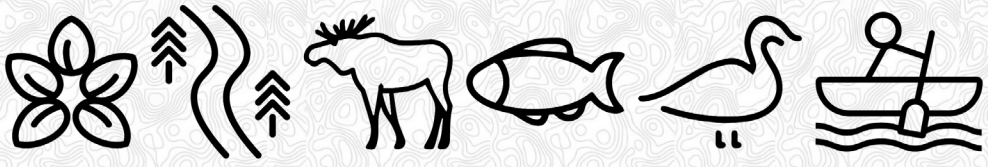
Appendix H

Final Groundwater Technical Support Document



MARTEN FALLS FIRST NATION
COMMUNITY ACCESS ROAD

Groundwater Technical Support Document: Existing Conditions and Effects Assessment

February 2026

Disclaimer: WSP Canada Inc.

WSP Canada Inc. prepared this report solely for the use of the intended recipient, AECOM Canada ULC, in accordance with the professional services agreement between the parties. The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment.

The conclusions presented in this report are based on work performed by trained, professional, and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The content and opinions contained in the present report are based on the observations and / or information available to WSP Canada Inc. at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by WSP Canada Inc. and other engineering / scientific practitioners working under similar conditions, and subject to the same time, financial, and physical constraints applicable to this Project.

WSP Canada Inc. disclaims any obligation to update this report if, after the date of this report, any conditions appear to differ significantly from those presented in this report; however, WSP Canada Inc. reserves the right to amend or supplement this report based on additional information, documentation, or evidence.

WSP Canada Inc. makes no other representations whatsoever concerning the legal significance of its findings.

The intended recipient is solely responsible for the disclosure of any information contained in this report. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance, or decisions. WSP Canada Inc. does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report.

WSP Canada Inc. has provided services to the intended recipient in accordance with the professional services agreement between the parties and in a manner consistent with that degree of care, skill, and diligence normally provided by members of the same profession performing the same or comparable services in respect of projects of a similar nature in similar circumstances. It is understood and agreed by WSP Canada Inc. and the recipient of this report that WSP Canada Inc. provides no warranty, express or implied, of any kind. Without limiting the generality of the foregoing, it is agreed and understood by WSP Canada Inc. and the recipient of this report that WSP Canada Inc. makes no representation or warranty whatsoever as to the sufficiency of its scope of work for the purpose sought by the recipient of this report.

In preparing this report, WSP Canada Inc. has relied in good faith on information provided by others, as noted in the report. WSP Canada Inc. has reasonably assumed that the information provided is correct and WSP Canada Inc. is not responsible for the accuracy or completeness of such information.

Benchmark and elevations used in this report are primarily to establish relative elevation differences between the specific testing and / or sampling locations and should not be used for other purposes, such as grading, excavating, construction, planning, or development.

Design recommendations given in this report are applicable only to the Project and areas as described in the text and then only if constructed in accordance with the details stated in this report. The comments made in this report on potential construction issues and possible methods are intended only for the guidance of the designer. The number of testing and / or sampling locations may not be sufficient to determine all the factors that may affect construction methods and costs. We accept no responsibility for any decisions made or actions taken as a result of this report unless we are specifically advised of and participate in such action, in which case our responsibility will be as agreed to at that time.

The Client required that the work be completed on an accelerated schedule. As a result, all activities were carried out within a compressed timeframe. WSP Canada Inc. expressly disclaims responsibility for any omissions, inaccuracies, or impacts that arise from the shortened schedule.

WSP Canada Inc. further advises that the accelerated schedule limited the time available for data review, analysis, and internal quality assurance. Accordingly, the Information may contain a degree of uncertainty that would not typically be expected for work of this nature performed under a standard schedule. WSP Canada Inc. makes no representations pertaining to the completeness of information made available for review considering the accelerated schedule required by the Client and other third parties.

This limitations statement is considered an integral part of this report.

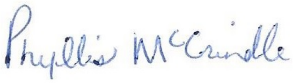
Authors

Report Prepared By:

Matthew Bowman, P.Geo.
Hydrogeologist

Aaron Beard, P.Eng.
Environmental Engineer

Report Reviewed By:



Phyllis McCrindle, M.Sc., P.Geo.
Principal Hydrogeologist

Report Endorsed By:

Christine Green
Senior Environmental Planner

Revision History

Report	Date	Revised By:	Revision Description
Draft	January 26, 2025	WSP Canada Inc.	Draft Report for inclusion with Draft EA/IS Report
Final	February 20, 2026	WSP Canada Inc.	Final Report for inclusion with Final EA/IS Report

Executive Summary

Marten Falls First Nation (Oji-Cree translation, *Wegwajihwana*) is a remote First Nation community in northern Ontario, approximately 430 km from Thunder Bay, Ontario, located at the junction of the Albany (Oji-Cree translation, *Keshijih'wano Wih Ziibih*) and Ogoki (Oji-Cree translation, *Zakamosgwanih' Ziibih*) rivers. Marten Falls First Nation is proposing a multi-purpose Community Access Road that will connect Marten Falls First Nation to the Ontario provincial highway network (the Project). This report presents the existing conditions and effects assessment for the groundwater discipline that has been prepared in support of the *Marten Falls First Nation Community Access Road Environmental Assessment / Impact Statement Report*. The report provides a comprehensive assessment of potential effects of the Marten Falls First Nation Community Access Road Project (the Project) on groundwater conditions. This assessment includes consideration of both effects from the Project and cumulative effects from the Project and other reasonably foreseeable developments. The groundwater assessment used widely accepted scientific practices and incorporated Indigenous Knowledge, where available.

Indigenous Knowledge and Consultation

Information provided by Indigenous Knowledge holders, recognized as such by their Indigenous community, has been obtained through literature review and shared directly by Indigenous nations in support of this Project through face-to-face meetings or receipt of Indigenous Knowledge reports. Regarding the groundwater Valued Component, Indigenous Knowledge and input was received regarding the importance of water and watercourses in the Study Areas for fish habitat, spawning, and fishing, the life-giving nature of water, including groundwater and springs, for all species and the water flows of the Study Area. Concerns about pollution or spills resulting from the Project and potential interference with hunting seasons resulting from Project field work were also communicated.

Study Methods and Valued Components

The groundwater assessment was carried out based on the previously prepared *Groundwater Study Plan* and *Groundwater Field Logistics Work Plan.* These plans detailed the subsequent desktop and field studies and the reporting approach. The groundwater Valued Component was assessed based on the indicators of Groundwater Quality and Groundwater Quantity throughout the Construction Disturbance Area, Local Study Area, and Regional Study Area. These Study Areas were defined for the existing conditions assessment for two alternative Community Access Road routes with several options and for the Effects Assessment involving the preferred route.

Desktop Assessment

A desktop review of existing information sources was completed to compile regional information and identify information gaps that needed to be addressed through further study. The groundwater desktop review focused on published information obtained from all local or interested Indigenous communities and published studies and maps to develop a conceptual understanding of local hydrogeological conditions. The desktop assessment also included a review of previous studies pertaining to the Project or conducted within the Regional Study Area, a review of records for wells, water sources, water takings, and other public records, and a review of the existing environments to identify areas with sensitive hydrogeological receptors.

Field Investigations

The groundwater field program included installation of hydrogeological stations within the Local Study Area. Based on the study plan, 20 locations were identified for groundwater monitoring stations to allow for groundwater quality and quantity monitoring in a variety of geologic units within the Local Study Area. At each groundwater monitoring station, up to four monitoring wells were installed. Typical stations involve two wells (nested shallow and deep) to facilitate water level monitoring, water quality sampling and determination of vertical gradients. Detailed monitoring stations consisted of four monitoring wells. There were 15 typical and five detailed groundwater monitoring stations installed during this investigation.

Borehole Drilling Program

Based on the expected depths to groundwater and the presence of dense soils and bedrock in the Local Study Area, a drill rig was required to drill the boreholes required to install the monitoring wells. Due to the remote setting of the Local Study Area, a specialized drill rig that can be disassembled and transported using a helicopter was used for the groundwater field investigation. The drill advanced the boreholes using solid stem and hollow stem augers in overburden and coring equipment for drilling in bedrock.

A total of 94 samples were collected and submitted for geochemical testing over the borehole drilling investigation. Details of these samples and test results are provided in the supporting *Geochemical Characterization Technical Support Document* (**Attachment B**).

Borehole drilling and installation of groundwater monitoring wells to determine existing seasonal conditions in the Local Study Area began in September 2022 and continued through to December 2022. The remaining boreholes and well installations were completed in April and June 2023.

Groundwater Quantity and Quality Monitoring Program

Groundwater level measurements were obtained at each monitoring well following the well installations from available wells in fall 2022 and six full rounds of measurements collected through 2023 and 2024 (in June, August, and September) to assess seasonal fluctuation of the groundwater table. At the detailed groundwater monitoring stations, all four monitoring wells were instrumented with automatic pressure transducers to allow for continuous monitoring of groundwater levels (at one-hour intervals).

Groundwater quality sampling was completed at all groundwater monitoring stations. Two samples were collected at each location, one sample from the deep well and one sample from a shallow well. Samples were collected three times in 2023 and three times in 2024 to assess seasonal variability in water quality and build an existing conditions groundwater quality database. Groundwater samples were collected using a peristaltic pump, high-density polyethylene and silicone tubing or using a dedicated bailer. Each groundwater sample was placed in laboratory-supplied pre-prepared sample bottles and delivered to an accredited environmental analytical laboratory to be analyzed for the following suites of analytical parameters:

- General parameters (pH and conductivity);
- Total and dissolved metals, including:
    - Aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, calcium, chromium, hexavalent chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, selenium, silicon, silver, sodium, strontium, thallium, tin, titanium, uranium, vanadium, and zinc.
- Mercury and methylmercury;
- Hardness (as calcium carbonate), Alkalinity (total as calcium carbonate);
- Ammonia;
- Biological oxygen demand, chemical oxygen demand, dissolved organic carbon;
- Total suspended solids, Total dissolved solids;
- Anions (chloride, bromide, fluoride, and sulphate);
- Nutrients (nitrate, nitrite, and phosphorus);
- Volatile organic compounds;
- Polycyclic aromatic hydrocarbons; and
- Radionuclide parameters.

Hydraulic Conductivity Testing

Hydraulic conductivity testing was conducted at the nested shallow and deep monitoring well pair at each monitoring station to provide an estimate of shallow and deep hydraulic conductivity (K) values of the screened geologic media. The hydraulic conductivity testing was carried out through Single Well Response Tests during the August 2023 groundwater monitoring event.

Monitoring Well Decommissioning

Following completion of the groundwater field program, all of the monitoring wells, with the exception of four (4), were decommissioned in accordance with regulations in Fall 2025. Four of the groundwater monitoring locations were not decommissioned, as they were transferred to the Northern Road Link Project Team for use in their technical studies.

Effects Assessment

The following is the general approach for the identification, assessment, and evaluation of the potential effects:

- Review construction and operations activities to identify potential interaction(s) that could result in environmental effects;
- Characterize the existing environment for both route alternatives, which considers past, present, and approved projects;
- Identify potential environmental effects of the Preferred Route and recommend mitigation measures to avoid or minimize identified effects, as well as identify opportunities to enhance benefits to the environment;
- Predict and assess potential environmental effects remaining after taking into consideration the recommended mitigation measures (i.e., residual effects) using direction, magnitude, geographic extent, duration, frequency, reversibility, and likelihood; and
- Predict cumulative effects that may result from a combination of the residual effects of the Preferred Route with the effects of other past, present, and reasonably foreseeable projects.

Desktop Study of Existing Conditions

The hydrogeological environment of northern Ontario and the Study Area can be generally divided into two major regions that correspond with the underlying bedrock type: Precambrian Shield and Hudson Bay Lowland. The Precambrian Shield region is composed of older crystalline bedrock, while the Hudson Bay Lowlands consists of younger sedimentary lithologies overlaying the older crystalline bedrock. In both of these

regions, the bedrock tends to be the most common source for groundwater wells with overburden wells only feasible in the limited areas that have sufficiently thick, extensive, and permeable overburden deposits. Sand and gravel materials are typically permeable enough to form aquifers while silt and clay materials are less permeable and tend to form aquitards. Marten Falls First Nation has highlighted the importance of water that it is life-giving to the land and all species of life. Major water flows in the area were noted to be towards the Attawapiskat and Albany Rivers, which flow to James Bay. Additionally, Marten Falls First Nation has noted that water flows to smaller rivers, streams, and peatlands were more complicated and could locally flow in almost any direction (Marten Falls First Nation, 2021).

Regional studies of Northern Ontario hydrogeology indicate that the water table tends to follow the ground surface topography with low horizontal hydraulic gradients. Groundwater in upland areas was observed to have downward vertical flow gradients while groundwater in river valleys was observed to have upward vertical flow gradients. Most groundwater recharge in the area occurs in the spring when snowmelt releases the accumulated winter precipitation, and a water surplus is available for recharge. Conversely, recharge is limited through the winter months when precipitation is frozen.

Review of the water well records database maintained by the Ministry of the Environment, Conservation and Parks indicated that there were no well records within the existing conditions Regional Study Area. Thirteen well records were located just outside the existing conditions Regional Study Area within about 6 km of the Project centreline. Based on the information provided by Marten Falls First Nation community representatives and in the Ministry of the Environment, Conservation and Parks well records database it is understood that the recorded wells are not in use for water supply.

