> <td>- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite</td> </tr> <tr> <td>Final – Grab</td> <td>-E.Coli, pH, Temperature</td> </tr> <tr> <td>Final - Calculated</td> <td>- Unionized Ammonia</td> </tr> </table>	Raw – Grab	- pH, Temperature	Raw - Comp	-BOD, TSS, TP, TKN, TAN	Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite	Final – Grab	-E.Coli, pH, Temperature	Final - Calculated	- Unionized Ammonia	Monthly <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Lagoon Cell 5-</td> <td>- TSS, CBOD, BOD, TSS, TKN, TAN, TP</td> </tr> <tr> <td>Imported Sewage - Abattoir (IndW)</td> <td>-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN</td> </tr> <tr> <td>Imported Sewage - Septage Receiving Station (InW2)</td> <td>- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN</td> </tr> </table>	Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP	Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN	Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN
Raw – Grab	- pH, Temperature																
Raw - Comp	-BOD, TSS, TP, TKN, TAN																
Final – Comp	- CBOD5, TSS, TP, Total (Ammonia+Ammonium) Nitrogen, TKN, Nitrite, Nitrate, Nitrate+Nitrite																
Final – Grab	-E.Coli, pH, Temperature																
Final - Calculated	- Unionized Ammonia																
Lagoon Cell 5-	- TSS, CBOD, BOD, TSS, TKN, TAN, TP																
Imported Sewage - Abattoir (IndW)	-BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN																
Imported Sewage - Septage Receiving Station (InW2)	- BOD, TSS, TP, Total (Ammonia+ Ammonium) /nitrogen, TKN																
Quarterly <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Final – Grab</td> <td>- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols</td> </tr> <tr> <td>Final – Comp</td> <td>- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene</td> </tr> <tr> <td>Acute Lethality</td> <td>Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.</td> </tr> </table>	Final – Grab	- Iron, Magnesium, Manganese, Potassium, Strontium, Bis (2-ethylhexyl) Phthalate, Benzene, Xylene, Phenols	Final – Comp	- Aluminum, Cobalt, Zinc, Copper, Boron, Lead, Toluene, ethyle-Benzene	Acute Lethality	Final - Grab Rainbow Trout & Magna daphnia – Aquatox Testing & Consulting Ltd.	Annual <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Biosolids - Grab Lagoon 2</td> <td>- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium</td> </tr> </table>	Biosolids - Grab Lagoon 2	- Total Solids, Total Phosphorus, Total Ammonia Nitrogen, Nitrate as Nitrogen, Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Zinc, Molybdenum, Nickel, Potassium, Selenium								
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Operator Name: _____ Operator Signature: _____ Date: _____ (all collection and submission complete as per ECA, WSER, etc. plus any special requirements). Sampler to initial on the date samples are taken and record the type of sample (i.e. weekly, biweekly, etc.) if it is not indicated on that date and check off the appropriate sample box.																	

December 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7 ☐ Weekly ☐ Monthly	8	9	10	11	12
13	14 ☐ Weekly	15	16	17	18	19
20 *Please review SGS's Holiday schedule prior to sampling	21 ☐ Weekly	22	23	24	25 Stat Holiday Christmas Day	26
27	28 Stat Holiday Boxing Day	29 ☐ Weekly	30	31	Sample Collection Time Frames (Days)	Weekly >5 & <10 Bi-Weekly >10 & <20 Monthly >20 & <40 Quarterly >60 & <120 Annual +/- 30 days 36 Months +/- 60 days 60 Months +/- 90 days



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Appendix III: WMS Work Order Summary

Work Order	Description	Location	Asset	Status	Work Type	Classification	Target Start	Reported Date
3949886	1313, Lindsay WWT, Boilers, Replace	1313-WWLS-F-BL		CLOSE	CAP	REFURBISH/REPLACE	5/14/24 2:10 PM	1/1/25 2:10 PM
4049351	DEFERRED 1313, Ridout SPS, Generator Failure/Temporary Generator Hookup	1313-SPRI-F-PG-ENGN		CLOSE	CAP	REFURBISH/REPLACE	7/15/24 8:52 AM	1/1/25 8:52 AM
4339502	1313, Lindsay WWT, Actiflo 2, Injection Mixer, Replacement	1313-WWLS-P	0000423859	CLOSE	CAP	REFURBISH/REPLACE		1/31/25 1:49 PM
4556276	1313, Lindsay St North Leachate Panel Relocation	1313-SPLL-F-PD	0000421434	COMP	CAP	REFURBISH/REPLACE		5/28/25 2:40 PM
4609331	1313, Rivera Park SPS, Fence Repair	1313-SPRP-F		CLOSE	CAP	REFURBISH/REPLACE		6/27/25 1:05 PM
4660261	1313, Lindsay WPCP, South Clarifier Launder Cover Install	1313-WWLS-P-ST		CLOSE	CAP	REFURBISH/REPLACE		7/7/25 8:33 AM
4662732	1313, Lindsay WWT, South Clarifier Upgrades	1313-WWLS-P-ST		CLOSE	CAP	REFURBISH/REPLACE		7/18/25 10:17 AM
4710667	1313, Lindsay WWT, Lagoon Berm Maintenance	1313-WWLS-P-ST	0000423572	CLOSE	CAP	REFURBISH/REPLACE		8/22/25 8:14 AM
4761376	1313, Riverview SPS, Road Improvements	1313-SPRV-F		CLOSE	CAP	REFURBISH/REPLACE		9/12/25 1:16 PM
4817071	1313, Lindsay St North Leachate SPS, Control Panel	1313-SPLL-F-PD	0000421434	CLOSE	CAP	REFURBISH/REPLACE		10/14/25 7:50 AM
4863612	1313, Lindsay Wastewater Collection - Operations and Maintenance Manual Annual Review	1313-WCLS		COMP	CAP	COMPLIANCE		11/19/25 6:55 PM
3706151	DEFERRED 1313, Lindsay WWT, Valve Backflow Preventer Teritary Basement, Repair	1313-WWLS-P-PI	0000422405	CLOSE	CORR	REFURBISH/REPLACE	12/18/23 1:35 PM	1/1/25 1:35 PM
3706165	DEFERRED 1313, Lindsay WWT, Valve Backflow, Tertiary, Incoming Municipal, Repair	1313-WWLS-P-PI	0000422412	CLOSE	CORR	REFURBISH/REPLACE	12/18/23 2:34 PM	1/1/25 2:34 PM
3762768	DEFERRED 1313, Central Leachate Pump, Pump Submersible #2 LSP 4, Replace	1313-SPCL-P	0000422536	CLOSE	CORR	REFURBISH/REPLACE	1/16/24 7:07 AM	1/1/25 7:07 AM
3851641	DEFERRED 1313, Logie SPS, Milltronics Strobing During Battery Backup, Troubleshoot	1313-SPLO-F-IT	0000291013	COMP	CORR	REFURBISH/REPLACE	3/28/24 2:14 PM	1/1/25 2:14 PM
3851643	DEFERRED 1313, Lindsay St North SPS, UPS Weak Batteries, Replace	1313-SPLN-F-IT		CLOSE	CORR	REFURBISH/REPLACE	3/28/24 2:17 PM	1/1/25 2:17 PM
3902399	DEFERRED 1313, Lindsay WWT, Polymer Control Disconnect Failure, Inspect/Replace	1313-WWLS-P-DI		CLOSE	CORR	REFURBISH/REPLACE	4/16/24 2:50 PM	1/1/25 2:50 PM
3947412	DEFERRED 1313, Lindsay WWT, Sandwash Solenoid Failure, Investigate/Repair	1313-WWLS-P-PC-TRIT		CLOSE	CORR	REFURBISH/REPLACE	5/3/24 2:33 PM	1/1/25 2:33 PM
3952238	DEFERRED 1313, Mary SPS, Pump 2 Fail, Replace	1313-SPMA-P	0000423672	COMP	CORR	REFURBISH/REPLACE	5/24/24 2:27 PM	1/1/25 2:19 PM
3999191	DEFERRED 1313, Rivera Park SPS, Engine Diesel Generator, Water Pump, Replace	1313-SPRP-F-PG-ENGN	0000423498	CLOSE	CORR	REFURBISH/REPLACE	6/13/24 2:23 PM	1/1/25 2:23 PM
4046634	DEFERRED 1313, Rivera Park, SPS, Pump 4, Repair	1313-SPRP-P	0000423715	CLOSE	CORR	REFURBISH/REPLACE	7/4/24 7:12 AM	1/1/25 7:12 AM
4145020	DEFERRED 1313, Lindsay WWT, Scum Pump #1 Fault, Investigate/Repair	1313-WWLS-P		CLOSE	CORR	REFURBISH/REPLACE	9/20/24 8:55 AM	1/1/25 8:55 AM
4145602	DEFERRED 1313, Lindsay WWT, Aeration Catwalk, Lock Washers Kick Plate, Install	1313-WWLS-F		CLOSE	CORR	HEALTH AND SAFETY	9/23/24 10:30 AM	1/1/25 10:26 AM
4196898	DEFERRED 1313, Lindsay WWT, Scum Pit, Pump 1, SCMP-401, Repair	1313-WWLS-P	0000423807	CLOSE	CORR	REFURBISH/REPLACE	10/29/24 7:12 AM	1/1/25 7:12 AM

4276728	DEFERRED 1313, Lindsay WWT, ESA Corrective Action: Repair Damaged Wiring Recirc Pump in Boiler Room	1313-WWLS-F		CLOSE	CORR	COMPLIANCE	12/4/24 8:09 AM	1/1/25 8:09 AM
4334248	1313, Lindsay WWT, Module 3 Fault, Investigate/Repair	1313-WWLS-P-PC-TRIT		CLOSE	CORR	REFURBISH/REPLACE		1/8/25 2:55 PM
4337928	1313, Lindsay WWT, Inlet Day Tank Light Hanging Cable, Repair as per ESA	1313-WWLS-P-DI		CLOSE	CORR	REFURBISH/REPLACE		1/24/25 9:38 AM
4337931	1313, Lindsay WWT, COMCOR Main Breaker Tripped, Reset	1313-WWLS-F-PG-BACK		CLOSE	CORR	REFURBISH/REPLACE		1/24/25 9:49 AM
4337936	1313, Lindsay WWT, UV Bank 1A Module 3 Failure, Investigate/Repair	1313-WWLS-P-DI-ULVL	0000423856	CLOSE	CORR	REFURBISH/REPLACE		1/24/25 10:00 AM
4337937	1313, Logie SPS, UPS Battery Fail, Replace	1313-SPLO-F-PG-BACK	0000423676	CLOSE	CORR	REFURBISH/REPLACE		1/24/25 10:06 AM
4337308	1313, Lindsay WWT Actuator BFV501 Replacement	1313-WWLS-P-PC-TRIT		CLOSE	CORR	REFURBISH/REPLACE		1/22/25 10:19 AM
4339446	1313, Lindsay WWT, Alum Heat Trace Off, Investigate/Repair	1313-WWLS-P-DI		CLOSE	CORR	REFURBISH/REPLACE		1/31/25 9:04 AM
4338913	1313, Ridout SPS, Pump 2 Fault, Investigate	1313-SPRI-P		CLOSE	CORR	REFURBISH/REPLACE		1/29/25 8:18 AM
4338916	1313, Lindsay WWT, Inlet Methane Gas Detector Fault, Investigate/Repair	1313-WWLS-P-PC		CLOSE	CORR	REFURBISH/REPLACE		1/29/25 8:30 AM
4338917	1313, Lindsay WWT, Heat Trace Failure, Investigate/Repair	1313-WWLS-P-ST-AERA		CLOSE	CORR	REFURBISH/REPLACE		1/29/25 8:34 AM
4378509	1313, Lindsay St North SPS, Generator Troubleshooting	1313-SPLN-F-PG	0000423534	CLOSE	CORR	REFURBISH/REPLACE		2/5/25 2:10 PM
4378940	1313, Lindsay WWT, RASP401 Fault, Investigate/Repair	1313-WWLS-P		CLOSE	CORR	REFURBISH/REPLACE		2/7/25 2:01 PM
4378960	1313, Lindsay St North Leachate SPS, Intermittent High Level Alarms, Investigate/Repair	1313-SPLL-P-PC		CLOSE	CORR	REFURBISH/REPLACE		2/7/25 2:23 PM
4380852	1313, Lindsay St North SPS, Repair Leak in Coolant Pipe	1313-SPLN		CLOSE	CORR	REFURBISH/REPLACE		2/18/25 10:25 AM
4380145	1313, Riverview SPS Alarm Investigation	1313-SPRV-P	0000423554	CLOSE	CORR	REFURBISH/REPLACE		2/13/25 9:45 AM
4380195	1313, Ridout SPS, Facility ESA Corrective Action: Replace Broken Breaker in Lighting Panel	1313-SPRI-F		CLOSE	CORR	REFURBISH/REPLACE		2/13/25 2:21 PM
4381416	1313, Jennings Creek SPS, Hydro One Replacing Hydro Meter	1313-SPJC-F-PD		CLOSE	CORR	REFURBISH/REPLACE		2/24/25 9:40 AM
4381375	1313, Lindsay WWT, UV Part Order, Purchase	1313-WWLS-P-DI-ULVL		CLOSE	CORR	REFURBISH/REPLACE		2/24/25 7:52 AM
4382722	1313, Lindsay WWT, RP 511 Inlet Flange Cracked Repair/Replace	1313-WWLS-P	0000329170	CLOSE	CORR	REFURBISH/REPLACE		2/28/25 3:14 PM
4382723	1313, Lindsay WWT, RP 511 Inlet Flange Cracked Repair/Replace	1313-WWLS-P	0000329169	CLOSE	CORR	REFURBISH/REPLACE		2/28/25 3:17 PM
4381827	1313, Ridout SPS, Exhaust Fan Repair	1313-SPRI-F-HV-EFAN	0000422233	CLOSE	CORR	REFURBISH/REPLACE		2/24/25 2:47 PM
4423683	1313, Lindsay WWT, WAS Compressor Not Turning Off, Investigate/Replace	1313-WWLS-P-PI		CLOSE	CORR	REFURBISH/REPLACE		3/3/25 10:47 AM
4425649	1313, Lindsay St North SPS, Transformer Service	1313-SPLN-F-PD	0000423403	CLOSE	CORR	REFURBISH/REPLACE		3/10/25 7:26 AM
4427275	1313, Lindsay WWT, Aeration Inlet Gate Valve Actuator Failure, Investigate/Repair	1313-WWLS-P-ST-AERA		CLOSE	CORR	REFURBISH/REPLACE		3/20/25 12:21 PM

4427907	1313, Lindsay WWT, Overflow Gate Not Opening Fully, Investigate/Repair	1313-WWLS-P-HW	0000329064	CLOSE	CORR	REFURBISH/REPLACE		3/24/25 8:20 AM
4427927	1313, Lindsay WWT, Emergency Lights Failed, Investigate/Repair	1313-WWLS		CLOSE	CORR	HEALTH AND SAFETY		3/24/25 9:00 AM
4426719	1313, Riverview SPS, Intermittant Pump 1 Fault Alarms, Replace Overload	1313-SPRV-P	0000423555	CLOSE	CORR	REFURBISH/REPLACE		3/17/25 8:09 AM
4426739	1313, Lindsay WWT, Broken Electrical Cover By Aeration Tank, Investigate/Replace	1313-WWLS		CLOSE	CORR	REFURBISH/REPLACE		3/17/25 8:17 AM
4426776	1313, North Leachate SPS, Pump 1 Running In Off Position, Investigate/Replace Contactor	1313-SPNL-P	0000343980	CLOSE	CORR	REFURBISH/REPLACE		3/17/25 9:32 AM
4487286	1313, Lindsay St N SPS, Pump #1 and # 2 Fault	1313-SPLN-P-PI		CLOSE	CORR	REFURBISH/REPLACE		4/14/25 11:13 AM
4487993	1313, Lindsay WWT, Driveway Grading	1313-WWLS-F		CLOSE	CORR	REFURBISH/REPLACE		4/17/25 10:29 AM
4487295	1313, Lindsay WWT, Interior Painting Repair	1313-WWLS-F		CLOSE	CORR	REFURBISH/REPLACE		4/14/25 1:14 PM
4489280	1313, Lindsay WWT, Leaking Bulk Tank Repair	1313-WWLS-P-ST	0000423830	CLOSE	CORR	REFURBISH/REPLACE		4/25/25 4:49 PM
4489919	1313, Lindsay WPCP, RP520 Control Fault	1313-WWLS-P-PC-TRIT	0000343936	CLOSE	CORR	REFURBISH/REPLACE		4/29/25 8:48 AM
4554844	1313, Ridout SPS, Pump 2 UTS Fault, Troubleshoot/Repair	1313-SPRI-P		CLOSE	CORR	REFURBISH/REPLACE		5/20/25 2:36 PM
4554904	1313, Fairgrounds SPS, Plumbing Leak Repair	1313-SPLN-F		CLOSE	CORR	REFURBISH/REPLACE		5/21/25 9:22 AM
4555318	1313, Lindsay St North SPS, Pump 2 Lower bearing Fault, Investigate	1313-SPLN-P-PI		CLOSE	CORR	REFURBISH/REPLACE		5/23/25 2:32 PM
4555988	DEFERRED 1313, Lindsay Jennings Creek SPS, ESA Corrective Action: Support Electrical Conduit	1313-SPJN-F		CLOSE	CORR	REFURBISH/REPLACE		5/27/25 7:55 AM
4556357	1313, Lindsay St North SPS, Pump 1 Issues, Investigate/repair	1313-SPLN-P		CLOSE	CORR	REFURBISH/REPLACE		5/29/25 8:41 AM
4556358	1313, Lindsay St North SPS, Pump 3 not turning off, Investigate/Repair	1313-SPLN-P		CLOSE	CORR	REFURBISH/REPLACE		5/29/25 8:59 AM
4556393	1313, Lindsay WWT Replace RAS room Sump Pump	1313-WWLS-F		CLOSE	CORR	REFURBISH/REPLACE		5/29/25 1:56 PM
4604423	1313, Rivera Park SPS, Flow Meter Inaccuracy Investigate/Repair	1313-SPRP-P-PC		COMP	CORR	REFURBISH/REPLACE		6/4/25 7:30 AM
4604427	1313, Rivera Park SPS, Level Sensor Failure, Inveastigate/Repair	1313-SPRP-P-PC		COMP	CORR	REFURBISH/REPLACE		6/4/25 7:39 AM
4604103	1313, Lindsay WWT, Clarifier and Aeration Cleaning	1313-WWLS-F		CLOSE	CORR	REFURBISH/REPLACE		6/2/25 1:16 PM
4604682	1313, Lindsay WWT, UV Bank 1B Exhaust Fan Failure, Replace	1313-WWLS-P-DI-ULVL		CLOSE	CORR	REFURBISH/REPLACE		6/5/25 9:04 AM
4604303	1313, Riverview SPS, Diesel Generator Repairs	1313-SPRV-F-PG-ENGN	0000421431	CLOSE	CORR	REFURBISH/REPLACE		6/3/25 2:50 PM
4604304	1313, Lindsay St North SPS, Check Valve Repair	1313-SPLN-P-PI	0000422557	CLOSE	CORR	REFURBISH/REPLACE		6/3/25 2:54 PM
4607624	1313, Lindsay WWT, Aeration Piping Repair	1313-WWLS-P-ST-AERA		CLOSE	CORR	REFURBISH/REPLACE		6/18/25 1:44 PM
4607763	1313, Lindsay WWT, Recirc Pump RP502 Water Solenoid Failure, Order/Replace	1313-WWLS-P		CLOSE	CORR	REFURBISH/REPLACE		6/19/25 2:27 PM

4607899	1313, Lindsay WWT,MX 361 High Temp/Seal Leak	1313-WWLS-P-ST-AERA	0000343827	CLOSE	CORR	REFURBISH/REPLACE		6/20/25 1:45 PM
4609298	1313, Wellington SPS, UPS Failure, Purchase/Replace	1313-SPWL-F		CLOSE	CORR	REFURBISH/REPLACE		6/27/25 8:32 AM
4609617	1313, Lindsay WWT, Inlet Emergency Lights Not Working, Investigate/Repair	1313-WWLS-F-SY		CLOSE	CORR	REFURBISH/REPLACE		6/30/25 8:26 AM
4646455	1313, Lindsay WWT, Emergency Lights Repair	1313-WWLS		CLOSE	CORR	HEALTH AND SAFETY		7/2/25 12:25 PM
4659475	1313, Lindsay WWT, UV End Cap Replacements, Order	1313-WWLS-P-DI-ULVL		CLOSE	CORR	REFURBISH/REPLACE		7/4/25 7:13 AM
4660209	1313, Lindsay WWT, UV End Cap Upgrade Install	1313-WWLS-P-DI-ULVL		CLOSE	CORR	REFURBISH/REPLACE		7/7/25 7:34 AM
4661108	1313, Jennings Creek SPS, Generator Fault	1313-SPJC-F-PG-ENGN	0000421440	CLOSE	CORR	REFURBISH/REPLACE		7/10/25 8:55 AM
4661119	1313, Lindsay WWT, AC Unit Failure, Replace fuse	1313-WWLS-F-HV		CLOSE	CORR	REFURBISH/REPLACE		7/10/25 9:46 AM
4662599	1313, Lindsay WWT, Inline Mixer issues, Investigate	1313-WWLS-P		CLOSE	CORR	REFURBISH/REPLACE		7/17/25 3:00 PM
4663066	1313, Ridout SPS, Pump 2 Fault, Investigate/Repair	1313-SPRI-P		CLOSE	CORR	REFURBISH/REPLACE		7/21/25 7:40 AM
4663719	1313, Lindsay WWT, Inlet Outlet Cleaning	1313-WWLS-P-ST	0000423572	CLOSE	CORR	REFURBISH/REPLACE		7/24/25 1:30 PM
4665090	1313, Lindsay WWT, Sump Pump Repair In Inlet Building	1313-WWLS-F		CLOSE	CORR	REFURBISH/REPLACE		7/31/25 10:05 AM
4707446	1313, Lindsay St North SPS, Pump 2 Lower Bearing Temp Warning, Investigate	1313-SPLN-P		COMP	CORR	REFURBISH/REPLACE		8/5/25 10:14 AM
4708888	1313, Lindsay WWT, Scum Pump Repair	1313-WWLS-P	0000423806	CLOSE	CORR	REFURBISH/REPLACE		8/11/25 3:01 PM
4709224	1313 Lindsay WWT, AC Repair in Blower Room	1313-WWLS-F		COMP	CORR	REFURBISH/REPLACE		8/13/25 9:00 AM
4708753	1313, Mary SPS, Intermittent Low Level Alarm, Investigate	1313-SPMA-P-PC		CLOSE	CORR	REFURBISH/REPLACE		8/11/25 7:14 AM
4708754	1313, Mary SPS, Float Mode Inspection	1313-SPMA-F		CLOSE	CORR	REFURBISH/REPLACE		8/11/25 7:24 AM
4708761	1313, Lindsay WWT, Grit Paddle Drive Thermistor Fault, Investigate/Repair	1313-WWLS-P-HW-GRIT		COMP	CORR	REFURBISH/REPLACE		8/11/25 7:30 AM
4710555	1313, Riverview SPS, Level Transducer Mount Broken, Repair	1313-SPRV-P-PC		CLOSE	CORR	REFURBISH/REPLACE		8/21/25 8:02 AM
4759702	1313, Lindsay WWT, Transformer Compound, Vegetation Cleanup	1313-WWLS-F-PD	0000423402	CLOSE	CORR	REFURBISH/REPLACE		9/5/25 8:32 AM
4762337	1313, Ridout SPS, Water Supply For Basement, Repair	1313-SPRI-P-PI		CLOSE	CORR	REFURBISH/REPLACE		9/16/25 12:10 PM
4762460	1313, Lindsay WWT, Actiflo 2, RP520, Gland Replacement	1313-WWLS-P	0000343936	CLOSE	CORR	REFURBISH/REPLACE		9/17/25 8:41 AM
4761237	1313, Lindsay WPCP, Actiflo #2 Injection Mixer Blade Repair	1313-WWLS-P-PC-TRIT	0000423859	CLOSE	CORR	REFURBISH/REPLACE		9/11/25 10:59 AM
4763449	1313, Mary SPS, Pump 1 Fail	1313-SPMA-P	0000423454	CLOSE	CORR	REFURBISH/REPLACE		9/22/25 5:04 PM
4764104	1313, Lindsay WWT, Recirc Pump 1, Replace Gaskets	1313-WWLS-F-BL	0000423428	CLOSE	CORR	REFURBISH/REPLACE		9/26/25 7:56 AM