Borehole Drilling Investigation

The surficial materials encountered at the borehole locations generally consisted of dark brown organic material and deposits of silt and sand. Surficial organic and peat-like material extended to an average thickness of approximately 0.73 m. The organic materials were generally underlain by deposits ranging in gradation from silt to gravelly sand with some deposits of silty clay and clay also observed. Generally, the overburden consisted of deposits ranging in gradation from silt to sand, ranging in thickness from 1.37 to 11.28 m. Deposits of silts and clays, or coarser deposits of sands and gravels were generally interbedded within the silt to sand deposits.

Coarse grained, light to dark grey granitoid bedrock was encountered and cored at six boreholes. Depth to bedrock ranged from 1.37 to 9.14 metres below ground surface (mbgs).

These subsurface observations were comparable to other boreholes drilled near the Regional Study Area and they support the conceptual understanding of the regional geology as consisting of mostly glacial deposits of sand to silt tills with variable clay and gravel content. There are also deposits of glaciolacustrine or ice-contact deposits of sandy soils which are more local in extent and are typically associated with esker and moraine landforms. Organic soils and peat deposits overlie low-lying areas and have variable thicknesses.

Groundwater Quality

Groundwater samples were collected from selected monitoring wells over two years from all sites during six monitoring events in 2023 (June / July, August, and September) and 2024 (June, August, and September / October). Limited samples were also collected from available monitoring wells in November 2022.

The groundwater quality results have been compared to provide references to drinking water quality (*Canadian Drinking Water Quality Guidelines* and *Ontario Drinking Water Quality Standards*), background groundwater levels (*Soil, Groundwater, and Sediment Standards*), and water quality levels protective of aquatic life (*Provincial Water Quality Objectives*). Comparison to aesthetic objectives and operational guidelines are also provided by the *Canadian Drinking Water Quality Guidelines* and *Ontario Drinking Water Quality Standards*.

- Exceedances of total and dissolved metals maximum acceptable concentrations were observed for drinking water standards (*Canadian Drinking Water Quality Guidelines* and *Ontario Drinking Water Quality Standards*);
- Exceedances of total and dissolved metals and volatile organic compounds were observed for water quality standards (*Soil, Groundwater, and Sediment Standards* and *Provincial Water Quality Objectives*); and
- Exceedances of total and dissolved metals, dissolved organic carbon, total dissolved solids, hardness, and pH were observed for Aesthetic Objectives and Operational Guidelines for *Canadian Drinking Water Quality Guidelines* and *Ontario Drinking Water Quality Standards*.

Filtration of samples to assess dissolved metals was noted to reduce the exceedances compared to (unfiltered) total metals for most parameters suggesting that particulates entrained in the samples contribute significantly to the concentrations of some parameters. Time series plots of the groundwater quality indicate that concentrations of most parameters in the groundwater are steady over time with some variation. The majority of monitoring wells show similar ranges of concentrations of each parameter. A few monitoring wells show potentially increasing trends in some metals concentrations however these are not consistent across monitoring wells or parameters and remain within

the range of observed concentrations at other wells where apparent trends are steady or decreasing. This suggests that the observed concentrations and trends are likely within the range of natural variability.

Low level detections of polycyclic aromatic hydrocarbons such as naphthalene and volatile organic compounds such as toluene, ethylbenzene, and xylene have been observed at a few monitoring wells. These compounds generally show a declining trend in concentrations, but potential increasing trends are observed at a few monitoring wells. These compounds were mostly detected within background concentration ranges and many have both natural and anthropogenic sources. However, several were also detected in quality control samples suggesting that some detections may be anomalous or related to undetermined equipment or sampling environment sources.

Groundwater Quantity

Groundwater levels were previously reported from boreholes drilled near the Project area. Grouped by surficial geology, the groundwater levels were reported to range from 0.2 to 3.5 m deep in till and glaciomarine deposits, 1.5 to 4.5 m deep in glaciofluvial ice-contact deposits and 0 to 2.0 m deep in organic deposits. Groundwater observations were also made during preliminary geotechnical investigations for the Project. These observations, from test holes ranging from 0.5 to 3.4 m in depth indicated that groundwater was observed at depths ranging from 0.1 to 1.8 m and no groundwater was observed in some test holes up to greater than 3 m in depth.

Groundwater levels measured in the monitoring wells installed during the program ranged from 0.5 m above ground surface to 10.4 m below ground surface (mbgs) and were typically found at less than 3 mbgs. Vertical groundwater gradients were observed to be low, but variable between upwards and downwards across the monitoring locations with some monitoring locations showing a seasonal fluctuation in gradient strength or direction. Groundwater levels in both deep and shallow monitoring wells at each monitoring station tended to show similar fluctuations in response to precipitation, seasons, and pumping.

The hydraulic conductivities measured at each of the monitoring wells ranged from 1.4×10^{-8} to 3.6×10^{-4} metres per second (m/s) and averaged 1.8×10^{-5} m/s for overburden wells and 7.7×10^{-6} m/s for bedrock wells. The observed horizontal groundwater flow gradients range between 0.002 and 0.045 and the velocity estimates range from 3×10^{-4} to 1×10^{-1} metres per day (m/d). These results indicate that across much of the Study Area the groundwater table is nearly flat and horizontal groundwater velocities are slow.

Groundwater recharge and discharge amounts in the Study Area can be estimated using a water balance approach. A water balance equates the amount of precipitation falling on an area with the various paths that the water takes to leave the area. The annual precipitation for sub-watersheds in the existing conditions Regional Study Area is reported to range

from 681 to 698 millimetres per year (mm/yr). Previous groundwater studies of northern Ontario have produced various estimates of groundwater recharge rates. One estimate, based on the 10-percentile of measured stream flows leaving the sub-watersheds results in estimated average groundwater recharge rates of 54.5 to 62.8 mm/yr. An alternate approach involves a flow separation analysis on sub-watershed surface water flow measurements to estimate the groundwater discharge component of the flow. For the three sub-watersheds closest to the existing conditions Regional Study Area the estimated mean annual groundwater discharge rates were 77.7 to 91.4 mm/yr. The third approach estimated the groundwater recharge rates based on the areal distribution of surficial geologic formations. This method resulted in recharge estimates of 44 to 55 mm/yr for the Albany River watershed and showed that the vast majority of the groundwater recharge in an area would be expected to originate from areas with highly permeable surface materials like sand and gravel or tills with sandy composition.

The study findings suggest that groundwater within the Study Areas occurs in the overburden at shallow depths of typically less than 3 m. Most groundwater recharge and flows are likely to occur through the coarser grained materials, such as sands, with silty and clayey deposits forming local restrictions to groundwater flow. The shallow groundwater likely interacts with surface water features in the region with groundwater recharge at higher elevations locally flowing towards waterbodies at lower elevations and discharging. In areas with low topographic relief, groundwater and surface water levels are likely to be nearly equal with less defined recharge and discharge areas. The groundwater gradients are generally small both horizontally and vertically, indicating slow groundwater flow velocities. Groundwater gradients and velocities are expected to be locally higher in areas with large topographic relief and conductive soils or bedrock.

Geochemical Characterization

The geochemical characterization consisted of a desktop review of existing information sources and a field investigation which involved the collection of 108 geological material samples in coordination with the physiography, terrain and soils, and groundwater discipline field programs. The samples were analysed for a suite of properties including: acid base accounting, loss on ignition analysis, elemental analysis, and short-term leach testing. Based on the results of the analyses the samples were classified for their acid rock drainage potential.

Analysis of the soil, organic, and bedrock samples indicates that these materials have low acid rock drainage potential. With the exception of six samples, all the tested samples were classified as non-potentially acid generating.

Leach testing within the non-potentially acid generating samples indicated that aluminum, boron, copper, fluoride, silver, and vanadium were the only parameters that were greater than the *Provincial Water Quality Objectives* and *Canadian Water Quality Guidelines for the Protection of Aquatic Life*, and outside of the naturally occurring groundwater and surface water range.

Residual Effects Assessment

The Project–environment interactions that were assessed for potential residual effects during the Construction Phase included the following:

- Changes to groundwater quantity due to short-term water takings from groundwater sources which may be required for the installation of below ground structures, such as footings or culverts, or for water supply to temporary construction camps or temporary concrete batch plants;
- Changes to groundwater quantity due to reduced or increased recharge from clearing of the Construction Disturbance Area, and construction of the road surface and temporary access roads, laydown areas, temporary construction camps, and pits and quarries, which will remove much of the vegetative cover and result in gravelled surfaces placed in much of the Construction Disturbance Area;
- Changes to groundwater quantity due to pit or quarry dewatering from active or passive water taking for below water table extraction of aggregate construction materials;
- Changes to groundwater quantity due to road construction in peatland areas from interruption of groundwater flows through the peatland (Oji-Cree translation, *maashkiigwabo*);
- Changes to groundwater quality due to accidental spills and leaks from equipment, storage, or transportation and transfer of fuels and other chemicals used for Project construction;
- Changes to groundwater quality due to construction wastes and wastewater discharges from construction facilities, activities, and storage areas;
- Changes to groundwater quality due to blasting residues from breaking up rock deposits in quarries or road cut and bridge foundation areas; and
- Changes to groundwater quality due to exposure of acid-generating or metal leaching materials from construction activities which break up susceptible materials and expose them to atmospheric weathering.

The Project–environment interactions that were assessed for potential residual effects during the Operation and Maintenance Phase included the following:

- Changes to groundwater quantity due to short-term water takings from maintenance and repair of Project components;
- Changes to groundwater quantity due to reduced or increased recharge from the cleared Project areas, including the road surface, access roads, maintenance

facilities, and pits and quarries, which will have reduced vegetative cover and large gravelled surfaces;

- Changes to groundwater quantity due to pit or quarry dewatering from active or passive water taking for below water table extraction of aggregate construction materials;
- Changes to groundwater quality due to accidental spills and leaks from equipment, storage, or transportation and transfer of fuels and other chemicals used for Project operations and maintenance;
- Changes to groundwater quality due to blasting residues from breaking up rock deposits in quarries or road cut and bridge foundation areas; and
- Changes to groundwater quality due to exposure of acid-generating or metal leaching materials from construction activities which break up susceptible materials and expose them to atmospheric weathering; and
- Changes to groundwater quality due to road maintenance from application and storage of chemicals for dust control and de-icing.

Mitigation Measures

Mitigation measures have been proposed for each of the potential effects on the environment to reduce, eliminate, or monitor the potential effects. These mitigation measures include actions such as:

- Permitting water takings and discharges as per provincial regulations. This will include site-specific studies, where required;
- Using industry best management practices for design, construction and operation of the Project;
- Designing water collection and discharge systems to treat water prior to discharge and to limit runoff and allow for water infiltration to occur;
- Restore temporary construction infrastructure and sites after use so that natural conditions can be re-established;
- Permit all aggregate pits and quarries under the *Ontario Aggregate Resources Act* (Government of Ontario, 1990a), including completion of require technical studies to identify site-specific impacts and mitigations;
- Design the Project roads to avoid restricting groundwater flows;

- Implementing a groundwater monitoring program to identify areas where groundwater levels or quality may have changed due to Project activities;
- Develop and implement Project-wide environmental plans including a Spill Prevention and Emergency Response Plan, a Waste Management Plan, and a Blasting and Communication Management Plan, among others;
- Transport, handling and use of fuels and other chemicals and hazardous materials will be done according to applicable regulations;
- Road maintenance should be carried out to provincial standards including guidelines on the use of dust suppressants; and
- Monitoring programs should be established to identify potential acid-generating or metal-leaching materials, and to monitor the effects on water quality and quantity from quarries and pits.

Characterization of Predicted Residual Effects

Assuming effective implementation of the mitigation measures, residual effects as a result of the Project are predicted for groundwater and are included in the characterization of predicted residual effects and cumulative effects assessment. Predicted residual effects are characterized according to the effect characteristics of context, direction, magnitude, geographic extent, duration, frequency, reversibility, and likelihood. The predicted residual effects for the groundwater Valued Component are:

- Changes to groundwater quantity due to pit or quarry dewatering which is predicted to have measurable changes to groundwater levels in the vicinity of dewatered pits and quarries. Several scenarios of dewatering were analyzed and the estimated dewatering radii of influence extended up to 721 m away from the edge of the quarry or pit based on dewatering rates of up to 1,055 cubic metres per day (m^3/day). This predicted effect would likely exceed 50% of the natural variation in groundwater levels for areas close to the pit or quarry but would be reversible once the dewatering activities ended;
- Changes to groundwater quantity due to road construction in peatland areas, which is predicted to potentially result in gradual settlement that may restrict groundwater flows beneath the road and lead to measurable changes in groundwater levels. These predicted effects could be long-term in duration but would be expected to be reversible with improvements to groundwater flows beneath the road;
- Changes to groundwater quality due to construction wastes and wastewater discharges are predicted to potentially result in measurable changes to groundwater quality due to the low levels of typical indicator parameters observed in the existing

conditions. These predicted effects could be medium-term in duration but would be expected to be reversible after the discharge activity stopped;

- Changes to groundwater quality due to blasting residues are predicted to potentially result in measurable changes to groundwater quality due to the low levels of typical indicator parameters observed in the existing conditions. These predicted effects could be medium-term in duration but would be expected to be reversible after the blasting activity ends; and
- Changes to groundwater quality due to road maintenance are predicted to potentially result in measurable changes to groundwater quality due to the low levels of typical indicator parameters observed in the existing conditions and the expected long-term extent of road maintenance. These predicted effects may reach the high magnitude threshold of exceeding 50% of existing condition values but would be expected to remain below applicable water quality criteria with successful mitigation measure implementation. The effect is considered long-term due to the lifespan of the road but would be considered reversible if maintenance activities stopped.

These predicted residual effects were assessed for significance by considering the interaction between the various significance factors considered in the residual effects assessment. Key factors considered included magnitude, duration, reversibility, and geographic extent. The range of residual effects on the groundwater Valued Component were assessed to have medium to high magnitude, be medium-term to long-term in duration, be reversible and irreversible, and be confined to the Local Study Area. Each of the residual effects on groundwater were assessed as not significant as they are not expected to represent a substantial management concern. Based on the information available about the Project and the Study Areas the uncertainty levels for the residual effects predictions are considered to be moderate to high.

Cumulative Effects Assessment

The cumulative effects assessment builds on the results of the residual effects assessment and provides the incremental changes that are predicted to have a likely residual adverse effect on a Valued Component. Where no residual effects were identified or residual effects were of negligible magnitude, unlikely or impossible to occur, or positive in direction, the effect was not carried forward into the cumulative effects assessment. The results that have been carried forward for assessment are:

- Changes to groundwater quantity due to pit or quarry dewatering;
- Changes to groundwater quantity due to road construction in peatland areas;
- Changes to groundwater quality due to construction wastes and wastewater discharges;

- Changes to groundwater quality due to blasting residues; and
- Changes to groundwater quality due to road maintenance.

The cumulative effects assessment considered the potential cumulative effects of three other projects, which were determined to overlap spatially with the Project's groundwater effects assessment Regional Study Area and temporally with the Project's Construction and Operations and Maintenance Phases. The three projects were:

- Northern Road Link;
- Anaconda and Painter Lake Road Upgrades; and
- Rapid Lynx Broadband.

Based on the similar work scopes of the Northern Road Link and the Anaconda and Painter Lake road upgrades compared to the Project the residual effects were assumed to be similar per road segment for each project. Due to the relationship of the road building projects being continuations of a road corridor, the cumulative impacts from any two projects combined were generally assessed to have the same characteristics as the residual effects of each project per road segment. At the junction between the Project and the Northern Road Link, it could be possible for slightly increased cumulative effects on the local area to occur, since three road segments would be joining; however, these effects would still be characterized the same as the residual effects and managed with the same monitoring and mitigation plans.

The Rapid Lynx Broadband project was not predicted to share any cumulative effects with the Project except for potential changes to groundwater quantity due to road construction in peatland areas. No roads are expected to be constructed for the Rapid Lynx Broadband project but the installation of the communication cable was assumed to have the potential to change groundwater flows in peatland areas through short-term construction disturbances. Due to temporal separation of the construction phase of each project, the cumulative impacts from the two projects combined were generally assessed to have the same characteristics as the residual effects of each project.

Due to the similarity of the Project's predicted cumulative effects and predicted residual effects characterizations, no additional mitigation measures were proposed to manage cumulative effects aside from sharing relevant monitoring data between projects.

Additional uncertainties were involved in predicting the cumulative effects due to limited information for the other projects. The overall uncertainty level for the cumulative effects assessment was considered to be moderate because although there are increased uncertainty levels due to limited information on the details of the other projects, the commonalities of the projects allowed for the uncertainty levels of the residual effects assessment to be generally retained.

Monitoring Programs

To verify the accuracy of the effects assessment and inform the mitigation measures the following monitoring programs should be implemented.

- A pre-construction groundwater monitoring program to establish groundwater monitoring stations where potential impact may be observed. These stations will be monitored for groundwater levels and quality prior to construction beginning to establish local existing conditions and provide supporting data for permitting studies and applications;
- A pre-construction geochemical testing and monitoring program to assess the potential for acid rock drainage from any soils or bedrock that will be exposed during Project construction;
- A construction groundwater monitoring program to continue the pre-construction monitoring through construction activities to identify and quantify any impacts on groundwater levels or quality resulting from construction activities. This monitoring will be overseen by Project environmental staff including Indigenous Environmental Monitors and adapted as construction proceeds; and
- An operations groundwater monitoring program to continue the construction monitoring until sites without impacts are decommissioned. Sites where impacts on groundwater were observed will continue monitoring until a return to pre-construction equivalent conditions is observed or a site-specific remediation monitoring plan is implemented. Groundwater monitoring should continue at applicable sites used continuously or intermittently during Project operations, with monitoring starting and ending according to the established construction monitoring programs for the intermittently active sites.

Table of Contents

Executive Summary iii

1 Introduction 1

1.1 Project Overview 1
1.2 Report Overview 4
1.3 Qualifications of Individuals 5

2 Project Description 6

2.1 Project Components 6
2.1.1 Community Access Road 6
2.1.2 Bridges and Culverts 7
2.1.3 Pits and Quarries 8
2.1.4 Temporary Infrastructure for Construction 9
2.2 Project Activities 10

3 Information Shared by Indigenous Peoples and Other Interested Persons Which Informed This Report 12

3.1 Indigenous Knowledge 12
3.2 Indigenous Engagement 16
3.3 Regulator and Public Stakeholder Input 18
3.4 Gender-Based Analysis Plus 20

4 Study Methods and Assessment Scope 22

4.1 Study and Work Plan Purpose, Objectives, and Deviations 22
4.2 Study Scoping 25
4.2.1 Temporal Boundaries 25
4.2.2 Valued Components and Indicators 26
4.2.3 Spatial Boundaries 28
4.3 Existing Conditions Study Design and Methods 35
4.3.1 Desktop Assessment 35
4.3.2 Field Investigations 36
4.4 Effects Assessment 45
4.4.1 Project–Environment Interactions 46

4.4.2 Assessing Residual Effects 47
4.4.3 Assessing Cumulative Effects 57
4.5 Identify Monitoring Programs and Commitments 60
4.6 Predicting Future Conditions.....60
4.7 Data Management and Analysis 61
4.7.1 Field Surveys..... 61
4.7.2 Geographic Information Systems 61
4.7.3 Data Analysis..... 61

5 Existing Conditions 63

5.1 Desktop Assessment 63
5.2 Borehole Drilling Investigation.....68
5.3 Groundwater Quality 69
5.4 Groundwater Quantity.....74
5.5 Geochemical Characterization 92

6 Selection of the Preferred Route 94

6.1 Alternative Segments and Routes Within Each Segment.....94
6.2 Preferred Route 96

7 Residual Effects Assessment..... 98

7.1 Summary of the Existing Environment Within the Effects Study Areas 98
7.2 Project–Environment Interactions 100
7.3 Potential Effects, Mitigation and Enhancement Measures, and Predicted Residual Effects 103
7.3.1 Groundwater Quantity During Construction 103
7.3.2 Groundwater Quality During Construction 107
7.3.3 Groundwater Quantity During Operation and Maintenance 110
7.3.4 Groundwater Quality During Operation and Maintenance 113
7.3.5 Summary of Potential Effects, Mitigation and Enhancement Measures, and Identification of Residual Effects 116
7.4 Characterization of Predicted Residual Effects 125
7.4.1 Changes to Groundwater Quantity Due to Pit or Quarry Dewatering 125
7.4.2 Changes to Groundwater Quantity Due to Road Construction in Peatland Areas 127
7.4.3 Changes to Groundwater Quality Due to Construction Waste and Wastewater Discharges..... 128

7.4.4 Changes to Groundwater Quality Due to Blasting Residues .. 128
7.4.5 Changes to Groundwater Quality Due to Road Maintenance . 129
7.5 Prediction Confidence and Uncertainty 129
7.6 Assessment of Significance 131
7.7 Summary 131

8 Cumulative Effects Assessment 133

8.1 Cumulative Effects Scoping 133
8.1.1 Valued Components with Residual Effects 133
8.1.2 Spatial and Temporal Boundaries 133
8.1.3 Physical Activities Inclusion List 134
8.1.4 Summary of Outcome 137
8.2 Cumulative Effects Assessment 139
8.2.1 Changes to Groundwater Quantity Due to Pit or Quarry Dewatering 139
8.2.2 Changes to Groundwater Quantity Due to Road Construction in Peatland Areas 140
8.2.3 Changes to Groundwater Quality Due to Construction Waste and Wastewater Discharges 142
8.2.4 Changes to Groundwater Quality Due to Blasting Residues .. 143
8.2.5 Changes to Groundwater Quality Due to Road Maintenance . 145
8.2.6 Prediction Confidence and Uncertainty 146
8.2.7 Summary 147

9 Monitoring Programs and Commitments 149

9.1 Pre-construction Monitoring Program 149
9.2 Construction Monitoring Program 150
9.3 Operations Monitoring Program 151
9.4 Future Commitments 151
9.5 Future Permits and Approvals 152

10 Summary and Recommendations 154

11 References 158

Attachment A – Study Plan, Workplan, and Regulator Comments 163

Attachment B – Geochemical Characterization Technical Support Document 167

Attachment C – Borehole Logs 168

Attachment D – Groundwater Quality Summaries and Laboratory Data 169

Attachment E – Water Quality Graphs 170

Attachment F – Water Levels and Hydrographs 171

Attachment G – Hydraulic Conductivity Testing 172

Attachment H – Detailed Groundwater Monitoring Station Cross-Sections 173

Attachment I – Pit / Quarry Inflow Analysis 174

List of Figures

Figure 1-1: Project Location 3
Figure 3-1: Gender-Based Analysis Plus Intersecting Identity Factors 20
Figure 4-1: Groundwater Existing Conditions Local and Regional Study Areas 32
Figure 4-2: Groundwater Effects Assessment Local and Regional Study Areas 34
Figure 4-3: Monitoring Well Locations 38
Figure 5-1: Bedrock Geology in the Existing Conditions Regional Study Area 65
Figure 5-2: Surficial Geology in the Existing Conditions Regional Study Area 66
Figures 5-3: Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations 83
Figures 5-4: Estimated Groundwater Recharge Areas and Flow Directions in the Groundwater Existing Conditions Regional Study Area 88
Figure 6-1: Route Alternatives and Segments 95
Figure 6-2: Preferred Route 97
Figure 8-1: Physical Activities Inclusions in the Groundwater Effects Assessment Regional Study Area 136

List of Tables

Table 1-1: Qualifications of Individuals 5
Table 3-1: Indigenous Knowledge 15
Table 3-2: Indigenous Engagement 17
Table 3-3: Public, Agency, and Other Input 19
Table 4-1: Deviations from Study Plan 23
Table 4-2: Groundwater Indicators 28
Table 4-3: Project Study Areas Definition and Description 28
Table 4-4: Groundwater Existing Conditions Study Areas Description and Rationale 31
Table 4-5: Groundwater Effects Assessment Study Areas Description and Rationale 33
Table 4-6: Project–Environment Interactions 46
Table 4-7: Potential Groundwater Interactions with Other Disciplines 49
Table 4-8: Tailored Impact Statement Guidelines Section 20 Requirements 50
Table 4-9: Residual Effects Characteristics 52
Table 4-10: Groundwater Quantity Magnitude Definition 54
Table 4-11: Groundwater Quality Magnitude Definition 55
Table 5-1: Hydraulic Conductivity Results 78
Table 5-2: Groundwater Flow Observations 80
Table 7-1: Summary of Valued Component and Indicator Existing Conditions Results 98
Table 7-2: Project–Environment Interactions 101
Table 7-3: Summary of Potential Effects, Mitigation and Enhancement Measures, and Predicted Residual Effects on Groundwater 117
Table 7-4: Aggregate Quarry and Pit Dewatering Estimates 126
Table 7-5: Characterization of Predicted Residual Effects and Determination of Significance for the Groundwater Valued Component 132
Table 8-1: Valued Components and Residual Effects 133
Table 8-2: Spatial and Temporal Boundaries 134
Table 8-3: Project and Physical Activity Inclusion List for Groundwater 135
Table 8-4: Summary of Outcome 138
Table 8-5: Characterization of Predicted Cumulative Effects and Identified Mitigation Measures for Groundwater 148
Table 9-1: Summary of Commitments 152
Table 10-1: Potential Effects Summary and Recommendations 155
Table 10-2: Cumulative Effects Summary and Recommendations 157

1 Introduction

This Report presents the existing conditions and effects assessment for the groundwater discipline and is being prepared in support of the *Marten Falls First Nation Community Access Road Environmental Assessment / Impact Statement Report*.

Marten Falls First Nation is a remote First Nation community in northern Ontario, approximately 430 km from Thunder Bay, Ontario, located at the junction of the Albany and Ogoki rivers. Marten Falls First Nation is proposing a multi-purpose Community Access Road (the Project) that will connect Marten Falls First Nation to the Ontario provincial highway network. The Project includes the construction and operation of a road with the following key characteristics:

- Approximately 184 km (See **Section 6** for further details on the selection of the Preferred Route) of a two-lane gravel, all-season road on a new right-of-way;
- Approximately 100 m wide right-of-way cleared; and
- Proposed designated speed limit of 80 km per hour.

Marten Falls First Nation is currently accessible year-round by air transportation out of Thunder Bay, Ontario, and Nakina, Ontario, and by a winter access road constructed on an annual basis, if winter conditions permit. Since the 1990s, Marten Falls First Nation has received provincial funding to maintain the 140 km of winter road to Marten Falls First Nation.