4763886	1313, Lindsay WWT, DCVA, Hot Supply to Polymer Mixer, Replace # 2 Check	1313-WWLS-P-PI	0000422471	CLOSE	CORR	REFURBISH/REPLACE		9/25/25 7:05 AM
4815454	1313, Lindsay WPCP, Scum Wet Well Float, Replace	1313-WWLS		COMP	CORR	REFURBISH/REPLACE		10/6/25 12:35 PM
4816437	1313, Wellington SPS, Pump 2, Flange Repair	1313-SPWL-P	0000343928	CLOSE	CORR	REFURBISH/REPLACE		10/10/25 2:34 PM
4858424	1313, Lindsay WWT, Emergency Light Repairs	1313-WWLS-F		CLOSE	CORR	REFURBISH/REPLACE		10/31/25 3:01 PM
4861360	1313, Lindsay WWT, Additional Grass Cutting	1313-WWLS-P-ST	0000423572	CLOSE	CORR	REFURBISH/REPLACE		11/6/25 8:44 AM
4861393	1313, Central Leachate SPS, Pump 1 Overload Tripped, Investigate	1313-SPCL	0000423312	CLOSE	CORR	REFURBISH/REPLACE		11/6/25 12:40 PM
4861159	1313, Lindsay St North SPS, Service Leak in Building, Repair	1313-SPLN-P-PI		CLOSE	CORR	REFURBISH/REPLACE		11/5/25 6:54 AM
4863312	1313, Rivera Park SPS, Pump 3 Failure to Run, Investigate/Repair	1313-SPRP-P-PC		COMP	CORR	REFURBISH/REPLACE		11/17/25 9:05 AM
4863554	1313, Lindsay WWT North Actiflo Propane Heater Replacement	1313-WWLS-F-HV		COMP	CORR	REFURBISH/REPLACE		11/19/25 8:29 AM
4863555	1313, Ridout SPS, Facility Roof Repair	1313-SPRI-F		CLOSE	CORR	REFURBISH/REPLACE		11/19/25 8:33 AM
4863659	1313, Riverview SPS, Ultrasonic Faulty	1313-SPRV-P-PC	0000421429	CLOSE	CORR	REFURBISH/REPLACE		11/20/25 7:47 AM
4864774	1313, Lindsay WWT Driveway Repairs	1313-WWLS-F		COMP	CORR	REFURBISH/REPLACE		11/27/25 1:03 PM
4906340	1313, Mary SPS, Pump Repair Replace	1313-SPMA-P	0000423454	COMP	CORR	REFURBISH/REPLACE		12/2/25 7:54 AM
4906963	1313, Riverview SPS, Generator Running, Investigate	1313-SPRV-F-PD		CLOSE	CORR	REFURBISH/REPLACE		12/5/25 2:11 PM
4908221	1313, Ridout SPS, Pump 2 SCR Failure, Investigate/Repair	1313-SPRI-P-PC		COMP	CORR	REFURBISH/REPLACE		12/12/25 8:06 AM
4908153	1313, Lindsay WWT, Boiler Recirculation Pump 1, Repair	1313-WWLS-F-BL	0000423428	COMP	CORR	REFURBISH/REPLACE		12/11/25 1:36 PM
4909133	1313, Lindsay St North SPS, Building Service Line, Leak	1313-SPLN-F		COMP	CORR	REFURBISH/REPLACE		12/17/25 2:45 PM
4141964	DEFERRED Engine Diesel Inspection/Service by Contractor (1y) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG-ENGN	0000421390	CLOSE	PM	REFURBISH/REPLACE	9/6/24 12:00 AM	1/1/25 12:01 PM
4284033	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 12:55 AM
4284040	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 12:55 AM
4284377	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:02 AM
4284379	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:02 AM
4284388	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:02 AM
4284397	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:02 AM
4284406	Daily Operational Activities (1y) - 1313 - KTC	1313-WWLS		COMP	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:02 AM

4284423	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG-ENGN	0000421390	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:02 AM
4284442	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG-ENGN	0000421421	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:03 AM
4284461	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG-ENGN	0000421431	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:03 AM
4284480	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG-ENGN	0000421440	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:03 AM
4284499	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG-ENGN	0000422230	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:04 AM
4284518	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:04 AM
4284537	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG-ENGN	0000423531	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:04 AM
4284556	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW-GRIT	0000423810	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:04 AM
4284562	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:04 AM
4286765	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	1/1/25 12:00 AM	1/1/25 1:38 AM
4301607	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 7:37 AM
4301728	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 7:40 AM
4304633	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 8:34 AM
4306088	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 8:59 AM
4306714	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG-ENGN	0000423498	CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 9:08 AM
4307024	Valve Backflow Preventer Testing/Inspection by Contractor (1y) - 1313 Main Building - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	1/1/25 12:00 AM	1/1/25 9:13 AM
4307138	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 9:15 AM
4307342	HS03 H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	1/1/25 12:00 AM	1/1/25 9:18 AM
4318222	ESA Inspection By Contractor (1y) # 1 Visits- 1313 - KTC	1313-WWLS-F		COMP	PM	CALIBRATION	1/1/25 12:00 AM	1/1/25 12:05 PM
4318253	ESA Inspection By Contractor (1y) # 0 Visit - 1313 Ridout SPS - KTC	1313-SPRI-F		COMP	PM	CALIBRATION	1/1/25 12:00 AM	1/1/25 12:06 PM
4318258	ESA Inspection By Contractor (1y) # 0 Visit - 1313 Jennings Creek SPS - KTC	1313-SPJC-F		COMP	PM	CALIBRATION	1/1/25 12:00 AM	1/1/25 12:06 PM
4318266	ESA Inspection By Contractor (1y) # 1 Visits - 1313 Rivera Park SPS - KTC	1313-SPRP-P		COMP	PM	CALIBRATION	1/1/25 12:00 AM	1/1/25 12:06 PM
4318276	ESA Inspection By Contractor (1y) # 0 Visit - 1313 Lindsay St N SPS - KTC	1313-SPLN-F		COMP	PM	CALIBRATION	1/1/25 12:00 AM	1/1/25 12:06 PM
4322388	Daily Operational Activities (1y) - 1313 SPS - KTC	1313-WWLS		COMP	PM	INSPECTION	1/1/25 12:00 AM	1/1/25 1:05 PM
4322752	ESA Inspection By Contractor (1y) # 1 Visit - 1313 Fairgrounds SPS - KTC	1313-SPFG		COMP	PM	CALIBRATION	1/1/25 12:00 AM	1/1/25 1:10 PM

4322757	ESA Inspection By Contractor (1y) # 1 Visit - 1313 Logie SPS - KTC	1313-SPLO-F		COMP	PM	CALIBRATION	1/1/25 12:00 AM	1/1/25 1:10 PM
4335098	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	1/12/25 12:00 AM	1/12/25 12:16 AM
4341251	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:50 AM
4341253	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:50 AM
4341262	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:50 AM
4341271	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:50 AM
4341292	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG- ENGN	0000421390	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:51 AM
4341311	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG- ENGN	0000421421	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:51 AM
4341330	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG- ENGN	0000421431	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:51 AM
4341349	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG- ENGN	0000421440	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:51 AM
4341368	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG- ENGN	0000422230	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:52 AM
4341425	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW- GRIT	0000423810	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:52 AM
4341387	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:52 AM
4341431	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:52 AM
4341406	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG- ENGN	0000423531	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:52 AM
4343295	Mixer Flocculator Insp/Service (1y) - 1313 Actiflo #1 MM501- KTC	1313-WWLS-P	0000423864	CLOSE	PM	REFURBISH/REPLACE	2/1/25 12:00 AM	2/1/25 1:23 AM
4343303	Mixer Flocculator Insp/Service (1y) - 1313 Actiflo #2 MM502 - KTC	1313-WWLS-P	0000423858	CLOSE	PM	REFURBISH/REPLACE	2/1/25 12:00 AM	2/1/25 1:23 AM
4343166	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	2/1/25 12:00 AM	2/1/25 1:21 AM
4341012	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:46 AM
4341019	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 12:46 AM
4354401	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 4:33 AM
4354512	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 4:35 AM
4356513	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 6:57 AM
4358564	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	2/1/25 12:00 AM	2/1/25 8:42 AM
4358080	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG- ENGN	0000423498	CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 8:31 AM

4358428	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 8:39 AM
4357751	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	2/1/25 12:00 AM	2/1/25 8:25 AM
4379954	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	2/12/25 12:00 AM	2/12/25 12:16 AM
4384344	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:38 AM
4384705	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:43 AM
4384351	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:39 AM
4384724	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG- ENGN	0000423531	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:43 AM
4384743	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW- GRIT	0000423810	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:44 AM
4384749	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:44 AM
4384569	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:41 AM
4384571	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		COMP	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:41 AM
4384580	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:42 AM
4384589	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:42 AM
4384610	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG- ENGN	0000421390	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:42 AM
4384629	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG- ENGN	0000421421	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:42 AM
4384648	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG- ENGN	0000421431	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:42 AM
4384667	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG- ENGN	0000421440	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:43 AM
4384686	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG- ENGN	0000422230	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 12:43 AM
4386464	Blower Inspection/Service (1y) - 1313 Route - KTC	1313-WWLS		BUSCOMP	PM	REFURBISH/REPLACE	3/1/25 12:00 AM	3/1/25 1:08 AM
4386477	Compressor Air Insp/Service (1y) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	3/1/25 12:00 AM	3/1/25 1:09 AM
4386487	Gear Drive Service (1y) - 1313 - KTC	1313-WWLS		COMP	PM	REFURBISH/REPLACE	3/1/25 12:00 AM	3/1/25 1:09 AM
4386515	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	3/1/25 12:00 AM	3/1/25 1:09 AM
4386518	UV Light Cleaning & Insp. (1y) - 1313 - KTC	1313-WWLS		COMP	PM	REFURBISH/REPLACE	3/1/25 12:00 AM	3/1/25 1:09 AM
4386748	Mixer Flocculator Insp/Service (1y) - 1313 Actiflo #1 IM501 - KTC	1313-WWLS-P	0000423865	CLOSE	PM	REFURBISH/REPLACE	3/1/25 12:00 AM	3/1/25 1:13 AM
4386756	Mixer Flocculator Insp/Service (1y) - 1313 Actiflo #2 IM502 - KTC	1313-WWLS-P	0000423859	CLOSE	PM	REFURBISH/REPLACE	3/1/25 12:00 AM	3/1/25 1:13 AM

4386767	Pump Cent Insp/Service (1y) - 1313 Inlet Coagulant Transfer CTP201 - KTC	1313-WWLS-P	0000423842	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 1:13 AM
4386775	Pump Cent Insp/Service (1y) - 1313 Alum Transfer CTP701 - KTC	1313-WWLS-P	0000423797	COMP	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 1:13 AM
4394298	UPS Insp/Service (1y) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 3:04 AM
4398164	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 3:59 AM
4398359	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	COMP	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 4:01 AM
4401017	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 4:43 AM
4402361	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 5:40 AM
4402683	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG- ENGN	0000423498	CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 5:46 AM
4402980	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 5:50 AM
4403135	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	3/1/25 12:00 AM	3/1/25 5:52 AM
4404212	Odour Control Force Main Vent Filter Change (6m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-P-PI	0000423398	COMP	PM	REFURBISH/REPLACE	3/1/25 12:00 AM	3/1/25 6:07 AM
4404984	Boiler System Water Treatment Service by Contractor (3m) - 1313 - KTC	1313-WWLS-F-BL		CLOSE	PM	INSPECTION	3/1/25 12:00 AM	3/1/25 6:18 AM
4425851	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	3/12/25 12:00 AM	3/12/25 12:16 AM
4431443	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG- ENGN	0000421431	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:54 AM
4431462	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG- ENGN	0000421440	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:54 AM
4431481	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG- ENGN	0000422230	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:54 AM
4431364	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:53 AM
4431500	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:55 AM
4431366	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:53 AM
4431519	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG- ENGN	0000423531	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:55 AM
4431375	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:53 AM
4431538	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW- GRIT	0000423810	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:55 AM
4433281	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	4/1/25 12:00 AM	4/1/25 1:20 AM
4431139	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:49 AM
4431146	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:50 AM

4431384	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:53 AM
4431405	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG- ENGN	0000421390	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:54 AM
4431424	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG- ENGN	0000421421	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 12:54 AM
4445940	Clarifier Inspection & Service (6m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	4/1/25 12:00 AM	4/1/25 4:30 AM
4445950	Clarifier Arm Install/Remove (6m) - 1313 - KTC	1313-WWLS		COMP	PM	REFURBISH/REPLACE	4/1/25 12:00 AM	4/1/25 4:30 AM
4446813	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 4:44 AM
4446679	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 4:42 AM
4450591	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 6:27 AM
4452389	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG- ENGN	0000423498	CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 6:53 AM
4452668	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 6:58 AM
4451946	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	4/1/25 12:00 AM	4/1/25 6:47 AM
4452890	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	4/1/25 12:00 AM	4/1/25 7:07 AM
4453556	Facility Window Cleaning by Contractor (1y) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	4/1/25 12:00 AM	4/1/25 7:19 AM
4486881	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	4/12/25 12:00 AM	4/12/25 12:16 AM
4491866	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:44 AM
4491873	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:44 AM
4492319	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG- ENGN	0000423531	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:52 AM
4492338	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW- GRIT	0000423810	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:52 AM
4492344	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:52 AM
4492164	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:49 AM
4492166	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		COMP	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:49 AM
4492175	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:50 AM
4492184	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:50 AM
4492205	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG- ENGN	0000421390	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:50 AM
4492224	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG- ENGN	0000421421	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:50 AM

4492243	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG-ENG	0000421431	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:50 AM
4492262	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG-ENG	0000421440	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:51 AM
4492281	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG-ENG	0000422230	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:51 AM
4492300	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 12:51 AM
4494035	Lifting Devices & Fall Arrest Inspection by Contractor (1y) - 1313 - KTC	1313-WWLS		COMP	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 1:22 AM
4494042	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	5/1/25 12:00 AM	5/1/25 1:22 AM
4497189	Tank Wetwell Cleaning/Inspection (1y) - 1313 Jennings Creek SPS - KTC	1313-SPJC-P	0000423634	COMP	PM	REFURBISH/REPLACE	5/1/25 12:00 AM	5/1/25 2:29 AM
4494257	Tank Wetwell Cleaning/Inspection (1y) - 1313 Fairgrounds SPS - KTC	1313-WWLS-P	0000423653	CLOSE	PM	REFURBISH/REPLACE	5/1/25 12:00 AM	5/1/25 1:27 AM
4494272	Tank Wetwell Cleaning/Inspection (1y) - 1313 Logie SPS - KTC	1313-SPLO-P	0000423654	CLOSE	PM	REFURBISH/REPLACE	5/1/25 12:00 AM	5/1/25 1:27 AM
4494287	Tank Wetwell Cleaning/Inspection (1y) - 1313 Riverview SPS - KTC	1313-SPRV-P	0000423655	CLOSE	PM	REFURBISH/REPLACE	5/1/25 12:00 AM	5/1/25 1:27 AM
4507333	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 6:39 AM
4507457	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 6:42 AM
4510130	Air Conditioning Unit Service by Contractor (1y) - 1313 Main Plant & SPS - KTC	1313-WWLS-F-HV		CLOSE	PM	REFURBISH/REPLACE	5/1/25 12:00 AM	5/1/25 7:45 AM
4510150	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 7:46 AM
4510589	Tank Wetwell Cleaning/Inspection (1y) - 1313 Mary St SPS - KTC	1313-SPMA-P	0000423565	CLOSE	PM	REFURBISH/REPLACE	5/1/25 12:00 AM	5/1/25 7:55 AM
4511876	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 8:22 AM
4512260	Tank Wetwell Cleaning/Inspection (1y) - 1313 Rivera Park SPS - KTC	1313-SPRP-F	0000423471	CLOSE	PM	REFURBISH/REPLACE	5/1/25 12:00 AM	5/1/25 8:30 AM
4512275	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG-ENG	0000423498	CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 8:30 AM
4512552	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	5/1/25 12:00 AM	5/1/25 8:35 AM
4512726	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	5/1/25 12:00 AM	5/1/25 8:39 AM
4552978	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	5/12/25 12:00 AM	5/12/25 12:16 AM
4558460	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:41 AM
4558467	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:41 AM
4558950	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW-GRIT	0000423810	CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:47 AM
4558956	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:47 AM

4558776	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:45 AM
4558778	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:45 AM
4558787	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:45 AM
4558796	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:45 AM
4558817	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG- ENGN	0000421390	COMP	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:46 AM
4558836	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG- ENGN	0000421421	CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:46 AM
4558855	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG- ENGN	0000421431	CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:46 AM
4558874	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG- ENGN	0000421440	CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:46 AM
4558893	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG- ENGN	0000422230	CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:47 AM
4558912	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 12:47 AM
4560674	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	6/1/25 12:00 AM	6/1/25 1:10 AM
4560935	Central Leachate SPS Pump Check/Insp (6m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 1:14 AM
4560938	South Leachate SPS Pump Check/Insp (6m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 1:14 AM
4560941	Lindsay St N Leachate SPS Pump Check/Insp (6m) - 1313 - KTC	1313-SPLL		COMP	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 1:14 AM
4574077	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 4:53 AM
4574086	North Leachate SPS Pump Check/Insp (6m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 4:53 AM
4574243	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 4:56 AM
4576939	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 6:38 AM
4580001	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG- ENGN	0000423498	CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 7:26 AM
4579599	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 7:19 AM
4580460	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 7:32 AM
4580654	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	6/1/25 12:00 AM	6/1/25 7:36 AM
4582650	Boiler System Water Treatment Service by Contractor (3m) - 1313 - KTC	1313-WWLS-F-BL		CLOSE	PM	INSPECTION	6/1/25 12:00 AM	6/1/25 8:03 AM
4606180	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	6/12/25 12:00 AM	6/12/25 12:16 AM
4606251	1313, Fairgrounds SPS Battery Charger Replacement	1313-SPFG-F-PG- ENGN	0000421390	CLOSE	PM	REFURBISH/REPLACE		6/12/25 8:44 AM

4609301	1313, Lindsay WWT, Spare Recirculation Pump Cooling Water Asco Valves	1313-WWLS-S		CLOSE	PM	PREDICTIVE MAINTENANCE		6/27/25 8:52 AM
4622166	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:41 PM
4622168	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:41 PM
4622177	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:41 PM
4622186	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:42 PM
4621928	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:28 PM
4621935	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:28 PM
4622207	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG- ENGN	0000421390	CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:42 PM
4622226	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG- ENGN	0000421421	CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:43 PM
4622245	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG- ENGN	0000421431	CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:43 PM
4622264	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG- ENGN	0000421440	CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:44 PM
4622283	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG- ENGN	0000422230	CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:44 PM
4622302	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:45 PM
4622321	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG- ENGN	0000423531	CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:45 PM
4622340	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW- GRIT	0000423810	CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:45 PM
4622346	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	7/1/25 12:00 AM	7/1/25 12:46 PM
4624028	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	7/1/25 12:00 AM	7/1/25 2:04 PM
4635993	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	7/2/25 12:00 AM	7/2/25 1:59 AM
4636125	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	7/2/25 12:00 AM	7/2/25 2:07 AM
4638758	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	7/2/25 12:00 AM	7/2/25 5:33 AM
4640926	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG- ENGN	0000423498	CLOSE	PM	INSPECTION	7/2/25 12:00 AM	7/2/25 8:24 AM
4642577	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	7/2/25 12:00 AM	7/2/25 9:11 AM
4641777	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	7/2/25 12:00 AM	7/2/25 8:56 AM
4640508	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	7/2/25 12:00 AM	7/2/25 7:37 AM
4661365	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	7/12/25 12:00 AM	7/12/25 11:40 AM

4666686	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:13 AM
4666693	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:13 AM
4666934	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:23 AM
4666936	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		COMP	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:23 AM
4666945	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:23 AM
4666954	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:23 AM
4666975	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG- ENGN	0000421390	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:24 AM
4666994	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG- ENGN	0000421421	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:24 AM
4667013	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG- ENGN	0000421431	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:25 AM
4667032	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG- ENGN	0000421440	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:25 AM
4667051	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG- ENGN	0000422230	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:26 AM
4667070	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:26 AM
4667089	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG- ENGN	0000423531	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:27 AM
4667108	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW- GRIT	0000423810	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:27 AM
4667114	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:28 AM
4667119	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:28 AM
4668899	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	8/1/25 12:00 AM	8/1/25 2:35 AM
4669023	Panel Transfer Insp. (1y) - 1313 Generator - KTC	1313-WWLS-F-PD	0000423748	COMP	PM	REFURBISH/REPLACE	8/1/25 12:00 AM	8/1/25 2:39 AM
4679767	Building Eavestrough Inspection/Cleaning (1y) - 1313 - KTC	1313-WWLS		COMP	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 9:54 AM
4680116	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 10:07 AM
4680227	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 10:12 AM
4682440	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-WWLS-F-PG- PORT	0000329013	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 11:51 AM
4682748	Propane/Radiant Heater, Exhaust Fan, Boiler Insp/Service by Contractor (1y) - 1313 Route - KTC	1313-WWLS-F-HV		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 12:04 PM
4684498	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG- ENGN	0000423498	CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:10 PM
4684941	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	8/1/25 12:00 AM	8/1/25 1:28 PM

4684764	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 1:20 PM
4684187	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 12:58 PM
4694159	Blower Insp/Service By Contractor (1y) - 1313 Route - KTC	1313-WWLS		COMP	PM	INSPECTION	8/1/25 12:00 AM	8/1/25 6:50 PM
4713741	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:22 AM
4713516	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:12 AM
4713743	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		COMP	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:22 AM
4713523	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:12 AM
4713752	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:22 AM
4713761	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:22 AM
4713782	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG- ENGN	0000421390	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:23 AM
4713801	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG- ENGN	0000421421	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:24 AM
4713820	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG- ENGN	0000421431	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:24 AM
4713839	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG- ENGN	0000421440	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:25 AM
4713858	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG- ENGN	0000422230	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:25 AM
4713877	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:26 AM
4713896	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG- ENGN	0000423531	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:26 AM
4713915	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW- GRIT	0000423810	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:27 AM
4713921	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:27 AM
4715591	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 2:34 AM
4715966	HS09 Chemical Review (1y) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	9/1/25 12:00 AM	9/1/25 2:45 AM
4715973	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG- ENGN	0000421390	COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 2:46 AM
4715979	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG- ENGN	0000421440	COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 2:46 AM
4715985	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 2:46 AM
4715991	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Logie SPS - KTC	1313-SPLO-F-PG- ENGN	0000421421	COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 2:46 AM
4715997	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG- ENGN	0000422230	COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 2:46 AM

4716003	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG-ENGN	0000421431	COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 2:47 AM
4716015	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Main Plant - KTC	1313-WWLS-F-PG-ENGN	0000423531	COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 2:47 AM
4718753	Analyzer Fixed Gas Monitor Calibration by Contractor (1y) - 1313 - KTC	1313-WWLS		COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 4:24 AM
4728212	Heater Unit Inspection (1y) - 1313 Main Plant Route - KTC	1313-WWLS		COMP	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 10:31 AM
4728859	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 10:59 AM
4728725	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 10:52 AM
4731293	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 12:36 PM
4734318	Engine Diesel Inspection/Service by Contractor (1y) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG-ENGN	0000423498	COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 2:13 PM
4734858	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	9/1/25 12:00 AM	9/1/25 2:31 PM
4734299	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG-ENGN	0000423498	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 2:13 PM
4733875	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 1:58 PM
4736064	Odour Control Force Main Vent Filter Change (6m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-P-PI	0000423398	COMP	PM	REFURBISH/REPLACE	9/1/25 12:00 AM	9/1/25 3:12 PM
4736209	Transformer Inspection/Maintenance by Contractor (2y) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PD	0000423403	CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 3:18 PM
4737037	Boiler System Water Treatment Service by Contractor (3m) - 1313 - KTC	1313-WWLS-F-BL		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 3:46 PM
4734646	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	9/1/25 12:00 AM	9/1/25 2:24 PM
4761383	Grit Chamber Clean-out/Inspection by Contractor (1y) - 1313 - KTC	1313-WWLS-P-HW-GRIT	0000423868	CLOSE	PM	REFURBISH/REPLACE	9/12/25 12:00 AM	9/12/25 1:54 PM
4767000	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:17 AM
4767002	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL		COMP	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:17 AM
4767011	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:18 AM
4766752	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:09 AM
4767020	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:18 AM
4766759	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:09 AM
4767041	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG-ENGN	0000421390	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:18 AM
4767060	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG-ENGN	0000421421	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:19 AM
4767079	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG-ENGN	0000421431	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:19 AM

4767098	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG-ENGN	0000421440	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:20 AM
4767117	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG-ENGN	0000422230	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:20 AM
4767136	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:20 AM
4767155	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG-ENGN	0000423531	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:21 AM
4767174	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW-GRIT	0000423810	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:21 AM
4767180	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:21 AM
4767185	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:22 AM
4768912	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	10/1/25 12:00 AM	10/1/25 2:17 AM
4780578	Clarifier Inspection & Service (6m) - 1313 - KTC	1313-WWLS		COMP	PM	REFURBISH/REPLACE	10/1/25 12:00 AM	10/1/25 8:50 AM
4781263	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 9:15 AM
4781381	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 9:20 AM
4784666	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 11:06 AM
4787478	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 12:38 PM
4787372	Valve Backflow Preventer Testing/Inspection by Contractor (1y) - 1313 SPS - KTC	1313-WWLS		COMP	PM	REFURBISH/REPLACE	10/1/25 12:00 AM	10/1/25 12:35 PM
4787388	Valve Backflow Preventer Testing/Inspection by Contractor (1y) - 1313 Inlet Building - KTC	1313-WWLS		COMP	PM	REFURBISH/REPLACE	10/1/25 12:00 AM	10/1/25 12:36 PM
4787116	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG-ENGN	0000423498	CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 12:27 PM
4787446	Pump Diaphragm Inspection/Service (1y) - 1313 - KTC	1313-WWLS-P		CLOSE	PM	REFURBISH/REPLACE	10/1/25 12:00 AM	10/1/25 12:37 PM
4786419	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 12:06 PM
4787677	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	10/1/25 12:00 AM	10/1/25 12:46 PM
4791887	Tank Storage Diesel Fuel Inspection by Contractor (10y) - 1313 Main Plant - KTC	1313-WWLS-F-PG-ENGN	0000433760	COMP	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:54 PM
4791896	Tank Storage Diesel Fuel Inspection by Contractor (10y) - 1313 Fairgrounds - KTC	1313-SPFG-F-PG-ENGN	0000433752	COMP	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:54 PM
4791902	Tank Storage Diesel Fuel Inspection by Contractor (10y) - 1313 Jennings Creek - KTC	1313-SPJC-F-PG	0000433753	COMP	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:55 PM
4791913	Tank Storage Diesel Fuel Inspection by Contractor (10y) - 1313 Lindsay St N Tank #2 - KTC	1313-SPLN-F-PG	0000433755	COMP	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:55 PM
4791919	Tank Storage Diesel Fuel Inspection by Contractor (10y) - 1313 Logie - KTC	1313-SPLO-F-PG-ENGN	0000433756	COMP	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:55 PM
4791926	Tank Storage Diesel Fuel Inspection by Contractor (10y) - 1313 Ridout - KTC	1313-SPRI-F-PG-ENGN	0000433757	COMP	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:55 PM

4791936	Tank Storage Diesel Fuel Inspection by Contractor (10y) - 1313 Rivera Park - KTC	1313-SPRP-F-PG-ENGN	0000433758	COMP	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:55 PM
4791947	Tank Storage Diesel Fuel Inspection by Contractor (10y) - 1313 Riverview - KTC	1313-SPRV-F-PG-ENGN	0000433759	COMP	PM	INSPECTION	10/1/25 12:00 AM	10/1/25 1:55 PM
4821376	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821383	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821652	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL	0000423312	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821661	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821682	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG-ENGN	0000421390	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821701	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG-ENGN	0000421421	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821641	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821720	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG-ENGN	0000421431	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821643	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL	0000423310	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821739	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG-ENGN	0000421440	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821758	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG-ENGN	0000422230	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821777	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821796	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG-ENGN	0000423531	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821815	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW-GRIT	0000423810	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821821	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4821826	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4823529	Online Process Equipment Calibration Service by Contractor (1y) - 1313 - KTC	1313-WWLS		COMP	PM	CALIBRATION	11/1/25 12:00 AM	11/1/25 1:00 AM
4823534	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	11/1/25 12:00 AM	11/1/25 1:00 AM
4834512	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL	0000423313	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4834623	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4836637	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4837958	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4838684	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG-ENGN	0000423498	CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM

4838998	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	INSPECTION	11/1/25 12:00 AM	11/1/25 1:00 AM
4839122	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	HEALTH AND SAFETY	11/1/25 12:00 AM	11/1/25 1:00 AM
4861160	1313, Lindsay WWT, Valve Leaking Air	1313-WWLS-P-PI	0000329203	CLOSE	PM	REFURBISH/REPLACE		11/5/25 7:22 AM
4866498	Blower Inspection (1m) - 1313 - KTC	1313-WWLS		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866721	Lindsay St N Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPLL	0000423310	CLOSE	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866730	Central Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPCL	0000423312	COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866739	South Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPSL		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866760	Engine Diesel (1m) - 1313 Fairgrounds SPS - KTC	1313-SPFG-F-PG-ENGN	0000421390	CLOSE	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866780	Engine Diesel (1m) - 1313 Logie SPS - KTC	1313-SPLO-F-PG-ENGN	0000421421	COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866800	Engine Diesel (1m) - 1313 Riverview SPS - KTC	1313-SPRV-F-PG-ENGN	0000421431	CLOSE	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866820	Engine Diesel (1m) - 1313 Jennings Creek SPS - KTC	1313-SPJC-F-PG-ENGN	0000421440	CLOSE	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866840	Engine Diesel (1m) - 1313 Ridout SPS - KTC	1313-SPRI-F-PG-ENGN	0000422230	CLOSE	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866860	Engine Diesel (1m) - 1313 Lindsay St N SPS - KTC	1313-SPLN-F-PG	0000423534	CLOSE	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866880	Engine Diesel (1m) - 1313 Main Plant - KTC	1313-WWLS-F-PG-ENGN	0000423531	COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866900	Gear Drive Insp/Service - (1m) - 1313 Inlet Grit Removal - KTC	1313-WWLS-P-HW-GRIT	0000423810	CLOSE	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866906	Analyzer DO Inspection (1m) - 1313 DO Analyzer Route - KTC	1313-WWLS		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4866911	UV Light Bank Cleaning & Insp. (1m) - 1313 UV Route - KTC	1313-WWLS		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4868592	Tank Alum Inspection (1m) - 1313 - KTC	1313-WWLS		CLOSE	PM	REFURBISH/REPLACE	12/1/25 12:00 AM	12/1/25 12:00 AM
4868845	Central Leachate SPS Pump Check/Insp (6m) - 1313 - KTC	1313-SPCL	0000423312	COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4868848	South Leachate SPS Pump Check/Insp (6m) - 1313 - KTC	1313-SPSL		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4868851	Lindsay St N Leachate SPS Pump Check/Insp (6m) - 1313 - KTC	1313-SPLL	0000423310	COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4880319	Alarm Dialer Testing (1m) - 1313 Main Plant - KTC	1313-WWLS-F-IT	0000423613	COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4880170	North Leachate SPS Monitor/Insp (1m) - 1313 - KTC	1313-SPNL	0000423313	COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4880179	North Leachate SPS Pump Check/Insp (6m) - 1313 - KTC	1313-SPNL	0000423313	COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4882251	Engine Gas Honda Portable - (1m) - 1313 Lindsay WWT Shop - KTC	1313-SPWL-F-PD	0000329013	COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM

4884241	Lagoon Inspection (1m) - 1313 - KTC	1313-WWLS		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4884381	H & S Equipment Check (1m) - 1313 - KTC	1313-WWLS		COMP	PM	HEALTH AND SAFETY	12/1/25 12:00 AM	12/1/25 12:00 AM
4883965	Engine Diesel (1m) - 1313 Rivera Park SPS - KTC	1313-SPRP-F-PG- ENGN	0000423498	CLOSE	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4883656	Chemical Feed System Insp (1m) - 1313 - KTC	1313-WWLS		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4886162	Boiler System Water Treatment Service by Contractor (3m) - 1313 - KTC	1313-WWLS-F-BL		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 12:00 AM
4906144	Alarm Dialer Testing (1m) - 1313 SPS - KTC	1313-WWLS		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 8:40 AM
4906151	Building and Grounds Maintenance (1m) - 1313 - KTC	1313-WWLS		COMP	PM	INSPECTION	12/1/25 12:00 AM	12/1/25 8:41 AM



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix IV: Calibration Reports



Franklin Empire

550 Braidwood Ave. Unit 4
Peterborough ON K9J 1W1, CANADA

Tel: (705) 745-1626

Fax: (705) 745-3493

OCWA Kawartha Lindsay WWTP

2025 Flow Calibrations

Leaders in Instrumentation and Control

	CALIBRATION REPORT	Report No.: LINDSWW 25 FIT-501
		Date: 15-Dec-25

SITE: Lindsay WWTP
PROCESS AREA: Actiflo 1
INSTR. TAG: FIT-501
MANUFACTURER: Krohne
MODEL: IFC 090
SERIAL No.: A98 18896
INSTR. RANGE: 0000423853

SERVICE DATE: December 15, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test)		18	Output (Signal)		Output (Process)	
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	m3/day
Min:	0.00		Min:	4.00	0.00	
Max:	2.15		Max:	20.00	373.30	32250.00
DN (mm):	450					
GK=1 GKL=2	1		coil 117.8 ohms			
GK:	3.589		open to ground			
Constant:	4177.44		Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.00	0.00%	4.00	0.00%
0.50	A	7.73	7.72	-0.13%	7.72	-0.13%
1.00	B	11.46	11.45	-0.09%	11.45	-0.09%
2.00	C	18.91	18.88	-0.16%	18.88	-0.16%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 11, 2025	Mar. 27, 2025	

Comments:

Total 45.079 E6m3

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 25 FIT-502
		Date: 15-Dec-25

SITE: Lindsay WWTP
PROCESS AREA: Actiflo 2
INSTR. TAG: FIT-502
MANUFACTURER: Krohne
MODEL: IFC 090
SERIAL No.: A98 18895
INSTR. RANGE: 0000423852

SERVICE DATE: December 15, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test)			Output (Signal)		(Process)	
Type:	GS 8 (X val)	18	Type or EGU:	mA	l/s	m3/day
Min:	0.00		Min:	4.00	0.00	
Max:	2.17		Max:	20.00	373.30	32250.00
DN (mm):	450					
GK=1 GKL=2	1		coil 117.2 ohms			
GK:	3.548		open to ground			
Constant:	4177.44		Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.00	0.00%	4.00	0.00%
0.50	A	7.69	7.66	-0.39%	7.66	-0.39%
1.00	B	11.37	11.33	-0.35%	11.33	-0.35%
2.00	C	18.74	18.68	-0.32%	18.68	-0.32%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 11, 2025	Mar. 27, 2025	

Comments:

47.396 E6 m3

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 25 FIT-101
		Date: 16-Dec-25

SITE: Lindsay WWTP
PROCESS AREA: Middle Leachate
FIT-101
MANUFACTURER: Krohne
MODEL: IFC 090
SERIAL No.: A03 29326
INSTR. RANGE: 0000423619

SERVICE DATE: December 16, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test)			Output (Signal) (Process)			
Type:	GS 8 (X val)		Type or EGU:	mA l/s		
Min:	0.00		Min:	4.00 0.00		
Max:	6.67		Max:	20.00 25.00		
DN (mm):	80	3 inch	coil 62.0 ohms			
GK=1 GKL=2	1		open to ground			
GK:	2.445					
Constant:	4177.44					
			Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.00	0.00%	4.00	0.00%
0.50	A	5.20	5.18	-0.38%	5.18	-0.38%
1.00	B	6.40	6.39	-0.16%	6.39	-0.16%
2.00	C	8.79	8.78	-0.11%	8.78	-0.11%
5.00	D	15.99	15.96	-0.19%	15.96	-0.19%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 11, 2025	Mar. 27, 2025	

Comments: In Panel outside, fuse marked on instrument. (CB#8 3rd from right) (mA input 2 on RCI 800)

226680m3

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



Report No.: LINDSWW
25 FIT-201

JOB REFERENCE: LINDSWW 25

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 11, 2025	Mar. 27, 2025	

White Male

	CALIBRATION REPORT	Report No.: LINDSWW 25 FIT-203
		Date: 15-Dec-25

SITE: Lindsay WWTP
PROCESS AREA: North / Middle Leachate
INSTR. TAG: FIT-203
MANUFACTURER: Krohne
MODEL: IFC 090
SERIAL No.: A03 21903
INSTR. RANGE: 0000422119

SERVICE DATE: December 15, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test)			Output (Signal) (Process)			
Type:	GS 8 (X val)	4	Type or EGU:	mA	l/s	
Min:	0.00		Min:	4.00	0.00	
Max:	15.22		Max:	20.00	90.00	
DN (mm):	100		coil 102.0 ohms open to ground			
GK=1 GKL=2	1					
GK:	2.470					
Constant:	4177.44	Before Calibration		After Calibration		
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.00	0.00%	4.00	0.00%
0.50	A	4.53	4.49	-0.88%	4.49	-0.88%
1.00	B	5.05	5.02	-0.59%	5.02	-0.59%
2.00	C	6.10	6.06	-0.66%	6.06	-0.66%
5.00	D	9.26	9.23	-0.32%	9.23	-0.32%
10.00	E	14.51	14.43	-0.55%	14.43	-0.55%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 11, 2025	Mar. 27, 2025	

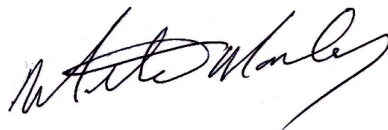
Comments:

Display cycles 2Xper second and pushbuttons not working.
 Noisy signal, somewhat erratic, Consider replacement.

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 25 FIT-202
		Date: Dec. 16, 2025

SITE: Lindsay WW
PROCESS AREA: Reject
INSTR. TAG: FIT-202
MANUFACTURER: Greyline Transit Time
MODEL: TTFM 1.0
SERIAL No.: 53787
Type: 0000423880

SERVICE DATE: Dec. 16, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test)			Output (Signal) (Process)			
Type:	Simulation		Type or EGU:	mA	m3/day	m3/hr
Min:	0		Min:	4.00	0	0
Max:	25920		Max:	20.00	25920.000	1080
Pipe OD:	12.75					
Sensor Spacing:	4.5 inch 1 Pass					
Material:	Stainless Steel		Before Calibration		After Calibration	
Input	Input %	Calc. m3/day	Output	%Error	Output	%Error
0			0		0	
440		440	432	-1.82%	432	-1.82%
Simulation	Input %	Calc. mA	Output	%Error	Output	%Error

Calibration Equipment			
Type:	DMM	Clamp-on Transit time Flowmeter	
Manufacturer:	Fluke	Siemens	
2018 Flow Calibrat	Model 87	FUP1010	
Serial No.:	13440128	Service	
Last Cal. Date:	Feb. 11, 2025		

Comments: Sig strength was jumpy 34% - 84%, Signal strength was 100% steady after.

Unsteady flow but readings improved after transducers were removed and reinstalled with new couplant.
correction factor 1.00

AS FOUND: UNSTABLE

AS LEFT: PASS

CERTIFIED BY:



	CALIBRATION REPORT	Report No.: LINDSWW 25 FIT-101
		Date: Dec. 15, 2025

SITE: Lindsay WWTP
PROCESS AREA: Ridout SPS
INSTR. TAG: FIT-101
MANUFACTURER: Krohne
MODEL: IFC 020D
SERIAL No.: A0246587
INSTR. RANGE: 0000422553

SERVICE DATE: Dec. 15, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test)			Output (Signal)		(Process)	
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	m3/day
Min:	0.00		Min:	4.00	0.00	
Max:	7.31		Max:	20.00	450.00	
DN (mm):	300	12	coil			
GK=1 GKL=2	1		99.5 ohms			
GK:	2.856		open to ground			
Constant:	4177.44		Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	3.99	-0.25%	3.99	0.00%
0.50	A	5.09	5.04	-0.98%	5.04	-0.98%
1.00	B	6.19	6.13	-0.97%	6.13	-0.97%
2.00	C	8.38	8.29	-1.07%	8.29	-1.07%
5.00	D	14.94	14.77	-1.14%	14.77	-1.14%
10.00	E	25.88				

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 11, 2025	Mar. 27, 2025	

Comments: Total 2180415m3

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:





CALIBRATION REPORT

Report No.: LINDSWW 25 FIT-W SPS

Date: Dec. 16, 2025

SITE: Lindsay WW Wellington SPS
PROCESS AREA: Wellington SPS
INSTR. TAG: FIT-W SPS
MANUFACTURER: Greyline Doppler
MODEL: DFM-IV
SERIAL No.: 20450
Type: 0000422219

SERVICE DATE: Dec. 16, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test)			Output (Signal)		Output (Process)	
Type:	Simulation		Type or EGU:	mA	m3/s	m3/day
Min:	0.00		Min:	4.00	0	0
Max:	0.024		Max:	20.00	0.024	2074
Pipe ID:	3.96					
Material:	Cast Iron		Before Calibration		After Calibration	
Input	Input %	Calc. m3/day	Output	%Error	Output	%Error
Simulation	Input %	Calc. mA	Output	%Error	Output	%Error
0.000	0.00%	4.00	4.01		4.01	
0.006	25.00%	8.00	8.01		8.01	
0.120	50.00%	12.00	12.00		12.00	
0.018	75.00%	16.00	16.00		16.00	
0.024	100.00%	20.00	20.00		20.00	

Calibration Equipment			
Type:	DMM		
Manufacturer:	Fluke		
2018 Flow Calibrat	Model 87		
Serial No.:	13440128		
Last Cal. Date:	Feb. 11, 2025		

Comments: 2019 Tested pump 2, ran at 0.009 m3/sec, 2020 Tested Pump 2, ran at 0.01 m3/sec
 2021 Tested Pump 1, ran at 0.010 m3/s, 2022 Tested Pump 1, ran at 0.009 m3/s
 2023 P1 (new pump), ran at 0.012m3/s, 2024 Tested Pump 1, ran at 0.012m3/s
 2025 Tested Pump 1, ran at 0.012m3/s
 Functional test and mA output check only. This meter was not compared to any reference.