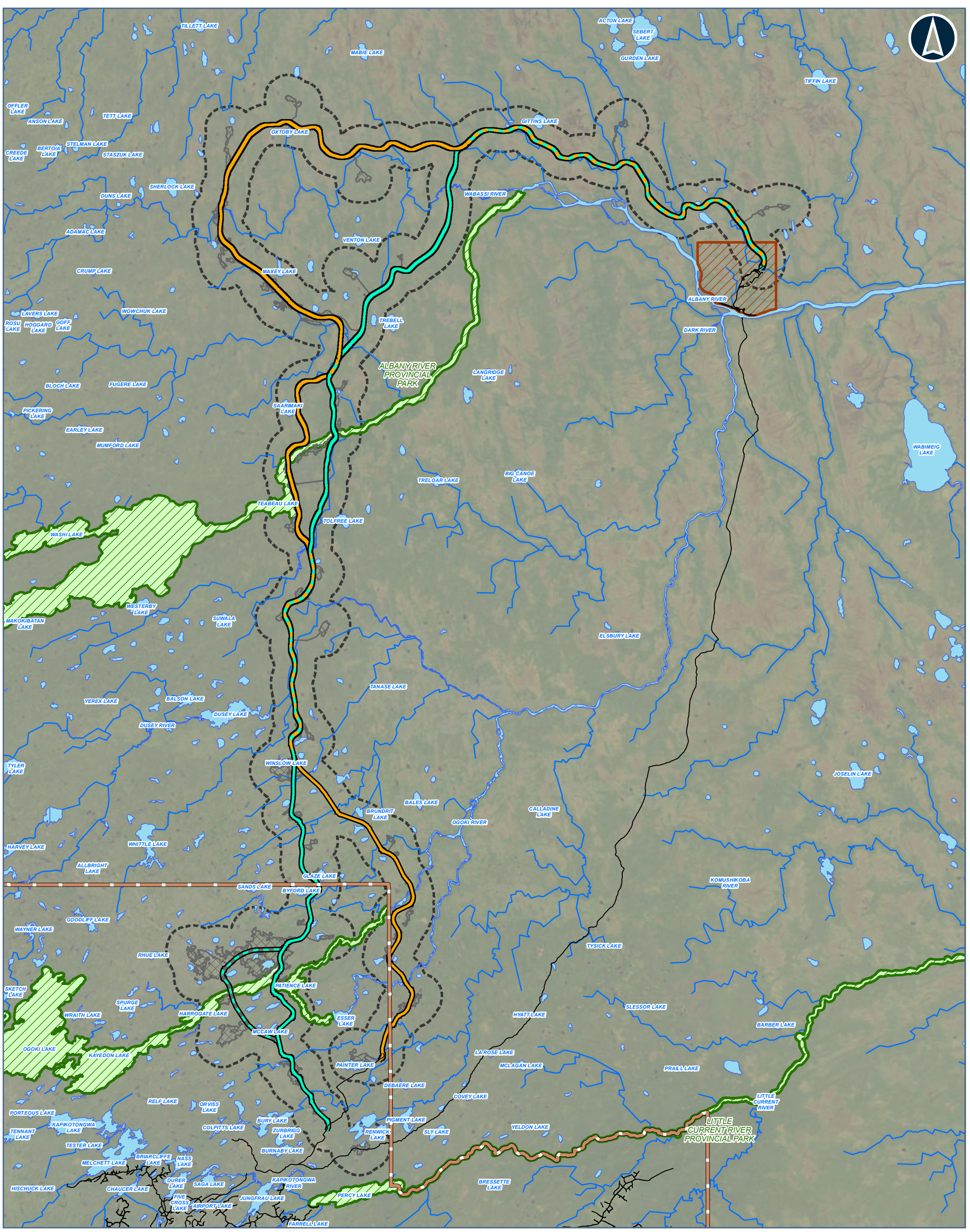
1.1 Project Overview

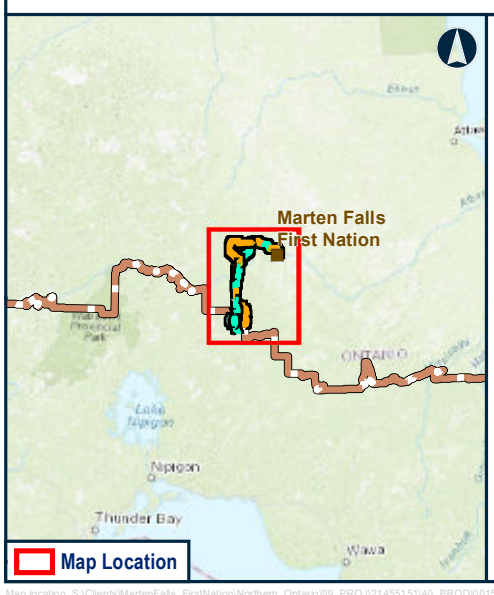
The Project consists of a Community Access Road from Painter Lake Road, located approximately 57 km north of Nakina, Ontario to the Community of Marten Falls First Nation (**Figure 1-1**). The Community Access Road will serve community access and industrial supply needs for both Marten Falls First Nation (e.g., fuel, construction supplies, and water treatment supplies) and industrial proponents (e.g., mining and forestry). Therefore, to minimize infrastructure corridors in Ontario's Far North, the Project will be for a multi-purpose road built to meet industrial use specifications.

In April 2018, Marten Falls First Nation signed an agreement with the Ministry of the Environment, Conservation and Parks to prepare an Environmental Assessment under the *Ontario Environmental Assessment Act*, 1990 to support the development of the Community Access Road. A study under the *Ontario Environmental Assessment Act* (Government of Ontario, 1990b) was formally initiated by Marten Falls First Nation in March 2019 when the *Notice of Commencement for a Terms of Reference* for the Project was published.

All-season public roads that require 75 kilometres or more of new right-of-way, as per Schedule 1 (51) of the Physical Activities Regulations under the *Impact Assessment Act*, may be subject to the Act (Government of Canada, 2019). After considering the detailed Project Description, the Agency determined that a federal impact assessment is required for the Community Access Road, and an Impact Statement needs to be submitted to the Agency for review and approval. The Agency prepared and released the *Marten Falls Community Access Road Project: Tailored Impact Statement Guidelines* in February 2020 (Impact Assessment Agency of Canada, 2020a) to outline the information and studies necessary to conduct the impact assessment.

The Federal and provincial governments are co-operating on the assessment of the Community Access Road, in accordance with the Co-operation Plan (Impact Assessment Agency of Canada, 2020b). The Co-operation Plan allows Marten Falls First Nation to prepare one single Environmental Assessment / Impact Statement submission to satisfy both the federal and provincial processes (Government of Canada).





Legend

- ROAD
- WATERBODY
- WATERCOURSE

COMMUNITY ACCESS ROAD ALTERNATIVES CENTERLINE

- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE 4
- ALTERNATIVE 4 - WESTERN OGOKI RIVER CROSSING OPTION
- FAR NORTH BOUNDARY
- FIRST NATION COMMUNITY
- PROVINCIAL PARK
- PROPOSED DEVELOPMENT AREA
- PROJECT STUDY AREA

Notes:
None

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Source: Esri, Vantor, Earthstar Geographics, and the GIS User Community

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

PROJECT LOCATION

0 5 10 20
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 1-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0015_Aquatics_WaterCrossings\21455151-0015-RT-0001.mxd
Date Saved: 2/12/2026 5:00:59 PM User Name: gld_rduval

1.2 Report Overview

This report includes the following:

- A summary of the Project components and activities (**Section 2, Project Description**);
- A compilation of information shared by Indigenous Peoples and other interested persons related to groundwater (**Section 3, Information Shared by Indigenous Peoples and Other Interested Persons Which Informed this Report**);
- Study methods and assessment scope (**Section 4, Study Methods and Assessment Scope**);
- A description of existing groundwater conditions (**Section 5, Existing Conditions**);
- A summary of the selection of the Preferred Route as it relates to groundwater (**Section 6, Selection of the Preferred Route**);
- The residual effects assessment (**Section 0, Residual Effects Assessment**);
- The cumulative effects assessment (**Section 8, Cumulative Effects Assessment**);
- A summary of monitoring programs and future commitments related to groundwater (**Section 9, Monitoring Programs and Commitments**); and
- An overall summary and recommendations (**Section 10, Summary and Recommendations**).

As described in the *Environmental Assessment / Impact Statement Report* and in **Section 6** of this Report, the characterization of existing conditions for the Project was completed on two alternative routes (Alternative 1 and 4). The data collected through the characterization of existing conditions were used to inform the selection of the Preferred Route (**Section 6**). The residual (**Section 0**) and cumulative (**Section 8**) effects assessments were completed on the selected Preferred Route.

1.3 Qualifications of Individuals

A list of names and qualifications of the authors and technical reviewers of this Report is presented in **Table 1-1**.

Table 1-1: Qualifications of Individuals

Name	Title / Role	Years of Experience	Qualifications
Matthew Bowman	Hydrogeologist	16	B.Sc., P.Geo.
Aaron Beard	Environmental Engineer	6	B.A.Sc., P.Eng.
Phyllis McCrindle	Principal Hydrogeologist	27	M.Sc., P.Geo.

Notes: B.Sc. = Bachelor of Science; B.A.Sc. = Bachelor of Applied Science; M.Sc. = Masters of Science; P.Geo. = Professional Geoscientist (Ontario); P.Eng. = Professional Engineer (Ontario).

2 Project Description

2.1 Project Components

2.1.1 Community Access Road

The Project consists of an approximately 184 km road within a 100 m wide right-of-way, 60 m of which will be cleared of vegetation. The Community Access Road will be approximately 11 m in width to accommodate a two-lane gravel road with culverts and two-lane bridges at water crossing locations. Traffic levels for the Project have been estimated at 700 vehicles a day for the north–south section and 100 vehicles a day for the east–west section of the Marten Falls First Nation Community Access Road. These volumes are reflective of the anticipated peak traffic in 2046.

Road embankment design mitigations are being further considered in high-suitability habitat for caribou where feasible. Operational mitigations such as lower speed limits, signage about wildlife risks, roadside vegetation management, and snow berm height management will be further planned and implemented to facilitate safe wildlife crossing of the road.

The predominant building materials used to construct the Community Access Road will be blasted rockfill and composite excavation material capped with granular surface material. The majority of blasted rockfill will be obtained from rock outcrops within and / or adjacent to the right-of-way. Building materials will be primarily obtained through the pits and quarries (**Section 2.1.3**) developed specifically to support construction of the Project.

Early investigations on permafrost have shown the Project is located within the isolated patches permafrost zone (Heginbottom, Dubreuil, & Harker, 1995), with some possible locations identified in test holes and helicopter reconnaissance by (KGS Group, 2019a; KGS Group, 2019b). Excavation within identified permafrost areas will be avoided, whenever possible, as cutting into surface vegetation can disturb the permafrost regime resulting in thaw and unstable ground. As a precaution, the design will primarily use fill to minimize any permafrost degradation and will follow the recommendations outlined in a Permafrost Management Plan.

The proposed approach to road construction through peatlands endeavours to keep peat in place while promoting natural water flow. A permeable embankment made of quarried rock or selected granular material will be placed over the peat, supported by heavy geogrid to prevent clogging and allow settlement. To preserve peatland hydrogeology, 900-mm equalization culverts will be installed at appropriate intervals, informed by additional field programs and studies (i.e. peatlands hydrogeological monitoring, water budget study, and a field program to develop a detailed map of peat thickness), to be carried out during subsequent design phases of the Project. For further information on the proposed construction approach, please refer to *Appendix W* under the *Final Environmental Assessment / Impact Statement Report*.

For specific details on the Preferred Route, please refer to **Section 6**.

2.1.2 Bridges and Culverts

Permanent bridges will be required for the various waterbodies to be crossed by the Community Access Road. Based on initial design and planning, the proposed waterbody crossing structure was initially determined based on bankfull width for each waterbody identified in the crossing list as follows:

- For waterbody crossings with bankfull widths less than 5 m, it was assumed that culverts would be used (requiring in-water work);
- For waterbody crossings with bankfull widths greater than 5 m and less than 30 m, it was assumed that clear span bridges would be used (no in-water work);
- For waterbody crossings greater than 30 m, it was assumed that bridges with piers and abutments would be used (requiring in-water work); and
- For waterbody crossings in flooded / impounded wetlands where wetted widths were greater than bankfull width at the time of the assessment, it was assumed that in-water work would be required.

The type of crossing structure for individual waterbodies may change during detailed design based on site-specific conditions.

The bridges will range in size from clear span to multi-span bridges and will accommodate two lanes of traffic with appropriate shoulder widths. The foundation supports for the bridge abutments are expected to consist of driven steel piles, drilled concrete piles, or concrete spread footings. Bridges will be designed to meet the 1-in-100-year flood scenario design, fish passage requirements, and navigation requirements, as required, based on federal and provincial regulations. Where feasible, bridges will be installed above the high-water mark; however, abutments and / or reinforcement material may be installed below the high-water mark. Permanent bridges along the Community Access Road will be designed to accommodate increased flooding and rainfall under expected and anticipated climate change conditions.

For certain waterbody crossings, culverts will be constructed using either corrugated steel pipe culverts or box culverts with minimum culvert diameters of 900 mm. The culverts will either be closed or open bottom depending on fisheries sensitivities and soil conditions. The culverts will be designed to accommodate fish passage, where appropriate. Permanent culverts along the Community Access Road will be designed to withstand expected and anticipated climate change conditions, such as increased rainfall, higher temperatures, frequent freeze-thaw cycles, and heightened flooding risks.

Equalization culverts will be installed at locations where it is determined that spring-melt or storm runoff needs to pass from one side of the Community Access Road to the other to prevent flooding and / or erosion. The purpose of equalization culverts is to maintain the existing surface water drainage patterns in the area. Culverts will be put in place as construction progresses along the Project.

Additional design measures and wildlife crossing mitigation options will be incorporated on select bridges and culverts located in high-suitability habitat for Species at Risk and road mortality vulnerable species (i.e., amphibians and reptiles). These measures will be further considered during detailed design and implemented during construction at prioritized locations to facilitate safe wildlife passage above or below the Community Access Road and reduce the risk of barriers to movement across the project area during operations.