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



CALIBRATION REPORT

Report No.: LINDSWW 25 232 FIT 101

Date: Dec. 16, 2025

SITE: Lindsay WWTP
PROCESS AREA: Logie St
TAG: 232 FIT 101
MANUFACTURER: Krohne
MODEL: IFC 300
SERIAL No.: S0825543 CG30011100
INSTR. RANGE: 0000421415

SERVICE DATE: Dec. 16, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test)			Output (Signal)		(Process)	
Type:	GS 8 (X val)		Type or EGU:	mA	l/s	
Min:	0.00		Min:	4.00	0.00	
Max:	3.22		Max:	20.00	200.00	
DN (mm):	250	10 inch	coil open to ground			
GK=1 GKL=2	2					
GK:	8.304					
Constant:	4177.44					
			Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (l/s)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	4.00	0.00%	4.00	0.00%
0.50	A	6.48	6.47	-0.15%	6.47	-0.15%
1.00	B	8.97	8.93	-0.45%	8.93	-0.45%
2.00	C	13.94	13.84	-0.72%	13.84	-0.72%

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 11, 2025	Mar. 27, 2025	

Comments:
AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:

	CALIBRATION REPORT	Report No.: LINDSWW 25 FIT-Fair
		Date: Dec. 16, 2025

SITE: Lindsay WW Fairgrounds
PROCESS AREA: Fairgrouds SPS
INSTR. TAG: FIT-Fair
MANUFACTURER: Greyline Doppler
MODEL: DFM-IV
SERIAL No.: 19456
Type: 0000421388

SERVICE DATE: Dec. 16, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test)			Output (Signal)		(Process)	
Type:	Simulation		Type or EGU:	mA	m3/s	m3/day
Min:	0.00		Min:	4.00	0	0
Max:			Max:	20.00	0.056	4838
programmed						
Pipe ID:	6	5.1				
Material:	plastic		Before Calibration		After Calibration	
Input	Input %	Calc. m3/s	Output	%Error	Output	%Error
0	0.00%	0	0	0.00%	0	0.00%
17.2	1/s	0.0172	0.018		0.018	
		17.2 1/s				

Calibration Equipment			
Type:	DMM	Clamp-on Transit time Flowmeter	
Manufacturer:	Fluke	Siemens	
2018 Flow Calibrat	Model 87	FUP1010	
Serial No.:	13440128	Service	
Last Cal. Date:	Feb. 11, 2025		

Comments: Verified with clamp on flowmeter, ALC 77, 1505 fps

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:



Report No.: LINDSWW
25 FIT 1

Date: Dec. 16, 2025

SITE:	Mary St SPS
PROCESS AREA:	Pump 1
INSTR. TAG	FIT 1
MANUFACTURER:	Krohne
MODEL:	IFC100
SERIAL No.:	S17315264
OCWA Code.	0000423609

SERVICE DATE: Dec. 16, 2025

TECHNICIAN: M Manley

JOB REFERENCE: LINDSWW 25

Input (Test) Type: GS 8 (X val) Min: 0.00 Max: 3.69 DN (mm): 100 4 inch GK=1 GKL=2 2 GK: 5.657 Constant: 4177.44			Output (Signal) (Process) Type or EGU: mA l/s Min: 4.00 0.00 Max: 20.00 25.00 coil 121.6ohms to ground 8M ohms			
			Before Calibration		After Calibration	
Input (Y pos)	Knob Setting	Calc. O/P (l/s)	Output (mA)	%Error	Output (mA)	%Error
0.00	0	4.00	3.99	-0.25%	3.99	0.00%
0.50	A	6.17	6.15	-0.32%	6.15	-0.32%
1.00	B	8.33	8.32	-0.12%	8.32	-0.12%
2.00	C	12.67	12.64	-0.24%	12.64	-0.24%
5.00	D	25.67				
10.00	E	47.33				

Calibration Equipment			
Type:	DMM	Simulator	
Manufacturer:	Fluke	Krohne	
2018 Flow Calibrat	Model 87	GS 8B	
Serial No.:	13440128	U1127700020705	
Last Cal. Date:	Feb. 11, 2025	Mar. 27, 2025	

Comments: SRB SRWS

8M ohms to ground. These meters have had moisture in the junction boxes. Recommend dry them out in the summer and fill them with potting compound.

AS FOUND: PASS

AS LEFT: PASS

CERTIFIED BY:

White Male

Report No.: LINDSWW
25 FIT 2

JOB REFERENCE: LINDSWW 25

CERTIFIED BY:

Plant operator: OCWA.

Device information

Location	Lindsay WWTP
Device tag	Promag
Module name	C300-01
Nominal diameter	DN750 / 30"
Device name	Promag 500
Order code	5W5B7F-1K11/0
Serial number	T10D6919000
Firmware version	01.01.06

**Calibration**

Calibration factor	1.0939
Zero point	-10

Verification information

Operating time (counter)	1224d00h47m40s
Date/time (manually recorded)	15.12.25 10:37
Verification ID	6
Verification mode	Internal verification

Overall verification result*

 Passed	Details see next page
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*Result of the complete device functionality test via Heartbeat Technology

Confirmation

Heartbeat Verification verifies the function of the flowmeter within the specified measuring tolerance, over the useful lifetime of the device, with a total test coverage > 94 %, and complies with the requirements for traceable verification according to DIN EN ISO 9001:2008 – Section 7.6 a. (attested by TÜV-SÜD Industrieservices GmbH)

Notes

Date

Operator's signature

Inspector's signature

Plant operator: OCWA.

Device identification and verification identification

Serial number	T10D6919000
Device tag	Promag
Verification ID	6



Sensor		✓ Passed
Shot time symmetry		✓ Passed
Hold voltage symmetry		✓ Passed
Coil current loss		✓ Passed
Coil current stability		✓ Passed
Coil resistance		✓ Passed
Electrode circuit 1		✓ Passed
Electrode circuit 2		✓ Passed
Electrode circuit EPD		✓ Passed
Sensor electronic module (ISEM)		✓ Passed
Supply voltage		✓ Passed
External reference voltage		✓ Passed
Linearity and reference voltage		✓ Passed
Offset of electrode measuring circuit		✓ Passed
Hold voltage feedback		✓ Passed
Shot voltage feedback		✓ Passed
Electronic current loss		✓ Passed
Coil circuit measurement		✓ Passed
Shot control circuit		✓ Passed
Electrode signal integrity		✓ Passed
System status		✓ Passed
I/O module		✓ Passed
Input/output 1	26-27 (I/O 1)	✓ Passed
Input/output 2	24-25 (I/O 2)	✓ Passed
Input/output 3	22-23 (I/O 3)	☐ Not plugged
Input/output 4	20-21 (I/O 4)	☐ Not plugged

Plant operator: OCWA.

Device identification and verification identification

Serial number	T10D6919000
Device tag	Promag
Verification ID	6



Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		0.9975	0.9000	1.1000	□□□□■□□□□□
Hold voltage symmetry deviation		1.0018	0.9000	1.1000	□□□□■□□□□□
Coil current loss deviation	%	-0.06968	-10.0000	10.0000	□□□□■□□□□□
Coil current offset	%	0.00	-0.1	0.1	□□□□■□□□□□
Coil current deviation	%	0.016	-0.1	0.1	□□□□■□□□□□
Coil resistance value	Ohm	115.8	50.0	240.0	□□■□□□□□□□
Electrode impedance 1	Ohm	302.55			
Electrode impedance 2	Ohm	279.76			
Electrode EPD impedance	Ohm	335.76			
Electrode impedance E1/E2 on E1	Ohm	294.56			
Electrode impedance E1/E2 on E2	Ohm	272.97			
Sensor electronic module (ISEM)					
External reference voltage 1	V	-nan			
Linearity and reference voltage 1		0.9994			
Linearity and reference voltage 2		0.9997			
Measuring point offset		-2.9228	-100.0000	100.0000	□□□□■□□□□□
Hold voltage feedback value	%	1.12	-10.0	10.0	□□□□■□□□□□
Shot voltage feedback value	%	-0.38	-20.0	20.0	□□□□■□□□□□
Electronic current loss deviation	%	-0.032	-10.0000	10.0000	□□□□■□□□□□
Coil circuit value	%	0.055	-1.0	1.0	□□□□■□□□□□
Shot control circuit value	%	-0.0099	-10.0	10.0	□□□□■□□□□□
Electrode signal integrity deviation	%	7.79	-40.0	40.0	□□□□■□□□□□
System status					

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
I/O module 1 terminal numbers	26-27 (I/O 1)				
Output 1 value 1	mA	0.01211	-0.1813	0.1813	□□□□■□□□□□
Output 1 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□
I/O module 2 terminal numbers	24-25 (I/O 2)				
Output 2 value 1		1.0000	0.9995	1.0005	□□□□■□□□□□
Output 2 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□

Plant operator: OCWA.

Device identification and verification identification

Serial number	T10D6919000
Device tag	Promag
Verification ID	6



Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	m³/d	16918.22
Conductivity value verification	µS/cm	-nan
Electronic temperature	°C	20.7993

Plant operator: OCWA

Device information

Location	Lindsay WW FIT-401
Device tag	FIT401
Module name	K323-00
Nominal diameter	DN450 / 18"
Device name	Promag 400
Order code	5W4C4F-7MD6/0
Serial number	SC22A719000
Firmware version	02.01.01



Calibration

Calibration factor	1.1386
Zero point	-13.0

Verification information

Operating time (counter)	1147d19h48m57s
Date/time (manually recorded)	15.12.25 10:55
Verification ID	28
Verification mode	Standard verification

Overall verification result*

 Passed	Details see next page
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*Result of the complete device functionality test via Heartbeat Technology

Confirmation

Heartbeat Verification verifies the function of the flowmeter within the specified measuring tolerance, over the useful lifetime of the device, with a total test coverage > 94 %, and complies with the requirements for traceable verification according to DIN EN ISO 9001:2008 – Section 7.6 a. (attested by TÜV-SÜD Industrieservices GmbH)

Notes

Date

Operator's signature

Inspector's signature

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A719000
Device tag	FIT401
Verification ID	28



Sensor	✓ Passed
Shot time symmetry	✓ Passed
Hold voltage symmetry	✓ Passed
Coil current loss	✓ Passed
Coil current stability	✓ Passed
Coil resistance	✓ Passed
E1 electrode cable	✓ Passed
E2 electrode cable	✓ Passed
EPD electrode cable	✓ Passed
Sensor electronic module (ISEM)	✓ Passed
Supply voltage	✓ Passed
Internal voltages	✓ Passed
Linearity and reference voltage	✓ Passed
Offset of electrode measuring circuit	✓ Passed
Hold voltage feedback	✓ Passed
Shot voltage feedback	✓ Passed
Electronic current loss	✓ Passed
Coil circuit measurement	✓ Passed
Shot control circuit	✓ Passed
Electrode signal integrity	✓ Passed
System status	✓ Passed
I/O module	✓ Passed
Input/output 1	✓ Passed
Input/output 2	? Not done
Input/output 3	? Not done

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A719000
Device tag	FIT401
Verification ID	28



Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		1.0000	0.9000	1.1000	□□□□■□□□□□
Hold voltage symmetry deviation		1.0000	0.9000	1.1000	□□□□■□□□□□
Coil current loss deviation	%	0.1227	-10.0000	10.0000	□□□□■□□□□□
Coil current offset	%	0.02437	-0.1000	0.1000	□□□□□■□□□□
Coil current deviation	%	-0.008123	-0.1000	0.1000	□□□□■□□□□□
Coil resistance value	Ohm	134.0	50.0	240.0	□□□■□□□□□□
E1 electrode impedance	Ohm	514.60			
E2 electrode impedance	Ohm	447.38			
EPD electrode impedance	Ohm	414.09			
E1/E2 electrode impedance on E1	Ohm	500.32			
E1/E2 electrode impedance on E2	Ohm	436.55			
Sensor electronic module (ISEM)					
Supply voltage 30.0V	V	31.15	27.000	35.000	□□□□■□□□□□
Linearity and reference voltage 1		0.9993	0.9900	1.0100	□□□□■□□□□□
Linearity and reference voltage 2		0.9995	0.9900	1.0100	□□□□■□□□□□
Measuring point offset		8.4886	-100.0000	100.0000	□□□□■□□□□□
Hold voltage feedback value	%	0.80	-10.0	10.0	□□□□■□□□□□
Shot voltage feedback value	%	-0.74	-20.0	20.0	□□□□■□□□□□
Electronic current loss deviation	%	-0.17	-10.0000	10.0000	□□□□■□□□□□
Coil circuit value	%	0.00	-1.0	1.0	□□□□■□□□□□
Shot control circuit value	%	-0.092	-10.0	10.0	□□□□■□□□□□
Electrode signal integrity deviation	%	-0.12	-40.0	40.0	□□□□■□□□□□

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
Output 1 value 1	mA	6.7548	6.6187	6.9544	□□□■□□□□□□
Output 1 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 2 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 3 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A719000
Device tag	FIT401
Verification ID	28



Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	m ³ /d	2787.750
Conductivity value verification	μS/cm	-nan
Electronic temperature	°C	30.1
Current difference potential	V	-0.007658
Current potential electrode 1	V	0.05991
Current potential electrode 2	V	0.06646
Current potential electrode Pipe GND	V	0.002176

Plant operator: OCWA

Device information

Location	Lindsay WWTP FIT-421
Device tag	FIT421
Module name	K323-00
Nominal diameter	DN150 / 6"
Device name	Promag 400
Order code	5W4C1F-1H9E4/0
Serial number	SA25B919000
Firmware version	02.01.01



Calibration

Calibration factor	1.1313
Zero point	1.0

Verification information

Operating time (counter)	1147d19h53m30s
Date/time (manually recorded)	15.12.25 11:07
Verification ID	11
Verification mode	Standard verification

Overall verification result*

 Passed	Details see next page
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*Result of the complete device functionality test via Heartbeat Technology

Confirmation

Heartbeat Verification verifies the function of the flowmeter within the specified measuring tolerance, over the useful lifetime of the device, with a total test coverage > 94 %, and complies with the requirements for traceable verification according to DIN EN ISO 9001:2008 – Section 7.6 a. (attested by TÜV-SÜD Industrieservices GmbH)

Notes

Date

Operator's signature

Inspector's signature

Plant operator: OCWA

Device identification and verification identification

Serial number	SA25B919000
Device tag	FIT421
Verification ID	11



Sensor	✓ Passed
Shot time symmetry	✓ Passed
Hold voltage symmetry	✓ Passed
Coil current loss	✓ Passed
Coil current stability	✓ Passed
Coil resistance	✓ Passed
E1 electrode cable	✓ Passed
E2 electrode cable	✓ Passed
EPD electrode cable	✓ Passed
Sensor electronic module (ISEM)	✓ Passed
Supply voltage	✓ Passed
Internal voltages	✓ Passed
Linearity and reference voltage	✓ Passed
Offset of electrode measuring circuit	✓ Passed
Hold voltage feedback	✓ Passed
Shot voltage feedback	✓ Passed
Electronic current loss	✓ Passed
Coil circuit measurement	✓ Passed
Shot control circuit	✓ Passed
Electrode signal integrity	✓ Passed
System status	✓ Passed
I/O module	✓ Passed
Input/output 1	✓ Passed
Input/output 2	? Not done
Input/output 3	? Not done

Plant operator: OCWA

Device identification and verification identification

Serial number	SA25B919000
Device tag	FIT421
Verification ID	11



Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		1.0007	0.9000	1.1000	□□□□■□□□□□
Hold voltage symmetry deviation		1.0000	0.9000	1.1000	□□□□■□□□□□
Coil current loss deviation	%	0.0000	-10.0000	10.0000	□□□□■□□□□□
Coil current offset	%	0.01625	-0.1000	0.1000	□□□□□■□□□□
Coil current deviation	%	-0.01625	-0.1000	0.1000	□□□■□□□□□□
Coil resistance value	Ohm	67.5	50.0	240.0	■□□□□□□□□□
E1 electrode impedance	Ohm	425.88			
E2 electrode impedance	Ohm	423.30			
EPD electrode impedance	Ohm	434.49			
E1/E2 electrode impedance on E1	Ohm	431.03			
E1/E2 electrode impedance on E2	Ohm	427.48			
Sensor electronic module (ISEM)					
Supply voltage 30.0V	V	31.18	27.000	35.000	□□□□■□□□□□
Linearity and reference voltage 1		0.9993	0.9900	1.0100	□□□□■□□□□□
Linearity and reference voltage 2		0.9995	0.9900	1.0100	□□□□■□□□□□
Measuring point offset		3.3555	-100.0000	100.0000	□□□□■□□□□□
Hold voltage feedback value	%	2.19	-10.0	10.0	□□□□□■□□□□
Shot voltage feedback value	%	-0.48	-20.0	20.0	□□□□■□□□□□
Electronic current loss deviation	%	0.047	-10.0000	10.0000	□□□□■□□□□□
Coil circuit value	%	0.00	-1.0	1.0	□□□□■□□□□□
Shot control circuit value	%	-0.19	-10.0	10.0	□□□□■□□□□□
Electrode signal integrity deviation	%	-2.10	-40.0	40.0	□□□□■□□□□□

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
Output 1 value 1	mA	16.2051	15.9555	16.4798	□□□□■□□□□□
Output 1 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 2 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 3 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□

Plant operator: OCWA

Device identification and verification identification

Serial number	SA25B919000
Device tag	FIT421
Verification ID	11



Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	m ³ /d	3436.810
Conductivity value verification	μS/cm	-nan
Electronic temperature	°C	29.8
Current difference potential	V	-0.01308
Current potential electrode 1	V	0.04290
Current potential electrode 2	V	0.05827
Current potential electrode Pipe GND	V	0.001509

Plant operator: OCWA

Device information

Location	LINDSAY WWTP FIT-411
Device tag	Promag
Module name	K323-00
Nominal diameter	DN450 / 18"
Device name	Promag 400
Order code	5W4C4F-7MD6/0
Serial number	SC22A819000
Firmware version	02.01.01



Calibration

Calibration factor	1.1444
Zero point	3.0

Verification information

Operating time (counter)	1147d16h09m07s
Date/time (manually recorded)	15.12.25 11:17
Verification ID	5
Verification mode	Standard verification

Overall verification result*

 Passed	Details see next page
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*Result of the complete device functionality test via Heartbeat Technology

Confirmation

Heartbeat Verification verifies the function of the flowmeter within the specified measuring tolerance, over the useful lifetime of the device, with a total test coverage > 94 %, and complies with the requirements for traceable verification according to DIN EN ISO 9001:2008 – Section 7.6 a. (attested by TÜV-SÜD Industrieservices GmbH)

Notes

Date

Operator's signature

Inspector's signature

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A819000
Device tag	Promag
Verification ID	5



Sensor	✓ Passed
Shot time symmetry	✓ Passed
Hold voltage symmetry	✓ Passed
Coil current loss	✓ Passed
Coil current stability	✓ Passed
Coil resistance	✓ Passed
E1 electrode cable	✓ Passed
E2 electrode cable	✓ Passed
EPD electrode cable	✓ Passed
Sensor electronic module (ISEM)	✓ Passed
Supply voltage	✓ Passed
Internal voltages	✓ Passed
Linearity and reference voltage	✓ Passed
Offset of electrode measuring circuit	✓ Passed
Hold voltage feedback	✓ Passed
Shot voltage feedback	✓ Passed
Electronic current loss	✓ Passed
Coil circuit measurement	✓ Passed
Shot control circuit	✓ Passed
Electrode signal integrity	✓ Passed
System status	✓ Passed
I/O module	✓ Passed
Input/output 1	✓ Passed
Input/output 2	? Not done
Input/output 3	? Not done

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A819000
Device tag	Promag
Verification ID	5



Test item with value	Unit	Actual	Min.	Max.	Visualization
Sensor					
Shot time symmetry deviation		0.9992	0.9000	1.1000	□□□□■□□□□□
Hold voltage symmetry deviation		1.0000	0.9000	1.1000	□□□□■□□□□□
Coil current loss deviation	%	0.2291	-10.0000	10.0000	□□□□■□□□□□
Coil current offset	%	0.0000	-0.1000	0.1000	□□□□■□□□□□
Coil current deviation	%	0.0000	-0.1000	0.1000	□□□□■□□□□□
Coil resistance value	Ohm	134.2	50.0	240.0	□□□■□□□□□□
E1 electrode impedance	Ohm	405.79			
E2 electrode impedance	Ohm	386.02			
EPD electrode impedance	Ohm	420.41			
E1/E2 electrode impedance on E1	Ohm	396.37			
E1/E2 electrode impedance on E2	Ohm	377.52			
Sensor electronic module (ISEM)					
Supply voltage 30.0V	V	31.17	27.000	35.000	□□□□■□□□□□
Linearity and reference voltage 1		0.9996	0.9900	1.0100	□□□□■□□□□□
Linearity and reference voltage 2		0.9997	0.9900	1.0100	□□□□■□□□□□
Measuring point offset		2.8219	-100.0000	100.0000	□□□□■□□□□□
Hold voltage feedback value	%	0.61	-10.0	10.0	□□□□■□□□□□
Shot voltage feedback value	%	-0.78	-20.0	20.0	□□□□■□□□□□
Electronic current loss deviation	%	0.28	-10.0000	10.0000	□□□□■□□□□□
Coil circuit value	%	0.055	-1.0	1.0	□□□□■□□□□□
Shot control circuit value	%	-0.077	-10.0	10.0	□□□□■□□□□□
Electrode signal integrity deviation	%	0.59	-40.0	40.0	□□□□■□□□□□

Test item with value	Unit	Actual	Min.	Max.	Visualization
I/O module					
Output 1 value 1	mA	6.2977	6.1333	6.4592	□□□□■□□□□□
Output 1 value 2		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 2 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□
Output 3 value 1		0.0000	0.0000	0.0000	□□□□□□□□□□

Plant operator: OCWA

Device identification and verification identification

Serial number	SC22A819000
Device tag	Promag
Verification ID	5



Test item with value	Unit	Actual
Process conditions		
Volume flow value verification	m ³ /d	2297.617
Conductivity value verification	μS/cm	-nan
Electronic temperature	°F	84.2
Current difference potential	V	-0.01089
Current potential electrode 1	V	0.2124
Current potential electrode 2	V	0.2261
Current potential electrode Pipe GND	V	-0.0002663

SIEMENS MAGFLO® Verification Certificate

Customer:

Name OCWA Kawartha
Address Lindsay St North Leachate

Phone
Email

MAGFLO® Identification:

TAG No./Name 0
Sensor Code No. 7ME631
Sensor Serial No. 671540H193
Converter Code No. 7ME691
Converter Serial No. N1E2208822
Location Lindsay S N Leachate

Results:

Verification file name or No. Lindsay St N L
Converter Passed
Sensor Insulation Passed
Magnetic Circuit Passed

Velocity	Current Output			Frequency Output		
Theoretical	Theoretical	Actual	Deviation	Theoretical	Actual	Deviation
0.5m/s	4.800mA	4.806mA	0.73%	0.500kHz	0.501kHz	0.26%
1.0m/s	5.600mA	5.602mA	0.10%	1.000kHz	0.999kHz	-0.10%
3.0m/s	8.800mA	8.807mA	0.15%	3.000kHz	3.003kHz	0.12%

Current Output 4-20mA

Frequency Output 0-10kHz

Converter Settings:

Basic

Qmax. 6.2 l/s
Flow Direction Positive
Low flow Cut-off 1.50%
Empty Pipe OFF

Output

Current Output ON (4-20mA)
Time Constant 5.0 Sec.
Relay Output Error Level

Digital Output Pulse
Frequency Range N/A
Time Constant N/A
Volume/pulse 0.99999953 US G/p
Pulse width 0.066 sec.
Pulse polarity Positiv

Totalizer 1 value before test 118359.609375 m³
Totalizer 1 value after test 118359.6328125 m³
Totalizer 2 value before test 10753.10351563 m³
Totalizer 2 value after test 10753.10351563 m³

Sensor Details:

Size DN 100 4 IN

Cal. Factor 7.6739769

Correction Factor 1.0

Excitation Freq. 7.5Hz

Vericator Details (083F5060)

Serial No. 000811N218
Device No. 91739
Software Version 1.40
PC-Software Version 4.02
Cal. date 2025.10.29
ReCal. date 2026.10.29

Comments

These tests verify that the flowmeter is functioning within 2% deviation of the original test parameters.
Verification is traceable to National and International Standards.

Date and signature

2025.12.15

M Manley



VeriMaster - Flow Meter Verification Report

Customer Information		Meter Information	
Customer	OCWA	Meter Owner	Lindsay St N SPS
Verification Download	Mon, Dec 15, 2025	Meter Type	WaterMaster
		Sensor Size	DN300
		Pipe Status	Fluid Present
		Sensor Type	Fullbore
		Sensor Serial No	3K620000175045
		Transmitter Serial No	3K620000175045
		Tag	ABB Warminster
		Location	?

Overall Status: Pass

The flowmeter has passed its internal continuous verification and automatic self calibration. It is working within +/-1% of its original factory calibration

Summary of Results		Verification History	
Coil Group	Passed	OIML Accuracy Alarms	0
Electrode Group	Passed	Totaliser Information	
Sensor Group	Passed		
Transmitter Signal	Passed		
Transmitter Driver	Passed	Forward	11050552.78 m3
Output Group	Passed	Reverse	330341.39 m3
Configuration	Passed	Net	10720211.39 m3
Sensor Information		Sensor Data	
Q3	694.44 l/s	Coil Current	179.9 mA
Calibration Accuracy	OIML Class 2	Coil Inductance	279.5 mH
Sensor Calibration Factors	150.5%; 0.00 mm/s; 11	Coil Inductance Shift	-0.0%
Date of Manufacture	2014 Sept 17	Coil / Loop Resistance	36.3 ohm
Run Hours	3917days 12hrs 25mins	Transmitter Data	
Transmitter Information		Tx Gain - Adjustment	0.1%
		VeriMaster Information	
		Version	01.00.03
		Limit Version	01.00.01
Current Output		Pulse Output	
4mA Value	Pass : 4.000 mA ; 0.00%	Output 1: 1200.0Hz	Not tested
12mA Value	Pass : 11.984 mA ; 0.13%	Output 1: 600.0Hz	Not tested
20mA Value	Pass : 20.000 mA ; 0.00%	Output 2: 1200.0Hz	Not tested
		Output 2: 600.0Hz	Not tested

Installation Comments / Equipment used:	Configuration Settings
Pass FIT 102	Mains Frequency 60 Hz
	Qmax 400.00 l/s
	Pulses/Unit 10.000000
	Pulses Limit Frequency 1200.0 Hz
	Sensor User Span/Zero 100.0%; 0.00 mm/s
	User Flow Cutoff/Hysteresis 1.00%; 20%
	Meter Mode Normal operation

Date Mon, Dec 15, 2025

Operator Signature

Print

ABB Instrumentation World Flow Technology

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Tel: +44(0) 1453 826661
Fax: +44(0) 1453 821121
instrumentation@gb.abb.com

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Fax: +1 215 674 6394
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ABB Australia Pty Ltd.
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Tel: +61-2-982 1-0111
Fax: +61-2-9821-0950

ABB Automation GmbH
Dransfelder Str.2
37079 Gottingen, GERMANY
Tel: +49 (0) 551 905212
Fax: +1 (215) 674 6394

Flowmeter Verification Certificate Transmitter

OCWA K

Customer

Jennings

Order code

PROMAG 10 W DN350

Device type

F809B216000

Serial number

V1.03.00

Software Version Transmitter

12/16/2025

Verification date

Lindsay WW

Plant

Tag Name

1.0729 - 1.0729

K-Factor

0

Zero point

Software Version I/O-Module

10:25

Verification time

Verification result Transmitter: Failed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.65 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Failed	

FieldCheck Details

550149

Production number

1.07.10

Software Version

03/2025

Last Calibration Date

Simubox Details

Production number

1.00.01

Software Version

03/2025

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

FieldCheck - Result Tab Transmitter

Customer	OCWA K	Plant	Lindsay WW
Order code	Jennings	Tag Name	-----
Device type	PROMAG 10 W DN350	K-Factor	1.0729 - 1.0729
Serial number	F809B216000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	12/16/2025	Verification time	10:25

Verification Flow end value (100 %): 384.845 l/s

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	Test Transmitter			
✓	Amplifier	19.242 l/s (5%)	1.60 %	-0.68 %
✓		38.485 l/s (10.0%)	1.10 %	-0.41 %
✓		192.424 l/s (50.0%)	0.70 %	0.06 %
✓		384.846 l/s (100%)	0.65 %	-0.02 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.009 mA
✓		4.800 mA (5%)	0.05 mA	0.002 mA
✓		5.600 mA (10.0%)	0.05 mA	0.004 mA
✓		12.000 mA (50.0%)	0.05 mA	0.018 mA
✓		20.000 mA (100%)	0.05 mA	0.046 mA
—	Pulse Output 1	---	---	---
		Start value	Limits range	Measured value
	Test Sensor			
✓	Coil Curr. Rise	100.001 ms	23.340..100.001 ms	59.557 ms
✗	Coil Curr. Stability		---	---

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention

FieldCheck: Parameters Transmitter

Customer	OCWA K	Plant	Lindsay WW
Order code	Jennings	Tag Name	-----
Device type	PROMAG 10 W DN350	K-Factor	1.0729 - 1.0729
Serial number	F809B216000	Zero point	0
Software Version Transmitter	V1.03.00	Software Version I/O-Module	
Verification date	12/16/2025	Verification time	10:25

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA active	0.0 l/s	300.01 l/s		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.114 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

107.0

MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

VEHICLE SCALE TEST REPORT (QF-11.3)

Wednesday, December 10, 2025

Customer:

City of Kawartha Lakes
Inbound scale

Address: 51 Wilson rd

City: Lindsay

Postal Code: K9V 4R3

Province: Ontario

Phone: 705-324-9411

Make of Scale: Active	Model No: CMD-1080-1- 100-FD2	Serial No: 033024	Scale Capacity: 70,000kg	Graduation Size: 10kg
Make of Indicator: Rice Lake	Model No: 820	Serial No: 006095	Pounds	Kilograms x

SECTION TESTING (Test 1)

A shift test in which the test load is applied over individual sections of the scale.

1st LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
AS FOUND	20350	20350	20350	20350	20350
2ND LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
AS LEFT	20350	20350	20350	20350	20350

Scale house/Indicator (Reference to Platform)

LOAD TESTING (Test 2)

Normal basic performances in which observations are made as increments of test load are successively added to the load receiving elements of the scale.

	TEST LOAD (KG)	AS FOUND SCALE INDICATION	AS LEFT SCALE INDICATION
0 Load	0	0	0
	2000	2000	2000
	4000	4010	4000
	6000	6000	6000
	8000	8000	8000
MAX	10000	10000	10000
	8000	8000	8000
	6000	6000	6000
	4000	4000	4000
	2000	2000	2000
0 Load	0	0	0

MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

STRAIN-LOAD (Test 3)

Indicated weight of empty vehicle	Known standards	Total weight indicated
10350 kg	Plus 10,000 kg	20350 kg

DESCRIPTION OF REPAIR AND ADJUSTMENTS

No adjustments required.

WEIGHT IDENTIFICATION NUMBERS: M1-20

Measurement Canada Certificate: 1423464

Calibration Date: December 10, 2025

Next Calibration Date: June 10, 2026

INSPECTION AND TESTS PERFORMED BY: Brent Cole/Lee Alton



Scale is accurate and approved for
use by:



MASSTEC WEIGHING SYSTEMS

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www.masstec.ca

VEHICLE SCALE TEST REPORT (QF-11.3)

Wednesday, December 10, 2025

Customer:

City of Kawartha Lakes
Outbound Scale

Address: 51 Wilson Rd

City: Lindsay

Postal Code: K9V 4R3

Province: Ontario

Phone: 705-324-9411

Make of Scale: Active	Model No: CMD-1080-1- 100-FD2	Serial No: 033025	Scale Capacity: 70,000 kg	Graduation Size: 10 kg
Make of Indicator: Rice Lake	Model No: 680 Synergy Plus	Serial No: 1963200145	Pounds	Kilograms x

SECTION TESTING (Test 1)

A shift test in which the test load is applied over individual sections of the scale.

1 st LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
AS FOUND	20350	20350	20350	20350	20350
2 ND LOAD	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5
AS LEFT	20350	20350	20350	20350	20350

Scale house/Indicator (Reference to Platform)

LOAD TESTING (Test 2)

Normal basic performances in which observations are made as increments of test load are successively added to the load receiving elements of the scale.

	TEST LOAD (KG)	AS FOUND SCALE INDICATION	AS LEFT SCALE INDICATION
0 Load	0	0	0
	2000	2000	2000
	4000	4000	4000
	6000	6000	6000
	8000	8000	8000
MAX	10000	10000	10000
	8000	8000	8000
	6000	6000	6000
	4000	4000	4000
	2000	10000	2000
0 Load	0	0	0

MASSTEC WEIGHING SYSTEMS

887 Highway #7 Peterborough, ON K9J 6X7 | phone: (705) 745-2488 | toll-free: 1-800-363-9007
www.masstec.ca

STRAIN-LOAD (Test 3)

Indicated weight of empty vehicle	Known standards	Total weight indicated.
10350 kg	Plus 10,000 kg	20350 kg

DESCRIPTION OF REPAIR AND ADJUSTMENTS

No adjustments required.

WEIGHT IDENTIFICATION NUMBERS: M1-20
Measurement Canada Certificate #: 1423464

Calibration Date: December 10, 2025

Next Calibration Date: June 10, 2026

INSPECTION AND TESTS PERFORMED BY: Brent Cole/Lee Alton



Scale is accurate and approved for
use by:





Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix V: Community Complaints

There were no formal documented complaints for the Lindsay WWTP in 2025.



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Appendix VI: **Bypass, Overflows, Spill, Abnormal Events**



David Bradley
District Manager
Peterborough District Office
Ministry of the Environment, Conservation and Parks
300 Water Street, 2nd Floor, South Tower
Peterborough, ON
K9J 3C7

April 23, 2025

Dear Mr. Bradley:

Re: Lindsay WWTP 2025 Q1 Bypass Event and Overflow Event Summary Report

Amended Environmental Compliance Approval #1696-BPLL4R sections 4(6) and 5(6) issued June 29, 2020 for the Lindsay WWTP requires a Bypass Event and Overflow Event summary report be submitted to the District Manager on a quarterly basis, no later than February 15, May 15, August 15, and November 15 each calendar year.

There were no incidents of Bypass or Overflow Events at the Lindsay WWTP during the first quarter of 2025 (January, February, and March).

Please contact me if you have any questions or comments.

Best regards,

Katie Campbell
Process & Compliance Technician
Ontario Clean Water Agency
Kawartha Hub
(705) 934-0026

CC: Brent Martin, OCWA - Operations Manager
Allison McCann, OCWA - SPC Manager
Lynette Nicholson, OCWA – General Manager
Karen Lorente, OCWA - Regional Hub Manager
Amber Hayter, Kawartha Lakes – Manager, Water & Wastewater
Michelle Flaherty, Kawartha Lakes – Contract Coordinator
Brad Jackson, MECP – Water Supervisor
Kayla Trofimczuk, MECP – Water Compliance Officer

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**24-March-2025****OCWA-Kawartha (Lindsay WWTF)**

PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 18 March 2025**LR Report:** CA13728-MAR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Eff Eff-Final Effluent (Comp)
Sample Date & Time					17-Mar-25 09:21
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	19-Mar-25	15:50	24-Mar-25	13:22	< 4
Total Suspended Solids [mg/L]	19-Mar-25	07:36	19-Mar-25	15:08	8
Phosphorus (total) [mg/L]	19-Mar-25	15:42	20-Mar-25	13:40	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	19-Mar-25	16:22	20-Mar-25	14:33	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	19-Mar-25	17:41	20-Mar-25	11:39	< 0.1
Nitrite (as N) [mg/L]	20-Mar-25	18:36	21-Mar-25	11:20	< 0.03
Nitrate (as N) [mg/L]	20-Mar-25	18:36	21-Mar-25	11:20	8.97
Nitrate + Nitrite (as N) [mg/L]	20-Mar-25	18:36	21-Mar-25	11:20	8.97

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**26-March-2025****OCWA-Kawartha (Lindsay WWTF)**

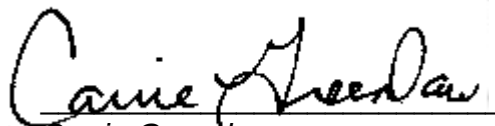
PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 21 March 2025**LR Report:** CA13909-MAR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Eff Eff-Final Effluent
Sample Date & Time					20-Mar-25 14:21
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	21-Mar-25	17:32	26-Mar-25	11:40	< 4
Total Suspended Solids [mg/L]	24-Mar-25	15:05	25-Mar-25	16:28	17
Phosphorus (total) [mg/L]	24-Mar-25	21:10	25-Mar-25	14:20	0.08
Total Kjeldahl Nitrogen [as N mg/L]	24-Mar-25	17:28	25-Mar-25	13:55	0.8
Ammonia+Ammonium (N) [as N mg/L]	24-Mar-25	19:53	25-Mar-25	12:27	< 0.1
Nitrite (as N) [mg/L]	22-Mar-25	13:16	24-Mar-25	16:56	< 0.03
Nitrate (as N) [mg/L]	22-Mar-25	13:16	24-Mar-25	16:56	9.84
Nitrate + Nitrite (as N) [mg/L]	22-Mar-25	13:16	24-Mar-25	16:56	9.84



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**26-March-2025****OCWA-Kawartha (Lindsay WWTF)**

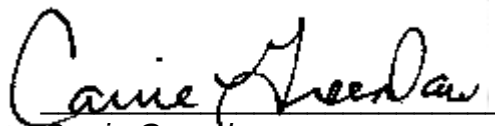
PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 21 March 2025**LR Report:** CA13910-MAR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Eff Eff-Final Effluent
Sample Date & Time					21-Mar-25 13:57
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	21-Mar-25	17:32	26-Mar-25	11:40	< 4
Total Suspended Solids [mg/L]	24-Mar-25	13:15	25-Mar-25	13:17	9
Phosphorus (total) [mg/L]	24-Mar-25	21:10	25-Mar-25	14:20	0.03
Total Kjeldahl Nitrogen [as N mg/L]	24-Mar-25	17:28	25-Mar-25	13:55	0.8
Ammonia+Ammonium (N) [as N mg/L]	24-Mar-25	19:53	25-Mar-25	12:27	0.1
Nitrite (as N) [mg/L]	22-Mar-25	13:16	24-Mar-25	16:56	0.06
Nitrate (as N) [mg/L]	22-Mar-25	13:16	24-Mar-25	16:56	9.67
Nitrate + Nitrite (as N) [mg/L]	22-Mar-25	13:16	24-Mar-25	16:56	9.73



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**01-April-2025****OCWA-Kawartha (Lindsay WWTF)**

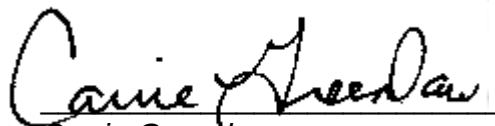
PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 24 March 2025**LR Report:** CA12591-MAR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Eff Eff-Final Effluent (Comp)
Sample Date & Time					22-Mar-25
Temperature Upon Receipt [°C]	---	---	---	---	3.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	25-Mar-25	15:49	01-Apr-25	12:04	< 4
Total Suspended Solids [mg/L]	25-Mar-25	07:53	25-Mar-25	14:43	14
Phosphorus (total) [mg/L]	25-Mar-25	15:33	26-Mar-25	10:45	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	25-Mar-25	16:48	26-Mar-25	13:07	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	25-Mar-25	18:31	26-Mar-25	13:03	< 0.1
Nitrite (as N) [mg/L]	25-Mar-25	10:23	26-Mar-25	08:45	< 0.03
Nitrate (as N) [mg/L]	25-Mar-25	10:23	26-Mar-25	08:45	10.6
Nitrate + Nitrite (as N) [mg/L]	25-Mar-25	10:23	26-Mar-25	08:45	10.6



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**07-April-2025****OCWA-Kawartha (Lindsay WWTF)**

PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 01 April 2025**LR Report:** CA12006-APR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Eff Eff-Final Effluent (Comp)
Sample Date & Time					29-Mar-25
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	02-Apr-25	17:59	07-Apr-25	12:00	< 4
Total Suspended Solids [mg/L]	02-Apr-25	08:14	02-Apr-25	15:21	8
Phosphorus (total) [mg/L]	01-Apr-25	19:20	02-Apr-25	13:03	0.03
Total Kjeldahl Nitrogen [as N mg/L]	01-Apr-25	19:27	02-Apr-25	14:20	1.0
Ammonia+Ammonium (N) [as N mg/L]	02-Apr-25	09:07	02-Apr-25	15:44	< 0.1
Nitrite (as N) [mg/L]	02-Apr-25	17:17	03-Apr-25	12:21	< 0.03
Nitrate (as N) [mg/L]	02-Apr-25	17:17	03-Apr-25	12:21	9.26
Nitrate + Nitrite (as N) [mg/L]	02-Apr-25	17:17	03-Apr-25	12:21	9.26

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**07-April-2025****OCWA-Kawartha (Lindsay WWTF)**

PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 01 April 2025**LR Report:** CA12007-APR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Eff Eff-Final Effluent (Comp)
Sample Date & Time					31-Mar-25 11:25
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	02-Apr-25	17:59	07-Apr-25	12:00	4
Total Suspended Solids [mg/L]	02-Apr-25	08:14	03-Apr-25	08:23	24
Phosphorus (total) [mg/L]	01-Apr-25	19:20	02-Apr-25	13:05	0.19
Total Kjeldahl Nitrogen [as N mg/L]	01-Apr-25	19:27	02-Apr-25	14:21	3.4
Ammonia+Ammonium (N) [as N mg/L]	02-Apr-25	09:07	02-Apr-25	15:44	2.2
Nitrite (as N) [mg/L]	02-Apr-25	17:17	03-Apr-25	12:22	0.23
Nitrate (as N) [mg/L]	02-Apr-25	17:17	03-Apr-25	12:22	6.00
Nitrate + Nitrite (as N) [mg/L]	02-Apr-25	17:17	03-Apr-25	12:22	6.23

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety

David Bradley
District Manager
Peterborough District Office
Ministry of Environment, Conservation and Parks
300 Water Street South, 2nd Floor, South Tower
Peterborough ON K9J 3C7

April 10, 2025

Mr. Bradley:

Re: Lindsay WWTP March 2025 Total Suspended Solids (TSS) Exceedance

Further to my phone call on April 10, 2025 @15:44, I am submitting written notification of exceedance of Total Suspended Solids (TSS) mg/L limit as required by Environmental Compliance Approval (ECA) #1696-BPLL4R for Lindsay WWTP.

The TSS monthly concentration effluent limit is 11.0 mg/L as a monthly average and the month of March 2025 the monthly average of all samples collected gives a result of 12.27 mg/L.

The TSS monthly loadings effluent limit is 238kg/d and the monthly loading for March 2025 is 289.09kg/d.

These exceedances were due to the high flows from heavy rain and snow melt.

Operations is continuing its efforts to optimize the treatment to reduce the total suspended solids.

Please contact me if you have any questions.

Best regards,

Katie Campbell
Process Compliance Technician
Ontario Clean Water Agency
Kawartha-Trent Regional Hub
(705) 934-0026

CC: B. Martin, Sr. Operations Manager, OCWA Kawartha-Trent
K. Lorente, Regional Manager, OCWA Kawartha-Trent
R. Junkin, VP Operations, OCWA
L. Nicholson, General Manager, OCWA Kawartha-Trent
A. McCann, SPC Manager, OCWA Kawartha-Trent
T. Smith, Operator, OCWA Kawartha-Trent
M. Flaherty, Client, City of Kawartha Lakes
A. Hayter, Client, City of Kawartha Lakes

K. Trofimczuk, Environmental Officer, Peterborough MECP

B. Jackson, Acting Supervisor, Peterborough MECP



David Bradley
District Manager
Peterborough District Office
Ministry of the Environment, Conservation and Parks
300 Water Street, 2nd Floor, South Tower
Peterborough, ON
K9J 3C7

July 17, 2025

Dear Mr. Bradley:

Re: Lindsay WWTP 2025 Q1 Bypass Event and Overflow Event Summary Report

Amended Environmental Compliance Approval #1696-BPLL4R sections 4(6) and 5(6) issued June 29, 2020 for the Lindsay WWTP requires a Bypass Event and Overflow Event summary report be submitted to the District Manager on a quarterly basis, no later than February 15, May 15, August 15, and November 15 each calendar year.