The type of crossing structure for individual waterbodies may change during detailed design based on site-specific conditions.

2.1.3 Pits and Quarries

Pits and quarries will be developed to provide crushed rock and granular materials for the construction of the Project and temporary access roads. Most of the rock required for construction is expected to come from quarry sites adjacent to the Project. Temporary access roads will be established to connect the various Project components, as required, and will be limited in length to the extent feasible.

All materials will be subject to a geotechnical verification process in order to confirm they possess the desired physical properties for use in construction. The development and operation of all pits and quarries will be subject to the aggregate permitting process under the *Ontario Aggregate Resources Act* (Aggregate Resources of Ontario: Site Plan Standards (Government of Ontario, 2020); Aggregate Resources of Ontario: Technical Reports and Information Standards (Government of Ontario, 2023)). Permitted pits and quarries will follow the progressive and final rehabilitation requirements outlined in the approved site plans under the Act.

Only material that has been cleared through a geochemical verification process will be used for the permanent and temporary roads to avoid acid rock drainage or metal leaching. Monitoring of runoff will be conducted further details about this specific type of monitoring will be available in the Surface Water Management Plan of which the Owner / Operator will be responsible to follow all applicable Ontario permitting guidelines.

2.1.4 Temporary Infrastructure for Construction

The temporary infrastructure for the Project includes temporary access roads, staging areas, camps, and debris and / or timber stockpiles. Temporary access roads will be required to access the right-of-way during the Construction Phase. The purpose of the temporary access roads is to facilitate emergency, equipment, and personnel access, and to provide access to and from pits and quarries, staging areas, camps, and debris and / or timber stockpiles. The temporary access roads will be cleared, but not grubbed, to approximately 10 m wide to accommodate equipment movement. The temporary access roads will be limited in length to the extent feasible. Temporary bridges and culverts will be required to cross the various waterbodies along the temporary access roads. Existing access roads will be used where possible; however, access is limited in the area.

Bridges and culverts will be required to cross the various waterbodies along the access roads. Based on initial design and planning, the proposed waterbody crossing structures for the *Environmental Assessment / Impact Statement Report* were initially determined based on bankfull width for each waterbody identified in the crossing list as follows:

- For waterbody crossings with bankfull widths less than 5 m, it was assumed that culverts would be used (requiring in-water work);
- For waterbody crossings with bankfull widths greater than 5 m and less than 30 m, it was assumed that clear span bridges would be used (no in-water work);
- For waterbody crossings greater than 30 m, it was assumed that bridges with piers and abutments would be used (requiring in-water work); and
- For waterbody crossings in flooded / impounded wetlands where wetted widths were greater than bankfull width at the time of the assessment, it was assumed that in-water work would be required.

Temporary construction camps, staging areas, and stockpile areas are anticipated to be established at various locations along the right-of-way and / or near other Project components. These components are proposed to support crews and to store equipment, vehicles, materials, and supplies.

Temporary access roads leading to temporary quarry areas will also be rehabilitated and surrendered in accordance with the *Aggregate Resources Act*. Temporary quarries not required for maintenance activities will be vegetated in accordance with the Rehabilitation Plan. Access roads to quarries maintained for operations will be blocked to discourage public use.

2.2 Project Activities

The Project is planned to occur in two phases: Construction and Operations and Maintenance. The following Project activities will occur in each phase, including:

- Construction Phase Project activities:
  - Clearing of the right-of-way (e.g., remove and dispose of trees, shrubs, fallen timber, and surface litter; strip organic materials, grub);
  - Blasting rock (e.g., blasting, excavation, and dewatering activities within quarries and, as required, at specific locations in association with road and bridge construction);
  - Constructing the all-season road (e.g., overburden excavation and removal, excavation of granular material at pits, remove unsuitable soil, place and compact rock and granular material, trim and shape the road, stockpiling of mineral soil and leaf litter [organic material], and soil handling and replacement from stockpiles at decommissioning);
  - Constructing bridges and installing culverts (e.g., surface water management and erosion control, dewatering of the watercourses to create ice bridges, alteration of natural drainage systems, and watercourse bank grading to improve approaches if required);
  - Constructing and operating temporary infrastructure (e.g., access roads, construction camps, laydown areas, and staging areas); and
  - Mobilizing equipment, supplies, and personnel (e.g., haulage of materials, soil and liquid waste management, fuel storage, hazardous materials handling, sewage and effluent treatment and water storage and effluent monitoring for temporary construction camps).
- Operations and Maintenance Phase Project activities:
  - Operate the preferred route; and
  - Maintain the preferred route, including:
    - Excavation at pits, and excavations and / or blasting at quarry sites;
    - Dewatering within pits and quarry sites;
    - Grading road surface (e.g., washout repair, correct grade);
    - Conducting erosion control (e.g., apply native seed mix);

- Conducting dust suppression (e.g., apply environmentally friendly dust products);
- Clearing vegetation on road shoulders (e.g., mow grass and remove brush and small trees);
- Removing snow (e.g., plow);
- Conducting bridge and culvert maintenance (e.g., seasonal inspections debris removal);
- Conducting ditch maintenance (e.g., maintain drainage to design standard by excavating, filling, trimming, and shaping ditches); and
- Conducting road maintenance (e.g., fix settlement, break-up of road surface, slope failures).

3 Information Shared by Indigenous Peoples and Other Interested Persons Which Informed This Report

In the course of completing the description of existing conditions and effects assessment for this report, information provided by Indigenous Knowledge holders, Indigenous community members, regulators, and public stakeholders was used to develop the approach and assessment conducted for this study. This information and how it informed the development of this report are described below. This section does not detail all the information, comments, or questions received related to the Project and is limited to the information that informed this report. For a full description of all consultation and engagement related to the Community Access Road refer to the *Record of Consultation and Engagement* for the *Environmental Assessment / Impact Statement Report*. Information related to the Indigenous Knowledge Program can be found in the *Marten Falls Community Access Road: Aboriginal and / or Treaty Rights and Interests Existing Conditions Report* (Dillon, 2026a).

3.1 Indigenous Knowledge

Indigenous Knowledge refers to Indigenous systems of knowledge as well as cultural practices related to the production of knowledge based on traditional belief systems, relationships to the environment, and community practices. It is the accumulated and living knowledge built upon the historical experiences of Indigenous Peoples living on the land and adapting to social, economic, environmental, spiritual, and political change (Chiefs of Ontario, n.d.). It includes knowledge about the natural environment (e.g., locations of caribou seasonal use and calving areas), the relationships between environmental changes and species or ecosystems, and how potential effects on the environment can be avoided or reduced.

Indigenous land and resource use refers to specific areas and resources used for traditional purposes when Indigenous Peoples learn and practice their Indigenous Knowledge (Garvin & Northern Forestry Centre (Canada), 2001). This includes the areas and sites used for hunting, trapping, fishing, and gathering and the resources harvested, as well as cultural sites, features and practices—sometimes referred to as Traditional Land Use.

In 2019, the Marten Falls First Nation Community Access Road Project Team launched a program to collect Indigenous Knowledge. The Indigenous Knowledge Program is a critical component of the information base upon which the assessments will rely. The information generated through the Indigenous Knowledge Program has been woven with scientific approaches, and both knowledge systems will be given equal consideration in forming the foundation for existing conditions, predicting potential Project effects, and determining appropriate mitigation and monitoring methods.

The Indigenous Knowledge Program occurs in two concurrent phases:

1. Collecting existing Indigenous Knowledge and information on Indigenous land and resource use to help inform the early stages of the assessments; and

2. Completing Project-Specific Indigenous Knowledge and Lands and Resource Use studies.

The protection and confidentiality of Indigenous Knowledge and information on Indigenous land and resource use is of the utmost importance to the Project Team. To honour and respect this important information, Indigenous Knowledge Sharing Agreements were established with interested communities prior to the use of community information. The Sharing Agreement outlines how confidential and sensitive information will be woven into the Project's environmental / impact and design processes.

All Indigenous communities and groups identified by the Ministry of the Environment, Conservation and Parks and the Impact Assessment Agency of Canada through the Indigenous Engagement and Partnership Plan have had the opportunity to participate in the Indigenous Knowledge Program. The Indigenous Knowledge Program provides interested Indigenous communities an opportunity to share existing Indigenous Knowledge and information on Indigenous land and resource use and cultural values that may be relevant to the Project and / or complete Project-specific studies to collect and share Indigenous Knowledge and information on Indigenous land and resource use and cultural values. The Indigenous Knowledge Program included opportunities for Indigenous communities and groups to meet with the Proponent to discuss the program, ask questions, and share concerns and interests.

The Proponent strove to respectfully collaborate with Indigenous communities on how Indigenous Knowledge and information on Indigenous land and resource use and cultural values were considered in reporting, and how potential impacts on Aboriginal and Treaty Rights and Interests were assessed. Measures to support this included, but were not limited to:

- Engaging Indigenous communities to solicit information on Indigenous Knowledge and Indigenous land and resource use and cultural values, informing existing conditions;

- Providing Indigenous communities with draft sections of the *Environmental Assessment / Impact Statement Report*, illustrating how Indigenous Knowledge and information on Indigenous land and resource use and cultural values has been integrated and confirming it has been presented appropriately; and
- Completing collaborative working sessions with Indigenous communities for the assessment of impacts on Aboriginal and Treaty Rights and Interests. Further information on how potential impacts on Indigenous Rights were assessed is provided in the *Aboriginal and Treaty Rights and Interests Study Plan* (Dillon, 2021).

Information provided by Indigenous Knowledge holders, recognized as such by their Indigenous community, has been obtained through literature review and shared directly by Indigenous nations in support of this Project through face-to-face meetings or receipt of Indigenous Knowledge reports. The information, some of which is confidential, that has been used to inform this reporting is described in **Table 3-1.**

Table 3-1: Indigenous Knowledge

Topic	Indigenous Community	Details	Section Reference
■ Cultural significance ■ Groundwater ■ Springs	■ Aroland First Nation (Dillon, 2026b; Shared Value Solutions, 2024) ■ Marten Falls First Nation (Marten Falls First Nation, 2020)	■ Aroland First Nation shared knowledge relating to the presence and location of areas along the Ogoki River where spring water is collected for drinking, and noted concerns related to potential effects on springs which may have spiritual value. Marten Falls First Nation noted that water was is life-giving to the land and all species of life. Marten Falls First Nation noted that the Project area contains various forms of water, including groundwater (Oji-Cree translation, *anamakamigwabo*) and springs (Oji-Cree translation, *mokijiwanibiik*). Additionally, Marten Falls Frist Nation noted that major water flows in the area were oriented towards the Attawapiskat and Albany Rivers, which flow to James Bay (Oji-Cree translation, *Wee-nee-peg-kook*). Water flows to smaller rivers, streams, and peatlands were said to be more complicated (and could locally flow in almost any direction).	■ **Section 5.1**
■ Groundwater ■ Western and Indigenous Knowledge Integration	■ Marten Falls First Nation (Dillon, 2024a)	■ Marten Falls First Nation noted interest in the proposed Project including a combination of western science hydrology with Indigenous Knowledge.	■ **Section 9.1**
■ Groundwater ■ Concerns related to: ○ Spills / contamination ○ Traffic-related pollution ○ Runoff	■ Fort Albany First Nation (Firelight Research Inc., 2024) ■ Marten Falls First Nation (Marten Falls First Nation, 2023)	■ Fort Albany First Nation highlighted the potential for groundwater contamination as a result of spills / pollution as a concern. ■ Marten Falls First Nation noted concerns related to pollution from construction, runoff from vehicle traffic, and potential collisions / spills and subsequent ecological disruption.	■ **Section 7.3.2.1** ■ **Section 7.3.4**

3.2 Indigenous Engagement

The content presented in **Section 0** reflects information that was available at the time the *Draft Environmental Assessment / Impact Statement Report* was prepared. No updates have been made to this section for the Final *Environmental Assessment / Impact Statement Report*. For the most up-to-date and comprehensive documentation of engagement, please refer to *Appendix X - Record of Consultation and Engagement* under the *Final Environmental Assessment / Impact Statement Report*, which serves as the source for all community-specific engagement input received during later phases of the Project.

In addition to the Indigenous Knowledge provided by Indigenous Knowledge holders, information was collected from all Indigenous community members with interests in this Project. The information that has been used to inform this report is described in **Table 3-2**.

Table 3-2: Indigenous Engagement

Topic	Indigenous Community	Details	Section Reference
■ Input on field programs ■ Groundwater ■ Sedimentation	■ Aroland First Nation (Aroland First Nation, 2022) ■ Attawapiskat First Nation (Attawapiskat First Nation, 2024) ■ Marten Falls First Nation (Marten Falls First Nation, 2021) ■ Neskantaga First Nation (Neskantaga First Nation, 2021)	■ Information obtained from Indigenous communities during consultation on groundwater field program was used to inform the selection of groundwater monitoring sites and the timing and mitigation measures employed during field work. Feedback on the groundwater drilling sites included information and input on fish spawning and fishing areas along the Albany River and other watercourses (due to potential for sedimentation discharges near the river); important areas for Caribou (i.e., nursery and wintering areas); Wolverine den sites; potential species at risk habitat; and potential cultural heritage sites for communities. ■ These areas of concern were noted and as a result, mitigation measures were implemented to avoid effects on harvesting areas / hunting seasons; watercourses; species at risk habitat; and areas of cultural importance by moving potential drilling locations away from these features.	■ **Section 4.1** ■ **Section 4.3.2**

3.3 Regulator and Public Stakeholder Input

In March 2025, the *Draft Environmental Assessment / Impact Statement Report* was submitted to Regulators, government experts and Indigenous communities for review as part of the Environmental Assessment / Impact Assessment process. All comments received during the review period were carefully evaluated by the Marten Falls First Nation Community Access Road Project Team, and the Report was updated where warranted.

The content presented in **Section 3.3** reflects information that was available at the time the *Draft Environmental Assessment / Impact Statement Report* was prepared. No updates have been made to this section for the *Final Environmental Assessment / Impact Statement Report*. For the most up-to-date and comprehensive documentation of regulator and public stakeholder input, please refer to *Appendix X - Record of Consultation and Engagement* under the *Final Environmental Assessment / Impact Statement Report*, which serves as the source for all comments received during later phases of the Project.

The Proponent engaged with regulators and public stakeholders with technical knowledge related to the Valued Components to inform aspects of this report. The information and how it informed the development of this report are described in **Table 3-3.**

Table 3-3: Public, Agency, and Other Input

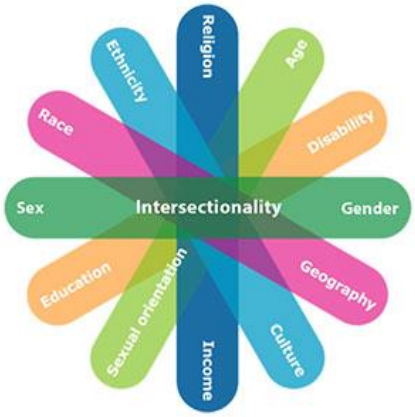
Topic	Provided By	Details	Section Reference
■ Feedback on study plans ■ Groundwater	■ Ministry of the Environment, Conservation and Parks (Ministry of the Environment, Conservation and Parks, 2022a) (Ministry of the Environment, Conservation and Parks, 2022b)	■ The Ministry of the Environment, Conservation and Parks provided feedback on the groundwater assessment (including the Groundwater Field Logistics Work Plan). The ministry requested that the rationale for the selection of the specific study locations be included in the assessment; groundwater quality to be compared to the Provincial Water Quality Objectives; and chromium be included in the groundwater baseline sampling suite.	■ **Section 4.1** ■ **Section 4.3.2** ■ **Section 4.3.2.7** ■ **Section 5.3** ■ **Attachment A**
■ Input on study plans	■ Impact Assessment Agency of Canada (Impact Assessment Agency of Canada, 2022) ■ Ministry of the Environment, Conservation and Parks (Ministry of the Environment, Conservation and Parks, 2022b) ■ Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF, 2022)	■ Feedback from regulators noted that any edits to the Groundwater Field Logistics Work Plan methodology as a result of agency comments should be reflected in the Environmental Assessment. ■ Deviations were anticipated to be required as the Project evolved due to challenges encountered in the field, alternative methodologies being developed, comments from regulators, and as updated guidance became available. These deviations are captured within the study methods and assessment scope.	■ **Section 4.1, Table 4-1**
■ Input on drilling program ■ Species at Risk	■ Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF, 2022) ■ Ministry of the Environment, Conservation and Parks (Ministry of the Environment, Conservation and Parks, 2021; Ministry of the Environment, Conservation and Parks, 2022a; Ministry of the Environment, Conservation and Parks, 2023)	■ Clarification and input on the drilling program were received from the Ministry of Northern Development, Mines, Natural Resources and Forestry regarding the Groundwater Field Logistics Work Plan and potential for water-taking. ■ The Ministry of Northern Development, Mines, Natural Resources and Forestry noted that no permit would be required under the *Far North Act* for the drilling program and noted that it was necessary to follow and implement any mitigation measures provided by Fisheries and Oceans Canada as water takings required for the drilling program would be considered in-water work. A number of mitigation measures were applied aligning with Fisheries and Oceans Canada *Codes of Practice.* ■ Input and comments from the Ministry of the Environment, Conservation and Parks were solicited and provided regarding the mitigations proposed to eliminate or reduce potential impacts on species at risk during the groundwater site clearing, drilling, and monitoring activities.	■ **Section 4.1** ■ **Section 4.3.2**

3.4 Gender-Based Analysis Plus

The *Impact Assessment Act* of Canada (Government of Canada, 2019) requires Gender-Based Analysis Plus to be applied to Impact Assessments in Canada. Gender-Based Analysis Plus is not a specific set of methods for Impact Assessments, but rather an approach that is adapted to the Project and the communities potentially affected and / or being engaged.

Gender-Based Analysis Plus is an approach to assess the inequalities and effects of policies, programs, and projects on diverse groups and identities. These identities could include (but are not limited to) gender, sexual orientation, age, race, ethnicity, class, religion, and mental or physical disability (Women and Gender Equality Canada, 2022). These identities can also intersect or overlap; for example, where an individual identifies as being both Indigenous and an Elder or youth (**Figure 3-1**).

Figure 3-1: Gender-Based Analysis Plus Intersecting Identity Factors



(Canadian Institutes of Health Research, 2022)

The Gender-Based Analysis Plus approach involves understanding how certain vulnerable groups such as Indigenous Peoples, women, Elders, youth, Two-Spirit, Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, and Asexual persons experience and could be disproportionately affected by a project. Understanding how these groups could be affected by projects allows for more targeted, sensitive, and appropriate enhancement measures, mitigations, monitoring, and follow up (Impact Assessment Agency of Canada, 2021b).

It is important to understand that vulnerability in Impact Assessment is understood primarily, but not solely, as a structural vulnerability. This means that in many cases it is the systems and power structures that make certain groups more vulnerable (Impact Assessment Agency of Canada, 2021a). For Indigenous Peoples, this includes historical and ongoing colonialism, loss of lands and culture, intergenerational trauma, and the residential school system that have resulted in significant social, economic, and health and well-being disparities relative to the non-Indigenous Canadian population (Kim, 2019). Exceptions to this are where vulnerability may be associated with biological sex, pregnancy, or age in relation to environmental determinants of health and exposure to contaminants, for example.

4 Study Methods and Assessment Scope

This section contains excerpts from the *All Season Community Access Road: Groundwater Study Plan* (Groundwater Study Plan; (AECOM, 2021)) and *All Season Community Access Road: Groundwater Field Logistics Workplan* (Groundwater Workplan; (Golder Associates Ltd., 2021)) prepared for the Impact Assessment Agency of Canada at the outset of this Project. The original *Study Plan and Workplan*, including comments from regulators can be found in **Attachment A – Study Plan, Workplan, and Regulator Comments**.

4.1 Study and Work Plan Purpose, Objectives, and Deviations

As required by the *Impact Assessment Act* (Government of Canada, 2019) and referenced in the *Tailored Impact Statement Guidelines* (Impact Assessment Agency of Canada, 2020a), study plans and work plans were developed for disciplines as required. The purpose of the study plan was to explain:

- The existing conditions study methodology, which will result in a comprehensive description of the existing environment potentially affected by the Project;
- The process for ensuring efficient and transparent data management and analysis was completed; and
- The development of the discipline-specific effects assessment methodology.

Work plans contain details on how to action the study plans and include information such as the location of sampling sites, scheduling, and sequencing.

As noted above, *All Season Community Access Road: Groundwater Study Plan* (Groundwater Study Plan; (AECOM, 2021) and *All Season Community Access Road: Groundwater Field Logistics Workplan* (Groundwater Workplan; (Golder Associates Ltd., 2021), including comments from regulators can be found in **Attachment A**.

In some instances, through the execution of this study the approach deviated from what was described in the original study plan, these deviations are outlined in **Table 4-1**. Deviations were required as the Project evolved due to challenges encountered in the field, alternative methodologies being developed, comments from regulators, and as updated guidance became available. General changes, such as changes to section headings, the organization of sections and subsections, and the phrasing and tense, have been made throughout and have not been documented in **Table 4-1**.

Table 4-1: Deviations from Study Plan

Section Reference	Description of Change	Rationale
Section 7.2.1 Study Area Reconnaissance & Determination of Key Groundwater Monitoring Locations	Groundwater study locations were originally proposed to include water crossings and sensitive aquatic ecological receiving environments as target areas. The final selected study locations were set back away from waterbodies.	Feedback from local Indigenous communities and provincial regulators on the proposed study locations (i.e., drilling sites for groundwater sampling wells) indicated that the study locations should be set back from waterbodies to prevent potential for drilling run-off to reach the waterbodies and avoid disturbance of travel, fishing, and hunting areas.
Section 7.2.1.1 Water Well Locations	The Groundwater Study Plan originally considered including a water well survey within the Regional Study Area to determine drinking water source locations, conditions, and cultural importance. Refinements to the Project extent near the Marten Falls First Nation community resulted in Marten Falls First Nation being located outside of the groundwater Regional Study Area. Consultation with Marten Falls First Nation also revealed that Marten Falls First Nation relied on surface water from the Ogoki River for drinking water and the only reported well in Marten Falls First Nation was located at the airport and it was not used as a source of drinking water. Due to the lack of drinking water sources to study, the water well survey was not carried out.	The changes to the Regional Study Area extent and the additional information provided by Marten Falls First Nation meant that groundwater use for drinking within the Regional Study Area was not known to be present and no locations for study were identified.
Section 7.2.3.1 Conventional Monitoring Wells	The Groundwater Study Plan originally considered that groundwater monitoring wells would be constructed using 50 mm diameter polyvinyl chloride screens and risers. Instead, the wells were constructed using 38 mm diameter polyvinyl chloride well materials.	Due to the mobilization by helicopter required to reach the groundwater study locations, the drilling contractor recommended using 38 mm diameter polyvinyl chloride well materials to reduce the bulk and weight of materials to be transported to each site.

Section Reference	Description of Change	Rationale
Section 7.2.3.2 Drive-Point Piezometers and Section 7.2.3.3 Stilling Wells	The Groundwater Study Plan originally considered the inclusion of shallow groundwater and surface water monitoring via drive-point piezometers and stilling wells to tie the groundwater measurements at detailed monitoring sites to the adjacent waterbodies. Based on the agreed upon set-backs from waterbodies for the groundwater study locations it was not practical to extend the monitoring infrastructure from the detailed groundwater monitoring locations to the nearest waterbodies.	The distances between groundwater study locations and the nearest waterbodies and the remoteness of locations made it impractical to establish continuous groundwater monitoring instrumentation between the drill sites and the waterbodies.
Section 7.2.5 Monitoring Well Development	The Groundwater Study Plan originally considered that the monitoring well development would be conducted concurrently with the drilling and installation activities. Instead, well development was carried out prior to well sampling during the first full groundwater monitoring program.	Health and safety and logistical concerns associated with accessing the remote sites via helicopters meant that well development could not be effectively completed at the same time as the drilling and well installation was occurring.
Section 7.2.6.2 Groundwater Quality Sampling	The Groundwater Study Plan originally considered that the groundwater samples would be shipped to the laboratory every second day during the monitoring programs to minimize holding time exceedances. Working with the laboratory, the minimum holding time for the samples to be collected was determined and alternative sample storage procedures were agreed upon to extend the minimum hold time and allow greater flexibility in shipping the sample to the laboratory while meeting all hold times.	The minimum hold times required were identified and alternative holding procedures were approved by the laboratory to allow the shortest hold times to be extended without compromising the analysis integrity. This allowed better logistical management of shipping the samples out of the remote work area.
Section 8.2.2 Data Analysis and Reporting	The Groundwater Study Plan originally considered that the reporting would occur after the completion of the two-year groundwater monitoring program. Due to scheduling of the groundwater monitoring program and the reporting process, draft reporting is occurring after only one year of the groundwater monitoring has been completed.	Due to delays in the start up of the groundwater well drilling program and inability to safely and effectively sample concurrently to groundwater well installation, the reporting schedule is overlapping with the completion of the groundwater monitoring program. Sufficient information is available

Section Reference	Description of Change	Rationale
	This change to the reporting process was reviewed and approved by the Federal Review Team in consultation with Natural Resources Canada's groundwater expert.	from the first year of groundwater monitoring to produce the first iteration of this report with the second year of groundwater monitoring data to be incorporated in subsequent versions of the reporting.

Notes: mm = millimetre.

4.2 Study Scoping

4.2.1 Temporal Boundaries

Project phases, which are temporal boundaries, are developed to establish the timeframes within which potential effects of the Project will be considered. As indicated in **Section 2.2**, the Project is planned to occur in two phases:

- **Construction Phase** – The time from the start of construction, including site preparation activities, to the start of operations and maintenance of the Community Access Road. Decommissioning of construction works is included in the Construction Phase. The Construction Phase is anticipated to take approximately three to ten years to complete; and
- **Operations and Maintenance Phase** – The Operations and Maintenance Phase starts once construction activities are complete and lasts for the life of the Project. The Operations and Maintenance Phase of the Project is considered to be permanent based on the expected timeline for when major refurbishment of road components (e.g., bridges) is anticipated.

There are currently no plans to decommission the Community Access Road as there is no expected / known end date for its need. Therefore, future suspension, decommissioning, and eventual abandonment will not be considered in this report. It will be considered if and when a decommissioning or abandonment application is made for the Community Access Road.

In determining the temporal boundaries, in particular the long duration of the Operations and Maintenance Phase, consideration was given to the long-term effects on the well-being of present and future generations.