There were no incidents of Bypass or Overflow Events at the Lindsay WWTP during the first quarter of 2025 (January, February, and March).

There was one occurrence of overflow event at the Rivera Park Sewage Pumping Station which was reported as required by the CLI-ECA 141-W601.

Please contact me if you have any questions or comments.

Best regards,

Katie Campbell
Process & Compliance Technician
Ontario Clean Water Agency
Kawartha Hub
(705) 934-0026

CC: Brent Martin, OCWA - Operations Manager
Allison McCann, OCWA - SPC Manager
Lynette Nicholson, OCWA – General Manager
Karen Lorente, OCWA - Regional Hub Manager
Amber Hayter, Kawartha Lakes – Manager, Water & Wastewater
Michelle Flaherty, Kawartha Lakes – Contract Coordinator
Aaron Gordon, MECP – Acting Water Supervisor
Kayla Trofimczuk, MECP – Water Compliance Officer

Lindsay WPCP - Quarterly Bypass Report
 Environmental Compliance Approval #1969-BPLL4
 Year: 2025
 Q2 = April, May, June

Did a Bypass occur during this quarter:
 Yes ☐ No ☒

Condition 4. Bypasses		Event
4.3	a. the type of the Bypass (emergency or planned)	
	b. the date and time of the beginning of the Bypass	
	c. the treatment process(es) gone through prior to the Bypass and the treatment process(es) bypassed;	
	d. the effort(s) done to maximize the flow through the downstream treatment process(es) and the reason(s) why the Bypass was not avoided.	
4.4	a. the date and time of the end of the Bypass;	
	b. the estimated or measured volume of Bypass.	
4.5	For any Bypass Event, the Owner shall collect daily sample(s) of the Final Effluent, inclusive of the Event and analyze for all effluent parameters outlined in Compliance Limits condition that require composite samples following the same protocol specified in the Monitoring and Recording condition for the regular samples. The sample(s) shall be in addition to the regular Final Effluent samples required under the monitoring and recording condition. If the Event occurs on a scheduled monitoring day, the regular sampling requirements prevail. If representative sample for the effluent parameter(s) that require grab sample cannot be obtained, they shall be collected after the Event at the earliest time when situation returns to normal.	
4.6	...The summary reports shall contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5) and either a statement of compliance or a summary of the non-compliance notifications submitted as required under Paragraph 1 of Condition 11. If there is no Bypass Event during a quarter, a statement of no occurrence of Bypass is deemed sufficient.	No Occurance of Bypass.

Lindsay WPCP - Quarterly Overflow Report

Environmental Compliance Approval #1696-BPLL4R

Year: 2025

Q2= April, May, June

Did an Overflow occur during this quarter:

Yes ☐ No ☒

The Overflow at the Rivera Park Sewage Pumping Station was reported as per CLI-ECA 141-W601, more details on the Overflow event can be provided upon request.

Condition 5. Overflow		Event
5.3	a. the type of the Overflow (emergency or planned)	
	b. the date and time of the beginning of the Overflow	
	c. the point of the Overflow from the Works, the treatment process(es) gone through prior to the Overflow, the disinfection status of the Overflow and whether the Overflow is discharged through the effluent disposal facilities or an alternate location;	
	d. the effort(s) done to maximize the flow through the downstream treatment process(es) and Bypasses and the reason(s) why the Overflow was not avoided.	
5.4	a. the date and time of the end of the Overflow;	
	b. the estimated or measured volume of Overflow.	
5.5	a. Overflow event in Sewage Treatment Plant, grab sample(s) of the Overflow, one near the beginning of the Event and one every eight (8) hours for the duration of the Event, and have them analyzed at least for CBOD5, total suspended solids, total phosphorus, total ammonia nitrogen, nitrate as N, nitrite as N, total Kjeldahl nitrogen, E. coli. , except that raw sewage and primary treated effluent Overflow shall be analyzed for BOD5, total suspended solids, total phosphorus and total Kjeldahl nitrogen only.	
	b. at a sewage pumping station in the collection system, at least one (1) grab sample representative of the Overflow Event and have it analyzed for BOD5, total suspended solids, total phosphorus and total Kjeldahl nitrogen.	
5.6	...The summary report shall contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5). If there is no Overflow Event during a quarter, a statement of no occurrence of Overflow is deemed sufficient.	No Occurance of Overflow.

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**09-April-2025****OCWA-Kawartha (Lindsay WWTF)**

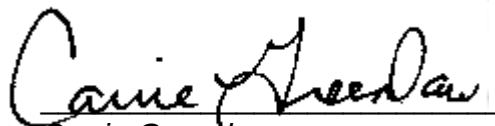
PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 02 April 2025**LR Report:** CA13141-APR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Eff Eff-Final Effluent (Comp)
Sample Date & Time					02-Apr-25
Temperature Upon Receipt [°C]	---	---	---	---	9.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	02-Apr-25	17:59	07-Apr-25	12:06	< 4
Total Suspended Solids [mg/L]	03-Apr-25	09:59	09-Apr-25	14:46	17
Phosphorus (total) [mg/L]	02-Apr-25	17:12	03-Apr-25	14:09	0.08
Total Kjeldahl Nitrogen [as N mg/L]	03-Apr-25	11:50	04-Apr-25	14:04	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	02-Apr-25	17:47	03-Apr-25	13:19	0.1
Nitrite (as N) [mg/L]	07-Apr-25	13:14	09-Apr-25	08:49	< 0.03
Nitrate (as N) [mg/L]	07-Apr-25	13:14	09-Apr-25	08:49	8.13
Nitrate + Nitrite (as N) [mg/L]	07-Apr-25	13:14	09-Apr-25	08:49	8.13



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**14-April-2025****OCWA-Kawartha (Lindsay WWTF)**

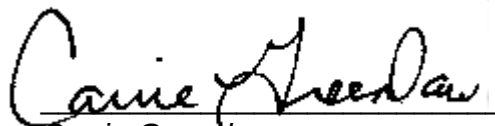
PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 04 April 2025**LR Report:** CA13325-APR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Eff Eff-Final Effluent
Sample Date & Time					03-Apr-25 11:50
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	07-Apr-25	16:15	14-Apr-25	08:33	< 4
Total Suspended Solids [mg/L]	07-Apr-25	08:03	08-Apr-25	08:17	21
Phosphorus (total) [mg/L]	07-Apr-25	15:42	08-Apr-25	14:02	0.08
Total Kjeldahl Nitrogen [as N mg/L]	07-Apr-25	16:24	08-Apr-25	14:48	0.6
Ammonia+Ammonium (N) [as N mg/L]	04-Apr-25	19:04	07-Apr-25	12:52	< 0.1
Nitrite (as N) [mg/L]	10-Apr-25	00:31	10-Apr-25	19:30	< 0.03
Nitrate (as N) [mg/L]	10-Apr-25	00:31	10-Apr-25	19:30	6.88
Nitrate + Nitrite (as N) [mg/L]	10-Apr-25	00:31	10-Apr-25	19:30	6.88



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**14-April-2025****OCWA-Kawartha (Lindsay WWTF)**

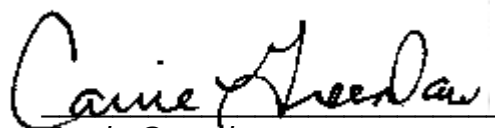
PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 04 April 2025**LR Report:** CA13324-APR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Eff Eff-Final Effluent
Sample Date & Time					04-Apr-25 11:15
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	07-Apr-25	16:15	14-Apr-25	08:33	< 4
Total Suspended Solids [mg/L]	07-Apr-25	08:03	08-Apr-25	08:17	23
Phosphorus (total) [mg/L]	07-Apr-25	15:42	08-Apr-25	14:02	0.13
Total Kjeldahl Nitrogen [as N mg/L]	07-Apr-25	16:24	08-Apr-25	14:48	< 0.5
Ammonia+Ammonium (N) [as N mg/L]	04-Apr-25	19:04	07-Apr-25	12:52	< 0.1
Nitrite (as N) [mg/L]	10-Apr-25	08:31	10-Apr-25	16:41	< 0.03
Nitrate (as N) [mg/L]	10-Apr-25	08:31	10-Apr-25	16:41	6.16
Nitrate + Nitrite (as N) [mg/L]	10-Apr-25	08:31	10-Apr-25	16:41	6.16



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety



Central Cluster - Operations Event Form

Project: Lindsay WPCP

Location: Riviera Park SPS (95 Lindsay St N)

Date: Apr. 13th/2025

Nature of Event: (By-pass, Overflow, Spill, Odour, Noise etc...)

- overflow (Raw Sewage)

Details of Event:

Snow melt / rainfall event. Amount of wastewater entering the sewer system has exceeded the capacity of the system.

Call SAC: 1-800-268-6060

Time SAC notified: 06:31

SAC Incident Number

#1-N7HR97

Name of Person at SAC: Haideri MacDonald

MECP District Manager Peterborough Notified 705-927-6165 (time): 12:30

District Health Unit Notified (time): 06:15

Name of Person at Health Unit: Kevin Hall

All Other Phone calls placed (Managers, Client, MECP, MOH):

Brent Martin (Manager)

Volume of By-pass or Spill: Approx. 40000 m³

Bypass Time: Apr. 13th/2025 (04:48) - Apr. 16th/2025 (12:35)

Start: 04:48 Finish: 12:35

Samples Taken? (BOD, TSS, Phos, NH₃+NH₄, e-coli): All plus pH

Corrective Action Taken:



Ontario Clean Water A
Agence Ontarienne D

Prepared By: Ty Smith

David Bradley
District Manager
Peterborough District Office
Ministry of Environment, Conservation and Parks
300 Water Street South, 2nd Floor, South Tower
Peterborough ON K9J 3C7

May 12, 2025

Mr. Bradley:

Re: Lindsay WWTP April 2025 Total Suspended Solids (TSS) Exceedance

Further to my phone call on May 12, 2025 @13:00, I am submitting written notification of exceedance of Total Suspended Solids (TSS) mg/L limit as required by Environmental Compliance Approval (ECA) #1696-BPLL4R for Lindsay WWTP.

The TSS monthly concentration effluent limit is 11.0 mg/L as a monthly average and the month of April 2025 the monthly average of all samples collected gives a result of 21.33 mg/L.

The TSS monthly loadings effluent limit is 238kg/d and the monthly loading for April 2025 is 501.28kg/d.

These exceedances were due to the high flows from heavy rain and snow melt.

Operations is continuing its efforts to optimize the treatment to reduce the total suspended solids. The TSS results did significantly reduce below the limit in the second week of April.

Please contact me if you have any questions.

Best regards,

Katie Campbell
Process Compliance Technician
Ontario Clean Water Agency
Kawartha-Trent Regional Hub
(705) 934-0026

CC: B. Martin, Sr. Operations Manager, OCWA Kawartha-Trent
K. Lorente, Regional Manager, OCWA Kawartha-Trent
R. Junkin, VP Operations, OCWA
L. Nicholson, General Manager, OCWA Kawartha-Trent
A. McCann, SPC Manager, OCWA Kawartha-Trent
T. Smith, Operator, OCWA Kawartha-Trent
M. Flaherty, Client, City of Kawartha Lakes

A. Hayter, Client, City of Kawartha Lakes
K. Trofimczuk, Environmental Officer, Peterborough MECP
B. Jackson, Acting Supervisor, Peterborough MECP

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**14-April-2025****OCWA-Kawartha (Lindsay WWTF)**

PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 04 April 2025**LR Report:** CA13326-APR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: SSO SSO-Rivera Park SPS Overflow
Sample Date & Time					03-Apr-25 04:59
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Field pH [no unit]	---	---	---	---	7.59
Biochemical Oxygen Demand (BOD5) [mg/L]	07-Apr-25	16:14	14-Apr-25	08:01	< 12
Total Suspended Solids [mg/L]	07-Apr-25	08:03	07-Apr-25	15:25	13
Phosphorus (total) [mg/L]	07-Apr-25	15:42	08-Apr-25	14:02	0.25
Total Kjeldahl Nitrogen [as N mg/L]	07-Apr-25	16:24	08-Apr-25	14:48	1.8
Ecoli [mpn/100mL]	04-Apr-25	16:40	07-Apr-25	12:36	141360

*E.Coli was processed from an un-sterilized 500mL PET.



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Works #: 110000383**Project :** PO#017018**14-April-2025****OCWA-Kawartha (Lindsay WWTF)**

PO Box 279, Boyd St. E
Bobcaygeon, ON
K0M 1A0, Canada

Phone: 705-887-3596**Fax:****Date Rec. :** 07 April 2025**LR Report:** CA13345-APR25**Copy:** #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: SSO SSO-Rivera Park SPS Overflow
Sample Date & Time					06-Apr-25 12:18
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	7.60
Biochemical Oxygen Demand (BOD5) [mg/L]	08-Apr-25	15:53	14-Apr-25	10:18	94
Total Suspended Solids [mg/L]	08-Apr-25	08:56	08-Apr-25	14:59	61
Phosphorus (total) [mg/L]	07-Apr-25	15:42	08-Apr-25	14:03	1.11
Total Kjeldahl Nitrogen [as N mg/L]	08-Apr-25	16:56	10-Apr-25	13:45	11.7
Ecoli [mpn/100mL]	07-Apr-25	17:55	09-Apr-25	09:08	>242000

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety



David Bradley
District Manager
Peterborough District Office
Ministry of the Environment, Conservation and Parks
300 Water Street, 2nd Floor, South Tower
Peterborough, ON
K9J 3C7

October 17, 2025

Dear Mr. Bradley:

Re: Lindsay WWTP 2025 Q3 Bypass Event and Overflow Event Summary Report

Amended Environmental Compliance Approval #1696-BPLL4R sections 4(6) and 5(6) issued June 29, 2020 for the Lindsay WWTP requires a Bypass Event and Overflow Event summary report be submitted to the District Manager on a quarterly basis, no later than February 15, May 15, August 15, and November 15 each calendar year.

There were no incidents of Bypass or Overflow Events at the Lindsay WWTP during the third quarter of 2025 (July, August, and September).

Please contact me if you have any questions or comments.

Best regards,

Katie Campbell
Process & Compliance Technician
Ontario Clean Water Agency
Kawartha Hub
(705) 934-0026

CC: Brent Martin, OCWA - Operations Manager
Allison McCann, OCWA - SPC Manager
Lynette Nicholson, OCWA – General Manager
Karen Lorente, OCWA - Regional Hub Manager
Amber Hayter, Kawartha Lakes – Manager, Water & Wastewater
Michelle Flaherty, Kawartha Lakes – Contract Coordinator
Brittney Wielgos, MECP – Water Supervisor
Kayla Trofimczuk, MECP – Water Compliance Officer

Lindsay WPCP - Quarterly Bypass Report

Environmental Compliance Approval #1969-BPLL4

Year: 2025

Q3 = July, August, September

Did a Bypass occur during this quarter:

Yes ☐ No ☒

Condition 4. Bypasses		Event
4.3	a. the type of the Bypass (emergency or planned)	
	b. the date and time of the beginning of the Bypass	
	c. the treatment process(es) gone through prior to the Bypass and the treatment process(es) bypassed;	
	d. the effort(s) done to maximize the flow through the downstream treatment process(es) and the reason(s) why the Bypass was not avoided.	
4.4	a. the date and time of the end of the Bypass;	
	b. the estimated or measured volume of Bypass.	
4.5	For any Bypass Event, the Owner shall collect daily sample(s) of the Final Effluent, inclusive of the Event and analyze for all effluent parameters outlined in Compliance Limits condition that require composite samples following the same protocol specified in the Monitoring and Recording condition for the regular samples. The sample(s) shall be in addition to the regular Final Effluent samples required under the monitoring and recording condition. If the Event occurs on a scheduled monitoring day, the regular sampling requirements prevail. If representative sample for the effluent parameter(s) that require grab sample cannot be obtained, they shall be collected after the Event at the earliest time when situation returns to normal.	
4.6	...The summary reports shall contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5) and either a statement of compliance or a summary of the non-compliance notifications submitted as required under Paragraph 1 of Condition 11. If there is no Bypass Event during a quarter, a statement of no occurrence of Bypass is deemed sufficient.	No Occurance of Bypass.

Lindsay WPCP - Quarterly Overflow Report
 Environmental Compliance Approval #1696-BPLL4R
 Year: 2025
 Q3= July, August, September

Did an Overflow occur during this quarter:
 Yes ☐ No ☒

There was no occurrence of an Overflow event at the Sewage Pumping Stations to report as per CLI-ECA 141-W601.

Condition 5. Overflow		Event
5.3	a. the type of the Overflow (emergency or planned)	
	b. the date and time of the beginning of the Overflow	
	c. the point of the Overflow from the Works, the treatment process(es) gone through prior to the Overflow, the disinfection status of the Overflow and whether the Overflow is discharged through the effluent disposal facilities or an alternate location;	
	d. the effort(s) done to maximize the flow through the downstream treatment process(es) and Bypasses and the reason(s) why the Overflow was not avoided.	
5.4	a. the date and time of the end of the Overflow;	
	b. the estimated or measured volume of Overflow.	
5.5	a. Overflow event in Sewage Treatment Plant, grab sample(s) of the Overflow, one near the beginning of the Event and one every eight (8) hours for the duration of the Event, and have them analyzed at least for CBOD5, total suspended solids, total phosphorus, total ammonia nitrogen, nitrate as N, nitrite as N, total Kjeldahl nitrogen, E. coli. , except that raw sewage and primary treated effluent Overflow shall be analyzed for BOD5, total suspended solids, total phosphorus and total Kjeldahl nitrogen only.	
	b. at a sewage pumping station in the collection system, at least one (1) grab sample representative of the Overflow Event and have it analyzed for BOD5, total suspended solids, total phosphorus and total Kjeldahl nitrogen.	
5.6	...The summary report shall contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5). If there is no Overflow Event during a quarter, a statement of no occurrence of Overflow is deemed sufficient.	No Occurance of Overflow.



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

48 Lagoon Rd

Lindsay, ON K9V 4R3

Tel: 705-738-9734

www.ocwa.com

David Bradley
District Manager
Peterborough District Office
Ministry of the Environment, Conservation and Parks
300 Water Street, 2nd Floor, South Tower
Peterborough, ON
K9J 3C7

January 16, 2026

Dear Mr. Bradley:

Re: Lindsay WWTP 2025 Q4 Bypass Event and Overflow Event Summary Report

Amended Environmental Compliance Approval #1696-BPLL4R sections 4(6) and 5(6) issued June 29, 2020 for the Lindsay WWTP requires a Bypass Event and Overflow Event summary report be submitted to the District Manager on a quarterly basis, no later than February 15, May 15, August 15, and November 15 each calendar year.

There were no incidents of Bypass or Overflow Events at the Lindsay WWTP during the fourth quarter of 2025 (October, November and December).

Please contact me if you have any questions or comments.

Best regards,

Ellen Campbell
Process & Compliance Technician
Ontario Clean Water Agency
Kawartha Hub
(705) 341-2096

CC: Brent Martin, OCWA - Operations Manager
Allison McCann, OCWA - SPC Manager
Lynette Nicholson, OCWA – General Manager
Karen Lorente, OCWA - Regional Hub Manager
Amber Hayter, Kawartha Lakes – Manager, Water & Wastewater
Michelle Flaherty, Kawartha Lakes – Contract Coordinator
Brittney Wielgos, MECP – Water Supervisor
Kayla Trofimczuk, MECP – Water Compliance Officer

Lindsay WPCP - Quarterly Bypass Report

Environmental Compliance Approval #1969-BPLL4

Year: 2025

Q4 = October, November and December

Did a Bypass occur during this quarter:

Yes ☐ No ☒

Condition 4. Bypasses		Event
4.3	a. the type of the Bypass (emergency or planned)	
	b. the date and time of the beginning of the Bypass	
	c. the treatment process(es) gone through prior to the Bypass and the treatment process(es) bypassed;	
	d. the effort(s) done to maximize the flow through the downstream treatment process(es) and the reason(s) why the Bypass was not avoided.	
4.4	a. the date and time of the end of the Bypass;	
	b. the estimated or measured volume of Bypass.	
4.5	For any Bypass Event, the Owner shall collect daily sample(s) of the Final Effluent, inclusive of the Event and analyze for all effluent parameters outlined in Compliance Limits condition that require composite samples following the same protocol specified in the Monitoring and Recording condition for the regular samples. The sample(s) shall be in addition to the regular Final Effluent samples required under the monitoring and recording condition. If the Event occurs on a scheduled monitoring day, the regular sampling requirements prevail. If representative sample for the effluent parameter(s) that require grab sample cannot be obtained, they shall be collected after the Event at the earliest time when situation returns to normal.	
4.6	...The summary reports shall contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5) and either a statement of compliance or a summary of the non-compliance notifications submitted as required under Paragraph 1 of Condition 11. If there is no Bypass Event during a quarter, a statement of no occurrence of Bypass is deemed sufficient.	No Occurance of Bypass.

Lindsay WPCP - Quarterly Overflow Report

Environmental Compliance Approval #1696-BPLL4R

Year: 2025

Q4 = October, November and December

Did an Overflow occur during this quarter:

Yes ☐ No ☒

****There was no occurrence of an Overflow event at the Sewage Pumping Stations to report as per CLI-ECA 141-W601.****

Condition 5. Overflow		Event
5.3	a. the type of the Overflow (emergency or planned)	
	b. the date and time of the beginning of the Overflow	
	c. the point of the Overflow from the Works, the treatment process(es) gone through prior to the Overflow, the disinfection status of the Overflow and whether the Overflow is discharged through the effluent disposal facilities or an alternate location;	
	d. the effort(s) done to maximize the flow through the downstream treatment process(es) and Bypasses and the reason(s) why the Overflow was not avoided.	
5.4	a. the date and time of the end of the Overflow;	
	b. the estimated or measured volume of Overflow.	
5.5	a. Overflow event in Sewage Treatment Plant, grab sample(s) of the Overflow, one near the beginning of the Event and one every eight (8) hours for the duration of the Event, and have them analyzed at least for CBOD5, total suspended solids, total phosphorus, total ammonia nitrogen, nitrate as N, nitrite as N, total Kjeldahl nitrogen, E. coli. , except that raw sewage and primary treated effluent Overflow shall be analyzed for BOD5, total suspended solids, total phosphorus and total Kjeldahl nitrogen only.	
	b. at a sewage pumping station in the collection system, at least one (1) grab sample representative of the Overflow Event and have it analyzed for BOD5, total suspended solids, total phosphorus and total Kjeldahl nitrogen.	
5.6	...The summary report shall contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5). If there is no Overflow Event during a quarter, a statement of no occurrence of Overflow is deemed sufficient.	No Occurance of Overflow.

	Form		RC F2
	March 5, 2024		Revision: 8
	Approved By: QMS Representative/QMS Designate		
Spill/Bypass Checklist and Report			
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General Spill Information

Date: March 17, 2025

Event Start Time: 07:15am

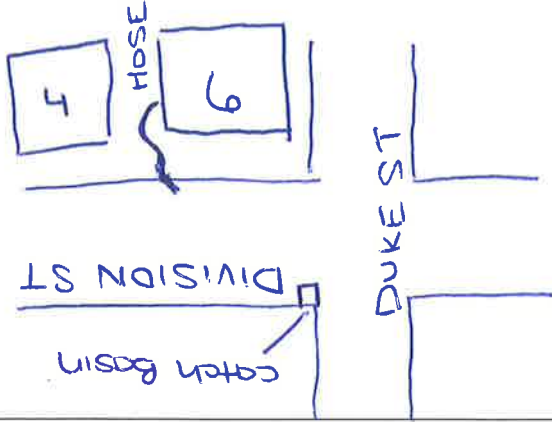
Event Finish Time: 12:00pm

Amount Spilled (approx.): _____ Units: _____

Cause: Sewer Backup

Location: 6 Division Street

Location Sketch (if applicable)



Details:

Noticed during sewer backup that ~~hose~~ hose was running
water from basement of home. Once SS sewer backup
cleared, hose also stopped running water. Notified DRD

Take measures to stop/prevent/reduce ALL safety hazards/property damage/pollution.

CALL FOR HELP with samples, reporting, location/treatment checks, records, etc.

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Spill Reporting Checklist

☒ **Call MOH** 1-866-888-4577 VM LEFT @ 12:36pm
 Daytime: ~~705-324-3560~~ After Hours: 1-888-255-7839 VM LEFT @ 1:22pm
 Person Contacted: ~~Did NOT contact~~ Emmeline Topping
 Time: 1:32pm

☒ **Call MECP Spills Action Centre (SAC)** 1-800-268-6060

Person Contacted: Justin
 Time: 10:03am

Report #: 1-J3011H

☒ **Call Applicable Supervisor, ORO** ☒ T. Farr 705-879-7160 ☐ Nathan Braund 705-340-3255

Time: _____

☐ **Call Management** ☐ Manager - A. Hayter 705-879-7189

Time: _____

☐ **Call Hauler**
 Company Contacted: _____
 Time: _____

☒ **Call Sanitary Sewer Flusher** (If required for CCTV and Flushing)

Company Contacted: GFL
 Time: 9:19pm

Take measures to stop/prevent/reduce ALL safety hazards/property damage/pollution.

CALL FOR HELP with samples, reporting, location/treatment checks, records, etc.

	Form		RC F2
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Spill/Bypass Checklist and Report			Page 3 of 4

☐ **Call OCWA** Daytime: 705-738-9734 After Hours: 1-888-695-1663

Person Contacted: DID NOT CONTACT
 Time: _____

Details: (i.e. directions provided by MECP SAC or MOH)

-Directed from SAC to have catch basin cleaned out by VAC. We did so and sprayed catch basin down

Sanitary Sewer Flushing Contacts – please see QMS E13 Ap D Essential Suppliers and Contractors List for contact information. Please follow the City Procurement and Vendor Management Process when hiring contractors and suppliers.

Septic Haulers Contact List – please see QMS E13 Ap D Essential Suppliers and Contracted List for contact information. Please follow the City Procurement and Vendor Management Process when hiring contractors and suppliers.

Sample Checklist

Note: Record date/time/location/sample collector on all bottles and refrigerate all samples.

- ☐ At least two (2) PET bottles (500 mL) for BOD, TSS, TP – for each location sampled
- ☐ At least one (1) Bacti bottle for *E. coli* – for each location sampled

Details:

Take measures to stop/prevent/reduce ALL safety hazards/property damage/pollution.

CALL FOR HELP with samples, reporting, location/treatment checks, records, etc.

 Kawartha Lakes	Form		RC F2
	March 5, 2024		Revision: 8
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Spill/Bypass Checklist and Report			Page 4 of 4

Spill/Bypass Report

-once catch basin was cleaned out called back
Justin with SAC who said they would close report

Signature: _____

Date: March 18, 2025

Take measures to stop/prevent/reduce ALL safety hazards/property damage/pollution.
CALL FOR HELP with samples, reporting, location/treatment checks, records, etc.

85758/om



Invoice Location
 322 Bennett Rd, P.O. Box 458
 Clarington, ON L1Z 3Z2
 Tel: 905-623-1367 Fax: 905-623-5494
 Attn: Dan Myles
 Email: dmyles@gflenvv.com
 T: (905) 623-1367

Work Order Number:	
Reference Number:	
Scheduled Date (mm/dd/yyyy):	
Project #:	
Leaving Yard:	
Arriving At Yard:	

Invoice Location

Driver	Std. Zone	Route	Payment Method	BU #	Payment Terms	Truck	Trailer	Time in	Time Out
Derry McEwen	ON3		Cheque	223	Net 30 Days	112017			1:30:00

9296201	2696	Flusher truck	Flusher Combo Truck with Operator and Technician (OT)	N/A	N/R	0				Hour	
9296200	2696	Flusher truck	Flusher Combo Truck with Operator and Technician	N/A	N/R	0				Hour	

[illegible]

Good	Poor	Parts Washer Condition/Operation	Good	Poor	Brake Cleaner Condition/Operation	Good	Poor	Spray Gun Condition/Operation	Sub-Total
		Machine cleanliness & condition			Lid assembly working and operating			Machine cleanliness & condition	
		Light assembly working and operating			Lid assembly working and not sticking			Drain tub connecting correctly	
Yes	No	Spigot/hose/brush working correctly		Yes	No		Yes	No	
		WHMIS labels legible			No air leaks present			No air leaks present & WHMIS labels legible	
		Closure/fusible link operating correctly			Air blower operating correctly			Fume extraction working properly (if applicable)	
		Paint in good condition			Flow thorough hose operating correctly			Automatic wash cycle operating correctly	
					WHMIS labels legible			Clean wash cycle operating correctly	

Carrier Information:		Carrier No: AB41293 Carrier: GFL Utilities Inc. 1070 Toy Avenue, Pickering, ON, L1W 3P1, 800-541-2527			
Generator No:		Reg. 347 Exempt No:	Manifest Ref1:	Manifest Ref2:	

Transportation of Dangerous Goods Information:										
TDG Ref	Prov. ID	DG	UN Number	Shipping Name	Class (Sub Class)	Packing Group	Qty	UOM	NO. Code	Physical State

[illegible]

Receiver Information:	Receiver No.: 2297-A7TRMD Receiver: GFL Environmental Services Inc. (Britton Ct.) 40 Britton Court, Bowmansville, ON, L1C 4P8, 24-Hour-No: 1-877-898-7222
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Clear blockage Stephanie Selby 705-879-6432	I hereby declare that the contents of this consignment are fully and accurately described above by the proper Customer/Consignor Certification
--	--

shipping name, are properly classified and packaged, have dangerous goods safety marks properly affixed or displayed on them, and are in all respects in proper condition for transport according to the Transportation of Dangerous Goods Regulations. Services described in this Work order are provided subject to the terms and conditions set out on the reverse side.

Customer/Consignor Representative (Please Print)	Customer/Consignor Representative (Please Sign)
---	--



GFL
GREEN FOR LIFE
ENVIRONMENTAL

Comments/Notes

Clear blockage
Stephanie Selly 705-879-6432

CSA # 881896

Printed by Jordan Ellis on 3/17/2025 6:25:25 AM

STANDARD TERMS AND CONDITIONS

THESE STANDARD TERMS AND CONDITIONS FORM A PART OF THE AGREEMENT BY AND BETWEEN GFL ENVIRONMENTAL INC., INCLUDING ANY SUBSIDIARIES (COLLECTIVELY "GFL") AND CUSTOMER NAMED ON THE WORK ORDER ("CUSTOMER") TO WHICH THESE STANDARD TERMS AND CONDITIONS ARE ATTACHED (THE "AGREEMENT").

CUSTOMER AND GFL AGREE AS FOLLOWS:

1.0. DEFINITIONS

- "Contaminants" means any quantity of PCB, herbicides, pesticides, dioxins, explosives, radioactive or bio-medical material or any other substance, the handling, treatment, transportation or storage of which is regulated by applicable Regulations.
- "Equipment" means all equipment supplied by GFL as described in the Work Order.
- "Facility" means a GFL facility or a third-party disposal facility as indicated on the Work Order which is designated and permitted under applicable Regulations to receive and dispose of Waste.
- "Non-Conforming Waste" means any materials or substances, the description of which does not conform to the description(s) (including any manifests) and/or samples thereof provided to GFL by CUSTOMER.
- "Regulations" means all statutes, laws, rules, orders and regulations in effect from time to time by any government or governmental board or agency having jurisdiction over any aspect of the subject matter of this Agreement.
- "Services" includes, as applicable, as described in a Work Order: (i) handling, sorting, treating, collecting, transporting, recycling or disposal of Waste; (ii) supply, rental, leasing or sale of Equipment; (iii) supply of products; and (iv) supply of professional services.
- "Term" means the term of this Agreement as described in the Work Order and includes any renewal term thereof pursuant to Section 3.1 of these Terms and Conditions.

- "UMO" means used motor oil.
- "Waste" means only those materials or substances that conform to the description(s) thereof (including any manifests) and samples, if applicable, provided to GFL by CUSTOMER but does not include any Non-Conforming Waste.
- "Work Order" means the form to which these Terms and Conditions are attached and form a part of, which set out the Services to be provided and where applicable, the fees payable for such Services.

2.0. PRICING AND PAYMENT

- The fees and charges payable by CUSTOMER for the Services are as set out in the Work Order, or as invoiced by GFL to CUSTOMER. CUSTOMER acknowledges that fees and charges set out in the Work Order do not include charges for Non-Conforming Waste.
- Unless otherwise specified, invoices may be submitted by GFL at any time after completion of the Services.
- Payment is due upon receipt of invoice. Interest will accrue on all amounts remaining unpaid thirty (30) days after the invoice date at the rate of 2% per month (24% per annum) until paid. GFL reserves the right to suspend all Services until any past due balance is paid in full but such suspension of Services will not constitute termination of this Agreement.
- Where CUSTOMER fails to pay for the Services within thirty (30) days of invoice date, GFL reserves the right to return to CUSTOMER any material or substance collected from CUSTOMER, including Non-Conforming Waste, and CUSTOMER agrees to accept such return, where permitted by applicable Regulations.
- GFL may increase fees and charges as set out in the Work Order annually by giving CUSTOMER thirty (30) days' written notice prior to the effective date of such increase.
- When warranted by increased fuel prices, GFL may, in its sole discretion, charge a reasonable fuel surcharge in addition to the amounts charged for Services and CUSTOMER agrees to pay such charges.
- Fluctuations in the market price of WTI Crude oil of + or - 25% in any calendar quarter during the Term will result in a corresponding change in the price paid/charged to CUSTOMER for UMO. GFL will provide CUSTOMER with thirty (30) days advance notice of change in the UMO price. If CUSTOMER objects to such change, it may terminate UMO services only by giving GFL written notice within ten (10) days of CUSTOMER's receipt of the notice of UMO price change. If no notice of termination is given by CUSTOMER within such period, the price for UMO will be charged in accordance with such notice of UMO price change and all other terms of this Agreement will remain in effect.
- An additional per liter processing fee will apply where the water content of UMO collected from CUSTOMER exceeds 5%.
- Fees associated with carbon taxes or levies will apply, including direct and indirect fees charged by any government or governmental board or agency having jurisdiction over any aspect of the subject matter of this Agreement and will be invoiced to CUSTOMER in addition to fees and charges set out in the Work Order.
- GFL may increase amounts charged for its Services at any time during the Term on notice in writing to CUSTOMER. If Regulations impose additional taxes, tariffs, fees, surcharges or other charges in respect of any Services provided and CUSTOMER agrees to pay such charges as invoiced.
- Maximum allowable transport weight for Waste in 205 litre drums is 240 kilograms. Drums exceeding this allowable weight will be repacked into additional drums and/or containers at a cost to be invoiced to CUSTOMER in addition to fees and charges set out in the Work Order.

3.0. TERM AND TERMINATION

- 3.1. Term. The Term shall automatically renew for the same period of time as the initial term set out in the Work Order and will continue to renew at the expiration of each subsequent term unless CUSTOMER gives GFL written notice at least sixty (60) days prior to the expiration of the then expiring Term.

3.2 Termination

- CUSTOMER may terminate this Agreement prior to the expiry of the Term by providing not less than thirty (30) days' prior written notice to GFL. If (i) GFL is in breach of any term of this Agreement and fails to remedy such breach within ten (10) days of written notice by CUSTOMER to GFL, (ii) CUSTOMER receives a notice of an annual increase to fees pursuant to Section 2.0(e) which CUSTOMER does not accept.
- GFL may terminate this Agreement prior to the expiry of the Term by providing not less than thirty (30) days' prior written notice to CUSTOMER if there occurs any change in Regulations which materially impacts GFL's ability to perform the Services. GFL may also terminate this Agreement prior to the expiry of the Term, if: (i) CUSTOMER fails to make payment to GFL as required herein and such non-payment continues for more than ten (10) days after the due date; or (ii) CUSTOMER is in breach of any term of this Agreement and fails to remedy such breach within ten (10) days of written notice by GFL to CUSTOMER.
- Either party may terminate this Agreement immediately in any of the following circumstances: (i) the other party submits or files a petition of bankruptcy or is declared bankrupt or starts proceeding of arrangement or settlement in relation to bankruptcy, (ii) the other party applies to a court for the appointment of an administrator in relation to it, (iii) the other party submits a petition for winding up except in the case of a bona fide intra-group re-organization, or (iv) the other party ceases to or threatens to cease to carry on its business or a substantial part thereof. The defaulting party shall promptly inform the non-defaulting party by written notification upon the occurrence of any of the above listed events.
- CUSTOMER agrees that, notwithstanding termination of this Agreement, it will grant GFL and its employees access to the CUSTOMER site for each period of time as GFL may reasonably require following such termination to demobilize and remove all of its Equipment and CUSTOMER agrees to provide such access provided that GFL such access shall be at mutually agreeable times and that GFL employees abide by reasonable rules and regulations of CUSTOMER site.

4.0 EQUIPMENT AND SUPPLIES

- Where Services include the supply of Equipment, CUSTOMER agrees that: (i) all servicing, repair and maintenance of Equipment will be performed only by GFL, (ii) all Equipment will remain the sole and exclusive property of GFL and will, upon termination of this Agreement, be returned to GFL in substantially the same state of repair as at the time of its delivery to CUSTOMER (reasonable wear and tear and damage by GFL excluded), (iii) it will use the Equipment only for the purposes(s) for which it is supplied and in accordance with its **labelling and packaging**, and (iv) it will pay for replacement of the Equipment due to loss or damage while in the custody and control of CUSTOMER, other than from Contaminant into the Equipment except as expressly described in the Work Order.
- Where Services including the provision of parts, cleaner, or fluid recovery services to CUSTOMER, any solutions and solvents, including aqueous cleaning solution, fluid or other non-hazardous waste ("Non-Regulated Waste") provided by GFL will not be mixed, combined or otherwise blended in any quantity with any material that would render the Non-Regulated Waste hazardous under applicable Regulations. CUSTOMER shall not place parts or paint guns that have been contaminated with, or otherwise introduce Contaminants into any solvent or solution provided by GFL, except as disclosed in writing to GFL. If CUSTOMER disposes of any GFL supplied solutions or solvents other than by return to GFL, title thereto will pass to CUSTOMER at the time of such disposal and GFL will have no responsibility for such disposal.

5.0 CONDITIONS OF SERVICE

5.1. General Conditions

- Where required by application Regulation, CUSTOMER shall provide GFL with a generator number prior to GFL providing those Services to CUSTOMER for which a generator number is required.
- Title to the Waste, but not title to any Non-Conforming Waste, together with all responsibility and liability in connection therewith, shall pass to GFL upon loading of the Waste onto GFL's transport equipment or, in the event CUSTOMER

delivers the Waste to a Facility, when the Waste is accepted and off-loaded at the Facility. Title to Non-Conforming Waste shall not, at any time, pass to GFL.

- CUSTOMER agrees that it shall ensure a safe and suitable work site for GFL, its equipment, employees and subcontractors. CUSTOMER hereby grants GFL the irrevocable right to access CUSTOMER's site at all reasonable times in order to provide Services, provided that GFL employees will comply with CUSTOMER's reasonable rules and regulations while at CUSTOMER's site. CUSTOMER acknowledges that GFL is not responsible for any damage to pavement or driving surfaces caused by GFL in providing the Services.
- CUSTOMER shall, at its sole cost and expense prepare: (i) all Waste in accordance with all applicable Regulations, including, but not limited to container specifications for any container not supplied by GFL, and all markings and labelling of containers supplied by GFL, and (ii) all documentation required by GFL, or required by any regulatory authority(s) and/or Facility in connection with the Services to be provided by GFL. CUSTOMER shall not add or permit to be added any material or substance to any tank(s) from which GFL collects Waste, or to any Equipment, that is not consistent with its labelling, packaging or other documentation provided to GFL.
- GFL may, at its sole discretion, elect to accept or reject all or any quantity of Non-Conforming Waste. If GFL elects to provide services in respect of any amount of Non-Conforming Waste, such election shall not impair or operate as a waiver of any right or remedy available to GFL, including revocation of Services. GFL may return any Non-Conforming Waste to CUSTOMER for disposal by CUSTOMER at CUSTOMER'S sole cost and expense and CUSTOMER agrees to accept such return, where permitted by applicable Regulations. If Non-Conforming Waste cannot be returned to CUSTOMER, GFL and CUSTOMER shall agree to the manner of disposal of the Non-Conforming Waste, in compliance with applicable Regulations, provided that in the absence of agreement within two (2) Business Days of notice from GFL to CUSTOMER of GFL's receipt of Non-Conforming Waste, GFL shall dispose of Non-Conforming Waste in such manner as it may reasonably determine and in compliance with applicable Regulations. CUSTOMER shall pay GFL all costs incurred by GFL in connection with the handling, storage, treatment, transportation and if applicable, disposal of such Non-Conforming Waste and any Equipment and any other material or substance contaminated by such Non-Conforming Waste as invoiced.

5.2. Customer's Representations and Warranties

- CUSTOMER represents and warrants to GFL, and acknowledges that GFL is relying upon such representations and warranties in agreeing to providing the Services, that: (i) each description of any substance or material (whether oral or written) or sample of any substance or material provided by CUSTOMER to GFL in respect of Services to be provided by GFL, conforms to the characteristics of the substance or material provided by CUSTOMER to GFL in all material respects and is in compliance with all applicable Regulations, (ii) where CUSTOMER is not the generator of the Waste in respect of which GFL provides Services, the information provided to GFL by CUSTOMER was provided by the generator and to the knowledge of CUSTOMER after due inquiry such information is true and accurate and such generator is the owner of the substance or material provided to GFL, and (iii) Waste, provided or delivered to GFL, has not been co-mingled with another waste stream and its physical properties have not been altered. If, at any time either before or after delivery of any substance or material or sample to GFL, CUSTOMER receives information that any material or substance delivered to GFL is Non-Conforming Waste, CUSTOMER shall immediately report such information to GFL.
- CUSTOMER further represents and warrants that all hazards and risks as applicable to the health and safety of GFL personnel while performing the Services at CUSTOMER's site have been accurately disclosed to GFL.

5.3. GFL's Representations and Warranties

- GFL represents and warrants that: (i) it holds all permits and authorizations required to provide the Services, (ii) it will perform the Services in compliance with applicable authorizations, permits and Regulations and in a good and workmanlike manner, and (iii) the Facility(s) used by GFL for the disposal or treatment of Waste has all permits and authorizations required by applicable Regulations.
- Except as expressly stated in this Section 5.3, GFL makes no other representations and provides no other warranties of any kind, express or implied (whether arising under law or equity or custom of usage), including without limitation implied warranties of merchantability and fitness for a particular purpose.

6.0. INDEMNIFICATION

- CUSTOMER agrees to indemnify, save harmless and defend GFL, its directors, officers, employees and agents (collectively "GFL Indemnities") against any and all liabilities, claims, penalties imposed pursuant to Regulation or otherwise, suits and the costs and expenses incidental thereto, including reasonable legal fees on a solicitor and own clients basis, which any GFL Indemnities may incur, become responsible for or pay as a result of death or bodily injury to any person or any destruction or damage to any property, contamination or adverse effect(s) to the environment or any breach of the common law or of any negligent or willful act or omission of CUSTOMER's branch of any term or provision of the Agreement, (ii) any negligent or willful act or omission of CUSTOMER, its employees, agents or independent contractors in connection with the Services and/or Equipment, (iii) Non-Conforming Waste, and (iv) Wares which becomes the subject of any governmental order or enforcement action, and/or (v) any condition at CUSTOMER's site or any site where the Service occurs at the direction of or with the authorization of CUSTOMER.

- GFL agrees to indemnify, save harmless and defend CUSTOMER, its directors, officers, employees and agents (collectively "CUSTOMER Indemnities") from and against any and all liabilities, claims, penalties, suits and the costs and expenses incidental thereto, including reasonable legal fees on a solicitor and own clients basis which any CUSTOMER Indemnities may incur, become responsible for or pay as a result of death or bodily injury to any person, destruction or damage to property, contamination or adverse effect(s) to the environment or any breach of common law or of any Regulation, caused or arising out of: (i) GFL's breach of any term or provision of this Agreement, (ii) any negligent or willful act or omission of GFL, its employees, agents, or subcontractors in connection with the performance of the Services and/or the provision of Equipment pursuant to this Agreement.