4.2.2 Valued Components and Indicators

The Impact Assessment Agency of Canada describes Valued Components as the environmental, health, social, economic, or additional elements or conditions of the natural and human environment that may be affected by a proposed project and areas of concern or value to the public, Indigenous Peoples, federal authorities, and interested parties (Impact Assessment Agency of Canada, 2021b). This includes groundwater, which is defined as the water that exists underground in saturated zones beneath the land surface. Hydrogeology is the scientific discipline concerned with the properties of groundwater, and especially its movement in relation to land.

The Valued Component(s) of the hydrogeology discipline were determined through consideration of the following factors:

- Valued Component presence in the Study Area;
- The extent to which the Valued Component is linked to the interests or exercise of Aboriginal and Treaty Rights of Indigenous Peoples, and whether an Indigenous Group has requested the Valued Component;
- The extent to which the effects (real or perceived) of the Project and related activities have the potential to interact with the Valued Component;
- The extent to which the Valued Component may be under cumulative stress from other past, existing, or future undertakings in combination with other human activities and natural processes;
- The extent to which the Valued Component is linked to federal, provincial, territorial, or municipal government priorities (e.g., legislation, programs, policies);
- The possibility that adverse or positive effects on the Valued Component would be of particular concern to Indigenous Groups, the public, or federal, provincial, territorial, municipal, or Indigenous governments; and
- Whether the potential effects of the Project on the Valued Component can be measured and / or monitored or would be better ascertained through the analysis of a proxy Valued Component.

Indicators represent the resource, feature, or issue related to the Valued Component that, if changed, may demonstrate an effect on the environment. Indicators may be characterized quantitatively or qualitatively. For the *Environmental Assessment / Impact Statement Report*, the indicators for the groundwater Valued Component were as follows:

- **Groundwater Quality:** The degradation of physical and chemical characteristics of groundwater; and
- **Groundwater Quantity:** The amount or abundance and spatial configuration of groundwater, with specific consideration of groundwater levels.

The indicators for the groundwater Valued Component were initially outlined in the *Terms of Reference* (AECOM, 2020) and then refined in the *Groundwater Study Plan* (AECOM, 2021). A summary of the Valued Component and indicators selected for the assessment of Project effects on groundwater, and the rationale for their selection, are provided in **Table 4-2**.

Table 4-2: Groundwater Indicators

Valued Component	Indicators	Rationale for Selection
Groundwater	Groundwater Quality: ■ Degradation of physical characteristics of groundwater ■ Degradation of chemical characteristics of groundwater	■ Importance for the protection of aquatic and terrestrial life ■ Importance for potable water supplies ■ Indigenous cultural importance for consumption
	Groundwater Quantity: ■ Change in groundwater levels	■ Quantify effects on landowners, users, and ecosystems

4.2.3 Spatial Boundaries

4.2.3.1 Project Study Areas

Study areas identify the geographic extents within which potential effects of the Project are likely to occur and will be considered in the *Environmental Assessment / Impact Statement Report*. General Project boundaries were established for scoping field programs and delineating study areas for discipline-specific surveys. These general Project study areas are described in in **Table 4-3**.

Table 4-3: Project Study Areas Definition and Description

Study Area	Definition	Description
Construction Disturbance Area	Area of expected direct disturbance	100 m wide Community Access Road right-of-way, temporary work areas, worker camps, pits, quarries, and temporary and permanent access roads
Project Study Area	The area where most of the direct effects of the Project are likely to occur	The area within 2.5 km (total of 5 km) of the centreline of the route alternatives

Notes: km = kilometre; m = metre.

4.2.3.2 Groundwater Study Areas

Discipline-specific Study Areas identify the geographic extents within which potential effects of the Project are likely to occur and were considered in the *Environmental Assessment / Impact Statement Report*. Discipline-specific Local Study Areas and Regional Study Areas have been defined for the Project. In defining these areas, the following was considered:

- Location and other characteristics of the discipline relative to the Project;
- The anticipated extent of the potential Project effects;
- Federal, provincial, regional, and local government administrative boundaries;
- Input from Indigenous Groups;
- Community knowledge and Indigenous Knowledge;
- Current or traditional land and resource use by Indigenous communities;
- Exercise of Aboriginal and Treaty Rights of Indigenous Peoples, including cultural and spiritual practices; and
- Physical, ecological, technical, social, health, economic, and cultural considerations.

As described in the *Environmental Assessment / Impact Statement Report* and in **Section 6** of this Report, the characterization of existing conditions for the Project was completed on two alternative routes (Alternative 1 and 4). The data collected through the characterization of existing conditions were used to inform the selection of the Preferred Route. The existing conditions Local and Regional Study Areas considered the two alternative routes (Alternative 1 and 4). As the residual and cumulative effects assessment was completed on just the selected Preferred Route, the Local and Regional Study Areas for the effects assessment only considered the one route.

Existing Conditions Study Areas

The existing conditions spatial boundaries for groundwater are defined by a Local Study Area and Regional Study Area. These spatial boundaries were applied to each alternative, considering the Project components within the Construction Disturbance Area. The existing condition Study Areas cover the extent to which readily available information suggests the Project may have noticeable effects on the environment. The size, nature, and location of past, present, and reasonably foreseeable projects will be taken into consideration in the development of the cumulative effects assessment Study Area(s) and are further discussed in **Section 8**.

The Construction Disturbance Area includes the Project footprint, which encompasses a 100 m wide right-of-way for each Preferred Route (i.e., Alternative 1 and Alternative 4). The right-of-way is only expected to be cleared to a width of 60 m for permanent use with the remaining 40 m to be temporarily cleared to accommodate activities such as the excavation of pits and quarries, construction of temporary laydown areas, and the implementation of debris and / or timber stockpiles. Alternative 1 includes approximately 226 km of new all-season road, while Alternative 4 comprises approximately 194 km in length of new all-season road. The Construction Disturbance Area was designed to capture the potential direct effects of the Project at the immediate local scale (i.e., the area of direct disturbance where groundwater is most likely to be directly affected by Project infrastructure and activities).

Local Study Area

The groundwater existing conditions Local Study Area includes the area within 1 km around the centreline of Alternative 1 and Alternative 4 and other parts of the Construction Disturbance Areas. The existing conditions Local Study Area was designed to capture the local effects of the Project on groundwater that may extend beyond the Construction Disturbance Area with the understanding that the spatial extent of this Local Study Area is intended to account for the local area where effects of the Project are likely to be measurable. As described in the Groundwater Study Plan, the Local Study Area is considered reasonable due to the following:

- The extent of the drawdown cones from disturbed areas (dewatering wells and dewatered excavation footprints) is anticipated to be less than 1 km based on near surface geology (primarily granitic bedrock, silt rich till, or poorly draining soils);
- Effects from diverting water and flooding extents are anticipated to be less than 1 km, assuming best construction practices are followed (e.g., culverts); and
- Effects on groundwater quality are not expected to migrate long distances based on the low hydraulic conductivity of granitic bedrock and silty clay till. The relatively low topography of the Project area suggests a low hydraulic gradient and very slow groundwater migration (e.g., several to tens of metres per year). Furthermore, solutes dissolved in groundwater undergo a number of different processes during transport that can remove or slow contaminant migration. These processes include, but are not limited to, sorption, chemical or oxidation-reduction induced precipitation, abiotic as well as biodegradation, and decay of radioactive compounds. These natural processes, in addition to mixing and dilution along the groundwater flow path, will decrease the concentration of contaminants migrating off-site and reduce the size of the affected areas, if any.

Regional Study Area

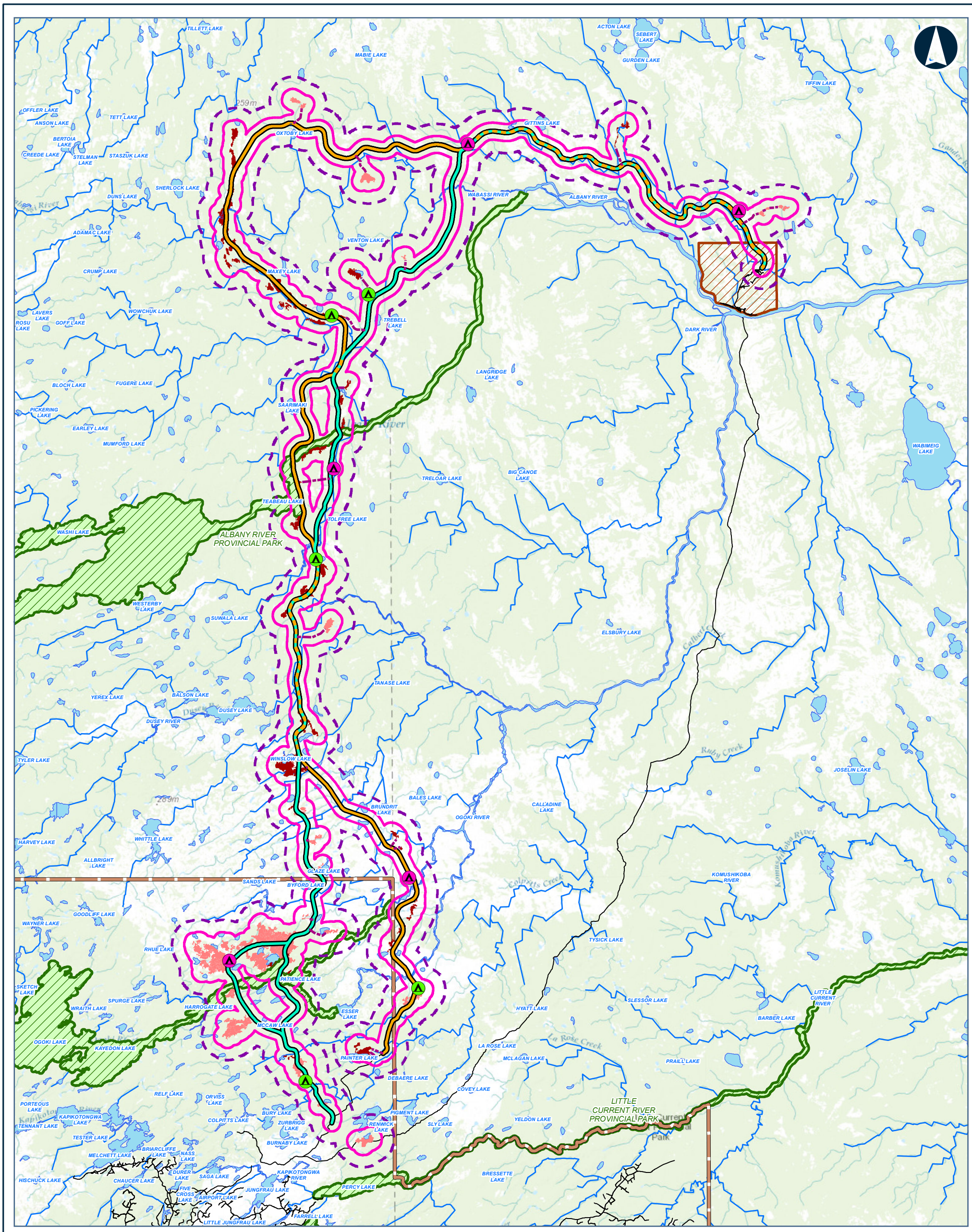
The Regional Study Area for groundwater includes the area within 2.5 km around the centreline of Alternative 1 and Alternative 4 and other parts of the Construction Disturbance Areas. The Regional Study Area was designed to provide a large enough area to assess the cumulative and regional effects on groundwater.

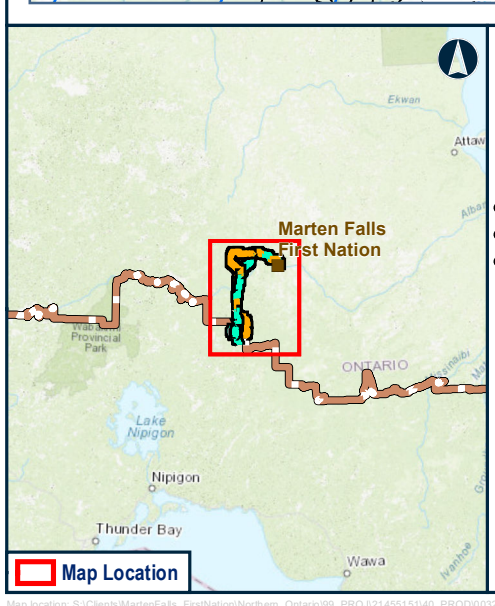
The existing conditions Construction Disturbance Area, Local Study Area and Regional Study Area are further described in **Table 4-4** and illustrated in **Figure 4-1**.

Table 4-4: Groundwater Existing Conditions Study Areas Description and Rationale

Study Area	Area Size	Geographic Extent	Rationale
Construction Disturbance Area	12,665 ha	Project footprint encompasses a 100 m wide right-of-way for each Preferred Route (i.e., Alternative 1 and Alternative 4).	Area of expected direct disturbance
Local Study Area	104,989 ha	1 km from centreline of Alternative 1 and Alternative 4 and associated construction areas.	Potential effects on groundwater are considered to be localized and limited to areas disturbed by Project construction and immediately adjacent lands.
Regional Study Area	215,068 ha	2.5 km from centreline of Alternative 1 and Alternative 4 and associated construction areas.	Potential effects on groundwater are considered to be localized and limited to areas disturbed by Project construction and immediately adjacent lands.

Notes: ha = hectare; m = metre; km = kilometre.