- In the event that any claims, penalties, losses, damages, costs, expenses and other liabilities referred to above are contributed to by the breach of contract, negligence, willful misconduct or violation of law of both GFL and CUSTOMER, the parties agree that all such claims, penalties, losses, damages, costs, expenses and other liabilities will be apportioned among the parties on the basis of their comparative degrees of fault.

7.0. INSURANCE AND LIMITATION OF LIABILITY

- GFL will maintain during the performance of this Agreement insurance coverage that is not less than required under applicable Regulations in each jurisdiction where the Services are performed.
- Where CUSTOMER requires GFL to acquire specific insurance coverage and/or bonding in order to perform the Services, CUSTOMER agrees to notify GFL of such requirements prior to the provision of the applicable Services. GFL reserves the right to refuse to provide such additional insurance coverage and/or bonding, in its discretion.
- Notwithstanding any other provision, term or condition of this Agreement, in no event shall GFL be liable to CUSTOMER or any third party(s), for any damages, claims penalties, costs or expenses whatsoever, or however characterized, whether pursuant to statute or the common law, which exceed the limits of coverage of GFL's insurance policies.
- Neither party shall be liable to the other party under or in connection with the Services for: (i) loss of actual or anticipated profit, (ii) losses caused by business interruption, (iii) loss of goodwill or reputation, and/or (iv) any indirect, special, consequential, cost, loss or damage even if such cost, expense, loss or damage was reasonably foreseeable or might reasonably have been contemplated by the parties and whether arising from breach of this Agreement, tort, negligence, breach of statutory duty or otherwise.

- 8.0. FORCE MAJEURE. Notwithstanding any other right GFL may have at law or in equity or any other provision in this Agreement, GFL will be excused from liability for any loss and for non-performance of this Agreement, and shall be entitled to an extension of time, to the extent its Services are disrupted or delayed by any event of fire or other casualty, general labor disturbance, earthquake, tornadoes, and other acts of God, acts or omissions of government, terrorism or threats of terrorism, severe weather, severe unforeseeable market shortages to the extent such shortages cause the performance of a supplier of equipment, materials, commodities, operating consumables or other goods by operation of law, or any other cause beyond GFL's reasonable control.

- 9.0. AGENCY. CUSTOMER authorizes GFL to act as its agent for documentation and disposal purposes in connection with the Services.

10.0. ASSIGNMENT. CUSTOMER may not assign this Agreement to any third party without the prior written consent of GFL.

11.0. GENERAL

- The representations, warranties and indemnities set out herein shall survive the termination or expiration of this Agreement.
- This Agreement shall be governed in all respects by the laws of the Province(s) in which the Services are provided.
- Notice to either party shall be given in writing and shall be sufficiently given if mailed, delivered in person or by overnight courier, or transmitted by fax or email to the address contained on the Work Order. Notices and communications given by mail shall be deemed to have been received five (5) days after the date of mailing and all other notices shall be deemed to have been received upon the address noted on the Services Order in the case of overnight courier and upon receipt of confirmation of sending for a fax transmission or email, read receipt requested.

	Form		WD F2
	Date: January 29, 2025	Revision: 6	
	Approved By: QMS Representative/QMS Designate		
Stand-by Report Form		Page 1 of 1	

Water and Wastewater Division Distribution and Collection

Resident First and Last Name:	Date of Call:
Resident/Caller Phone Number:	Type of Call:
Time of Call:	Time of Arrival:
Called By:	Time Completed:
Address of Call:	City/Town:
Nature of Call: - Sewer Backup @ 4 r/o Division, T.FARR called bFL for truck to clear line, spoke with DION however @ 9:19pm DION unable to get truck. Operator rec'd call @ 6:00am from Bill Road with bFL, they had a truck and will be onsite @ 7:00am. Operator was going to meet bFL onsite.	

ORO/Supervisor Notified:	Yes ☒ No ☐	Name:
		T. FARR

Name of Responding Operator:	
Signature:	Date:
If Any Material Used - Was it Signed Out?	Material Used:
Supervisor's Signature:	Date:
Is this Work to be Charged to Anyone?	Name & Address of Person to be Charged:
Yes ☐ No ☐	

	Form	WD F4
	Date: April 18, 2023	Revision: 3
	Approved By: QMS Representative/QMS Designate	
Work Requisition Report		Page 1 of 2

Date of Call:	03/17/25
Customer / Resident Name:	
Address: (Includes Street Name, Street Number, Town):	DIVISION ST MH 403 TO MH 1188 (LINDSAY)
Type of Work Completed:	SEWER MAIN FLUSHING (GFL)
If Service Leak or Watermain Break, Mainbreak and Service Repair Form completed and sent to QMPC: Y N	
Work Requested by:	HORNE OWNER / LAURENCE'S SEWER SERVICES
Is there a CASE open? If yes, CASE #:	
Work Order #:	83758
Details/Other Information / Material Used: (Additional room on the back of the form)	SEWER BACK UP REPORTED TO LAURENCE'S SEWER SERVICES AT 644 DIVISION ST 7:17pm, 03/16/25. GFL CALLED AND UNABLE TO REPAIR UNTIL 03/17/25 7am. 12:25 CHANGED catchbasin to Volute trailer GFL came and flushed line, blocked cleared. Noticed that 6 Division had a hose running from basement to road and once sewer was cleared, hose stopped running. Reported issue to SAC spoke with Justin



Form

WD F4

Date: April 18, 2023

Revision: 3

Approved By:
QMS Representative/QMS Designate

Work Requisition Report

Page 2 of 2

Details/Other Information / Material Used Continued:

created report # 1-3301IM. CKL VAC out catch
basin hose water was running too ~~high~~ and washed
out. Informed Justin of steps taken. See attached
picture of cleaned out catch basin.

Date Work Completed:

CASE to be closed (circle one): YES or NO

Operator(s):

Before clean out -



Sent from my iPhone

Stephanie Seeley

From: Stephanie Seeley
Sent: Monday, March 17, 2025 2:41 PM
To: Stephanie Seeley

After Clean out



Appendix VII:

Performance Assessment Report

1313 LINDSAY WASTEWATER TREATMENT FACILITY 110000383

	1 / 2025	2/ 2025	3/ 2025	4/ 2025	5/ 2025	6/ 2025	7/ 2025	8/ 2025	9/ 2025	10/ 2025	11/ 2025	12/ 2025	<--Total-->	<--Avg-->	<--Max-->	<-Criteria-->
Flows																
Raw Flow: Total - Raw m³/d	487,351.00	304,755.00	749,134.00	720,818.00	619,716.00	438,702.00	278,661.00	260,026.00	253,579.00	265,628.00	316,394.00	348,225.00	5,042,989.00			0.00
Raw Flow: Avg - Raw m³/d	15,721.00	10,884.11	24,165.61	24,027.27	19,990.84	14,623.40	8,989.06	8,387.94	8,452.63	8,568.65	10,546.47	11,233.06		13,816.41		
Raw Flow: Max - Raw m³/d	17,182.00	14,647.00	42,412.00	39,987.00	28,809.00	21,440.00	9,998.00	11,394.00	9,769.00	12,729.00	13,660.00	19,935.00			42,412.00	0.00
Raw Flow: Count - Raw m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Eff. Flow: Total - Eff m³/d	467,442.00	289,313.00	730,220.00	704,928.00	602,748.00	420,173.00	278,661.00	245,997.00	238,184.00	249,230.00	289,997.00	325,949.00	4,842,842.00			0.00
Eff. Flow: Avg - Eff m³/d	15,078.77	10,332.61	23,555.48	23,497.60	19,443.48	14,005.77	8,989.06	7,935.39	7,939.47	8,039.68	9,666.57	10,514.48		13,268.06		
Eff. Flow: Max - Eff m³/d	16,660.00	14,126.00	41,452.00	40,598.00	28,380.00	20,901.00	9,998.00	11,542.00	9,252.00	12,133.00	12,762.00	19,265.00			41,452.00	0.00
Eff Flow: Count - Eff m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw mg/L	189.25	266.00	119.25	135.80	188.75	185.00	358.00	246.75	323.75	328.60	281.25	217.20		238.42	358.00	0.00
Raw: # of samples of BOD5 - Raw mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw mg/L	545.50	477.25	172.00	173.80	208.00	217.00	311.60	233.50	389.00	352.00	332.50	241.60		301.81	545.50	0.00
Raw: # of samples of TSS - Raw mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Total Phosphorus: TP																
Raw: Avg TP - Raw mg/L	11.14	5.86	2.11	2.31	2.94	3.47	5.61	3.84	7.64	5.86	5.72	3.99		4.99	11.14	0.00
Raw: # of samples of TP - Raw mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Nitrogen Series																
Raw: Avg TKN - Raw mg/L	38.03	34.73	13.60	14.26	15.35	22.25	41.12	32.70	37.53	42.74	35.70	25.72		29.59	42.74	0.00
Raw: # of samples of TKN - Raw mg/L	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg NO3-N - Eff mg/L	10.84	8.99	9.29	8.01	8.62	8.63	9.86	9.44	11.38	8.32	8.33	8.75		9.11	11.38	0.00
Eff: # of samples of NO3-N - Eff mg/L	4.00	4.00	11.00	9.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	63.00			0.00
Eff: Avg NO2-N - Eff mg/L	< 0.03	< 0.18	< 0.08	< 0.05	< 0.03	< 0.03	< 0.13	< 0.03	< 0.03	< 0.03	< 0.03	< 0.08		< 0.06	< 0.18	0.00
Eff: # of samples of NO2-N - Eff mg/L	4.00	4.00	11.00	9.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	63.00			0.00
pH																
Raw: Min pH - Raw ---	7.48	7.61	7.35	7.58	7.52	7.31	7.25	7.34	7.17	7.52	7.34	7.42				0.00
Raw: Max pH - Raw ---	7.77	7.95	7.83	7.89	7.90	7.85	7.70	7.79	7.92	7.99	8.37	8.29			8.37	0.00
Eff: Min pH - Eff ---	6.95	7.02	7.03	6.99	7.13	7.09	7.23	7.04	7.11	7.15	7.03	7.05				9.50
Eff: Max pH - Eff ---	7.28	7.17	7.21	7.22	7.28	7.39	7.69	7.48	7.45	7.33	7.22	7.25			7.69	9.50
Eff: Min pH Field: Lab Upload - Eff ---	6.95	7.02	7.06	7.10	7.13	7.09	7.23	7.18	7.12	7.08	7.03	7.05				9.50
Eff: Max pH Field: Lab Upload - Eff ---	7.23	7.14	7.14	7.22	7.28	7.27	7.41	7.43	7.26	7.29	7.22	7.15			7.43	9.50
Disinfection																
Eff: GMD E. Coli MPN - Eff MPN	20.19	3.60	6.72	8.40	2.06	2.82	2.46	1.63	1.41	1.38	1.68	2.64				
Eff: # of samples of E. Coli MPN - Eff	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00



APPENDIX O

MECP Landfill Report Submission Form

Appendix D-Monitoring and Screening Checklist

General Information and Instructions

General Information: The checklist is to be completed, and submitted with the Monitoring Report.

Instructions: A complete checklist consists of:

- (a) a completed and signed checklist, including any additional pages of information which can be attached as needed to provide further details where indicated.
- (b) completed contact information for the Competent Environmental Practitioner (CEP)
- (c) self-declaration that CEP(s) meet(s) the qualifications as set out below and in Section 1.2 of the Technical Guidance Document.

Definition of Groundwater CEP:

For groundwater, the CEP must have expertise in hydrogeology and meet one of the following:

- (a) the person holds a licence, limited licence or temporary licence under the *Professional Engineers Act*; or
- (b) the person holds a certificate of registration under the *Professional Geoscientists Act, 2000* and is a practicing member, temporary, member or limited member of the Association of Professional Geoscientists of Ontario. O. Reg. 66/08, s. 2..

Definition of Surface water CEP:

A CEP for surface water assessments is a scientist, professional engineer or professional geoscientist as described in (a) and (b) above with demonstrated experience and post-secondary education, either a diploma or degree, in hydrology, aquatic ecology, limnology, aquatic biology, physical geography with specialization in surface water, and/or water resource management.

The type of scientific work that a CEP performs must be consistent with that person's education and experience. If an individual has appropriate training and credentials in both groundwater and surface water and is responsible for both areas of expertise, the CEP may then complete and validate both sections of the checklist.

Monitoring Report and Site Information	
Waste Disposal Site Name	Lindsay Ops Landfill Site
Location (e.g. street address, lot, concession)	51 Wlison Road
GPS Location (taken within the property boundary at front gate/ front entry)	680593 / 4917668
Municipality	City of Kawartha Lakes
Client and/or Site Owner	City of Kawartha Lakes
Monitoring Period (Year)	2025
This Monitoring Report is being submitted under the following:	
Certificate of Approval No.:	Landfill - A 321504
Director's Order No.:	Type Here
Provincial Officer's Order No.:	Type Here
Other:	Type Here

Report Submission Frequency	☒ Annual ☐ Other	Specify (Type Here):
The site is:	☒ Active ☐ Inactive ☐ Closed	
If closed, specify C of A, control or authorizing document closure date:		
Has the nature of the operations at the site changed during this monitoring period?	☒ Yes ☐ No	
If yes, provide details:	See Annual Monitoring Report for details	
Have any measurements been taken since the last reporting period that indicate landfill gas volumes have exceeded the MOE limits for subsurface or adjacent buildings? (i. e. exceeded the LEL for methane)	☒ Yes ☐ No	

Groundwater WDS Verification:

Based on all available information about the site and site knowledge, it is my opinion that:

Sampling and Monitoring Program Status:

1) The monitoring program continues to effectively characterize site conditions and any groundwater discharges from the site. All monitoring wells are confirmed to be in good condition and are secure:	☒ Yes ☐ No	those that have been compromised have been repaired over last few years
2) All groundwater, leachate and WDS gas sampling and monitoring for the monitoring period being reported on was successfully completed as required by Certificate(s) of Approval or other relevant authorizing/control document(s):	☒ Yes ☐ No ☐ Not Applicable	If no, list exceptions below or attach information.

Groundwater Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date
		Select Date
		Select Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date

3) a) Some or all groundwater, leachate and WDS gas sampling and monitoring requirements have been established or defined outside of a ministry C of A, authorizing, or control document.		☒ Yes ☐ No ☐ Not Applicable	
b) If yes, the sampling and monitoring identified under 3(a) for the monitoring period being reported on was successfully completed in accordance with established protocols, frequencies, locations, and parameters developed as per the Technical Guidance Document:		☒ Yes ☐ No ☐ Not Applicable	If no, list exceptions below or attach additional information.
Groundwater Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date	
	Type Here	Select Date	
Type Here	Type Here	Select Date	
Type Here	Type Here	Select Date	
Type Here	Type Here	Select Date	
4) All field work for groundwater investigations was done in accordance with standard operating procedures as established/outlined per the Technical Guidance Document (including internal/external QA/QC requirements) (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):			
☒ Yes ☐ No		If no, specify (Type Here):	

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

5) The site has an adequate buffer, Contaminant Attenuation Zone (CAZ) and/or contingency plan in place. Design and operational measures, including the size and configuration of any CAZ, are adequate to prevent potential human health impacts and impairment of the environment.	☒ Yes ☐ No	If no, the potential design and operational concerns/ exceptions are as follows (Type Here):	
6) The site meets compliance and assessment criteria.	☐ Yes ☒ No	RUP values are exceeded however, are not interpreted to be sourced to landfill	
7) The site continues to perform as anticipated. There have been no unusual trends/ changes in measured leachate and groundwater levels or concentrations.	☒ Yes ☐ No	If no, list exceptions and explain reason for increase/change (Type Here):	
1) Is one or more of the following risk reduction practices in place at the site: (a) There is minimal reliance on natural attenuation of leachate due to the presence of an effective waste liner and active leachate collection/treatment; or (b) There is a predictive monitoring program in-place (modeled indicator concentrations projected over time for key locations); or (c) The site meets the following two conditions (typically achieved after 15 years or longer of site operation): <i>i.</i> The site has developed stable leachate mound(s) and stable leachate plume geometry/concentrations; and <i>ii.</i> Seasonal and annual water levels and water quality fluctuations are well understood.	☒ Yes ☐ No	Note which practice(s):	☒ (a) ☒ (b) ☒ (c)
9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	☐ Yes ☒ No ☐ Not Applicable		

Groundwater CEP Declaration:

I am a licensed professional Engineer or a registered professional geoscientist in Ontario with expertise in hydrogeology, as defined in Appendix D under Instructions. Where additional expertise was needed to evaluate the site monitoring data, I have relied on individuals who I believe to be experts in the relevant discipline, who have co-signed the compliance monitoring report or monitoring program status report, and who have provided evidence to me of their credentials.

I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended), and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories*, or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature and will be rectified for the next monitoring/reporting period. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

27-Apr-2026

Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

☐ No changes to the monitoring program are recommended

☒ The following change(s) to the monitoring program is/are recommended:

the annual monitoring report outlines general concepts relating to monitoring reductions for the Site.

☒ No Changes to site design and operation are recommended

☐ The following change(s) to the site design and operation is/are recommended:

Type Here

Name:	Colin Ross, B.Sc., P.Geo.		
Seal:	Add Image 		
Signature:		Date:	27-Apr-2026
CEP Contact Information:	Colin Ross		
Company:	Azimuth Environmental Consulting Inc.		
Address:	642 Welham Road, Barrie, ON L4N 9A1		
Telephone No.:	705-721-8451	Fax No. :	705-721-8926
E-mail Address:	colin@azimuthenvironmental.com		
Co-signers for additional expertise provided:			
Signature:		Date:	Select Date
Signature:		Date:	Select Date

Surface Water WDS Verification:		
Provide the name of surface water body/bodies potentially receiving the WDS effluent and the approximate distance to the waterbody (including the nearest surface water body/bodies to the site):		
Name (s)	Scugog River	
Distance(s)	650 m	
Based on all available information and site knowledge, it is my opinion that:		
Sampling and Monitoring Program Status:		
1) The current surface water monitoring program continues to effectively characterize the surface water conditions, and includes data that relates upstream/background and downstream receiving water conditions:	☒ Yes ☐ No	
2) All surface water sampling for the monitoring period being reported was successfully completed in accordance with the Certificate(s) of Approval or relevant authorizing/control document(s) (if applicable):	☐ Yes ☒ No ☐ Not applicable (No C of A, authorizing / control document applies)	If no, specify below or provide details in an attachment.
Surface Water Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date
all surface water locations	many locations were dry and not sampled in summer and fall monitoring events	Select Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date

3) a) Some or all surface water sampling and monitoring program requirements for the monitoring period have been established outside of a ministry C of A or authorizing/control document.		☒ Yes ☐ No ☐ Not Applicable	
b) If yes, all surface water sampling and monitoring identified under 3 (a) was successfully completed in accordance with the established program from the site, including sampling protocols, frequencies, locations and parameters) as developed per the Technical Guidance Document:		☒ Yes ☐ No ☐ Not Applicable	If no, specify below or provide details in an attachment.
Surface Water Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)		Date
Type Here	Type Here		Select Date
Type Here	Type Here		Select Date
Type Here	Type Here		Select Date
Type Here	Type Here		Select Date
4) All field work for surface water investigations was done in accordance with standard operating procedures, including internal/external QA/QC requirements, as established/ outlined as per the Technical Guidance Document, MOE 2010, or as amended. (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):	☒ Yes ☐ No	If no, specify (Type Here):	

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

5) The receiving water body meets surface water-related compliance criteria and assessment criteria: i.e., there are no exceedances of criteria, based on MOE legislation, regulations, Water Management Policies, Guidelines and Provincial Water Quality Objectives and other assessment criteria (e.g., CWQGs, APVs), as noted in Table A or Table B in the Technical Guidance Document (Section 4.6):

☐ Yes
☒ No

If no, list parameters that exceed criteria outlined above and the amount/percentage of the exceedance as per the table below or provide details in an attachment:

Parameter	Compliance or Assessment Criteria or Background	Amount by which Compliance or Assessment Criteria or Background Exceeded
e.g. Nickel	e.g. C of A limit, PWQO, background	e.g. X% above PWQO
unionized ammonia	0.02 mg/L	100%
phosphorus	0.03 mg/L	>100%
aluminum	0.075 mg/L	>100%
zinc	0.02 mg/L	60%
phenols	0.001 mg/L	>100%
chromium	0.001 mg/L	100%
Type Here	Type Here	Type Here
Type Here	Type Here	Type Here
6) In my opinion, any exceedances listed in Question 5 are the result of non-WDS related influences (such as background, road salting, sampling site conditions)?	☒ Yes ☐ No	Concentrations are more likely related to sewage effluent

7) All monitoring program surface water parameter concentrations fall within a stable or decreasing trend. The site is not characterized by historical ranges of concentrations above assessment and compliance criteria.	☒ Yes ☐ No	Some variability exists over time with respect to parameter concentrations however, there are no upward trends .
8) For the monitoring program parameters, does the water quality in the groundwater zones adjacent to surface water receivers exceed assessment or compliance criteria (e.g. , PWQOs, CWQGs, or toxicity values for aquatic biota (APVs)):	☒ Yes ☐ No ☐ Not Known ☐ Not Applicable	
9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	☐ Yes ☒ No ☐ Not Applicable	If yes, list value(s) that are/have been exceeded and follow-up action taken (Type Here)

Surface Water CEP Declaration:

I, the undersigned hereby declare that I am a Competent Environmental Practitioner as defined in Appendix D under Instructions, holding the necessary level of experience and education to design surface water monitoring and sampling programs, conduct appropriate surface water investigations and interpret the related data as it pertains to the site for this monitoring period.

I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended) and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories*, or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature or will be rectified for future monitoring events. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

27-Apr-2026

Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

☐ No Changes to the monitoring program are recommended ☒ The following change(s) to the monitoring program is/are recommended:	general reductions to the surface water monitoring program are outlined in the annual monitoring report
☒ No changes to the site design and operation are recommended ☐ The following change(s) to the site design and operation is/are recommended:	Type Here

CEP Signature		
Relevant Discipline	Hydrogeology	
Date:	27-Apr-2026	
CEP Contact Information:	Colin Ross	
Company:	Azimuth Environmental Consulting Inc.	
Address:	642 Welham Road, Barrie, ON L4N 9A1	
Telephone No.:	705-721-8451 x 205	
Fax No. :	705-721-8926	
E-mail Address:	colin@azimuthenvironmental.com	
Save As		Print Form