Legend

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)

- 50 PERSONS
- 200 PERSONS
- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- ROAD
- WATERBODY
- WATERCOURSE
- FAR NORTH BOUNDARY
- FIRST NATION COMMUNITY
- PROVINCIAL PARK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Groundwater Existing Conditions Local and Regional Study Areas

0 5 10 20
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 4-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0001_4-1.mxd
Date Saved: 11/11/2024 11:23:28 AM User Name: INGU06951

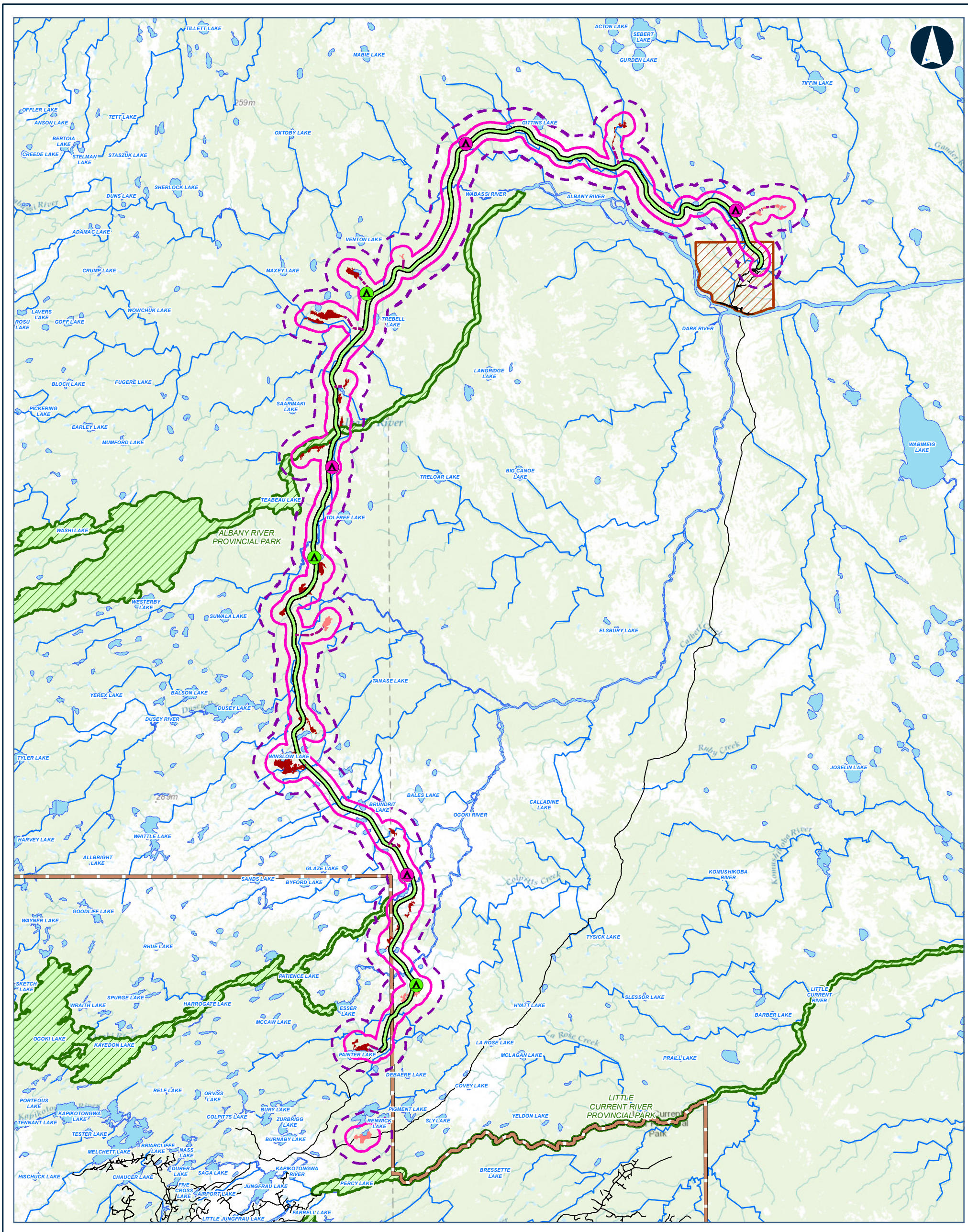
Effects Assessment Study Areas

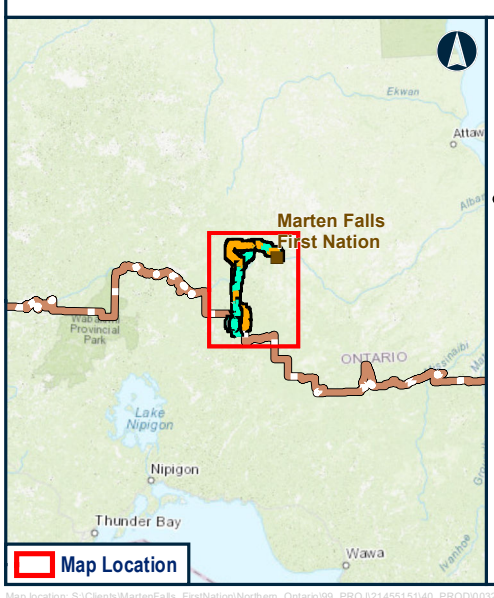
The selection of a Preferred Route resulted in refined Study Areas that represent the same geographic extents of the existing condition Study Areas; however, they only apply to the Preferred Route. The Construction Disturbance Area for the Preferred Route and the effects assessment Local Study Area and Regional Study Area are described in **Table 4-5** and illustrated in **Figure 4-2**.

Table 4-5: Groundwater Effects Assessment Study Areas Description and Rationale

Study Area	Area Size	Geographic Extent	Rationale
Construction Disturbance Area	4,700 ha	100 m wide Community Access Road right-of-way, temporary construction access roads, work areas, worker camps, and pits and quarries	Area of expected direct disturbance
Local Study Area	56,180 ha	1 km from centreline of Preferred Route and associated construction areas	Potential effects on groundwater are considered to be localized and limited to areas disturbed by Project construction and immediately adjacent lands.
Regional Study Area	126,290 ha	2.5 km from centreline of the Preferred Route and associated construction areas	Potential effects on groundwater are considered to be localized and limited to areas disturbed by Project construction and immediately adjacent lands.

Notes: ha = hectare; m = metre; km = kilometre.





Legend

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)

- 50 PERSONS
- 200 PERSONS

PREFERRED ROUTE

APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP

APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE

BEDROCK

SAND AND GRAVEL

ROAD

WATERBODY

WATERCOURSE

FAR NORTH BOUNDARY

FIRST NATION COMMUNITY

PROVINCIAL PARK

GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA

GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Groundwater Effects Assessment Local and Regional Study Areas

0 5 10 20
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 4-2

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0007_4-2.mxd
Date Saved: 11/11/2024 11:21:46 AM User Name: INGU06951

4.3 Existing Conditions Study Design and Methods

Characterization of the groundwater existing environment was completed by undertaking a desktop review supplemented by field investigations completed specifically for the Project. The desktop review included a review of available existing information, including previous studies and reports, geological maps, borehole logs, and well records. The methods used to characterize the groundwater existing environment are described in the following sections. Existing conditions data were compiled for sites where potential direct effects of the Project at the immediate local scale (i.e., the area of direct disturbance) and where receiving waterbodies or watercourses are most likely to be directly affected by Project infrastructure and activities (i.e., pits and quarries, new waterbody crossing structures to be installed for the Project).

4.3.1 Desktop Assessment

A desktop review of existing information sources was completed to compile regional information and identify information gaps that needed to be addressed through further study.

The groundwater desktop review focused on published information obtained from all local or interested Indigenous communities (including Marten Falls First Nation), if any, the Ontario Ministry of the Environment, Conservation and Parks, and Ministry of Natural Resources, Ontario Geological Survey, the Geological Survey of Canada, the Ontario Ministry of the Environment, Conservation and Parks Water Well Information System, and reports by Golder Associates Ltd. and KGS Group to develop a conceptual understanding of local hydrogeological conditions.

The desktop assessment included the following tasks:

- A review of previous studies pertaining to the Project or conducted within the Regional Study Area that may provide additional hydrogeological, geological, or hydrological data relevant to the Project. If any data were referenced, justification for utilizing these data (i.e., spatial and temporal relevance with respect to the Project Regional Study Area), detailed descriptions, and specific data sources were provided in the existing conditions report. Note that site-specific data have also been collected, as described below;
- Review of the geological characterization in the *Physiography, Terrain, and Soils Technical Support Document: Existing Conditions and Effects Assessment Report (WSP, 2026b)*. The geological characterization provides surficial, bedrock and structural geological observations from within the Regional Study Area using publicly available data from online geological mapping or provincial databases as well as field observations;

- Conducted a review of the Ministry of the Environment, Conservation and Parks Water Well Information System database (Ministry of the Environment, Conservation and Parks, 2024a) to identify the location of registered groundwater wells within the Local Study Area and Regional Study Area. Though no groundwater wells were recorded within the Regional Study Area, the few records near the Study areas were reviewed to provide regional hydrogeological context. This review included a review of the water well logs to obtain hydrogeological information, such as well use, water levels, geology and well yield;
- Conducted community consultation and engagement to determine if any groundwater sources were used for drinking water supply (water wells, springs);
- A review of the existing environments within the Regional Study Area to identify areas with sensitive hydrogeological receptors (e.g., peatlands, wetland, streams); and
- A review of the Ontario government data-catalogue to obtain additional relevant groundwater information from the Ministry of the Environment, Conservation and Parks with respect to the Project.

Further reports were reviewed as part of the geochemical desktop assessment, as outlined in **Attachment B – Geochemical Characterization Technical Support Document**.

4.3.2 Field Investigations

4.3.2.1 Field Survey Site Selection

The groundwater field program included the installation of hydrogeological stations within the Local Study Area. The field study focused on areas that were assessed to have the greatest potential to affect water quantity and quality of hydrology and hydrogeology systems, based on available information. Stations were installed in bedrock and / or overburden in areas of hydrogeological interest, including:

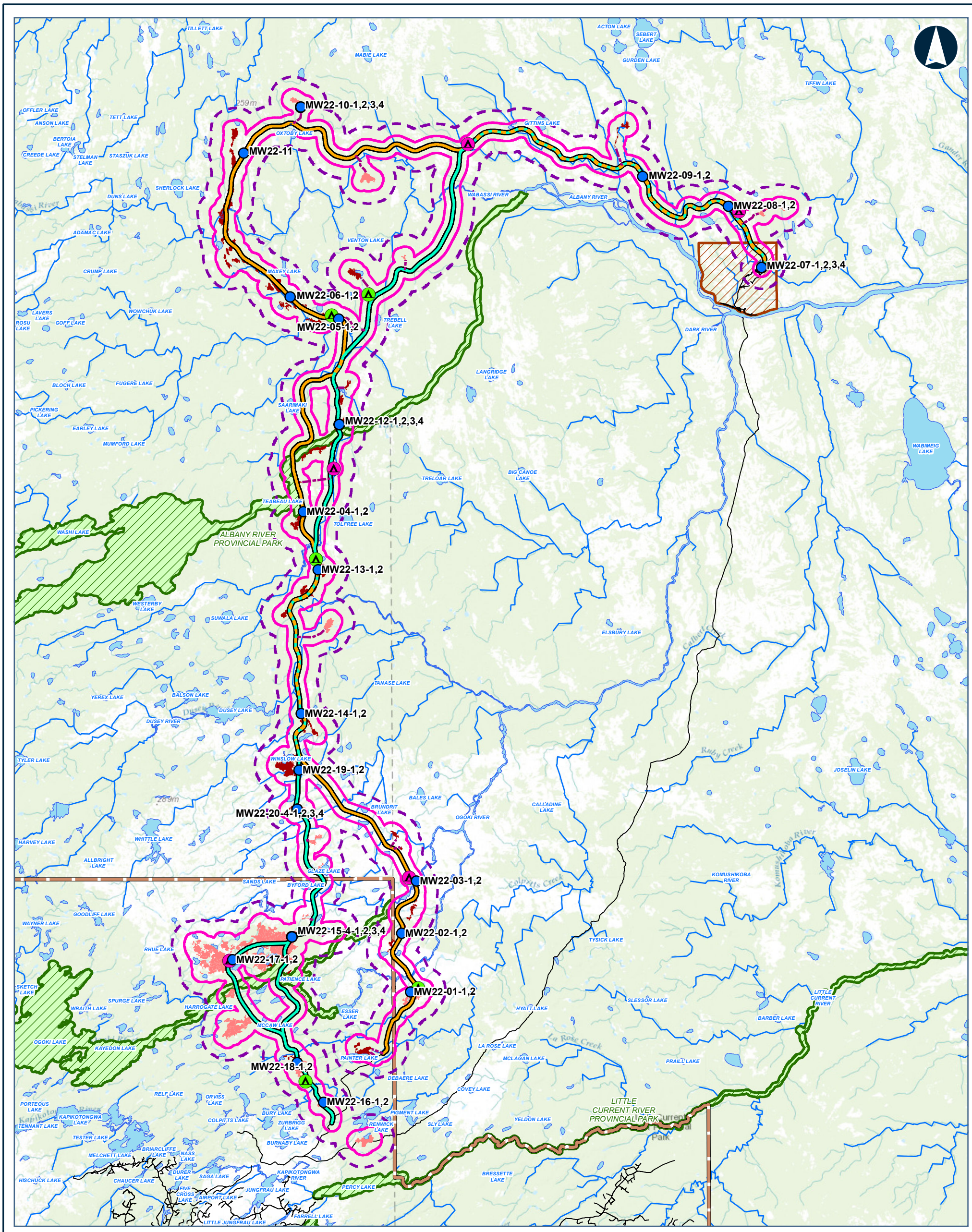
- Areas within close proximity (i.e., within the Local Study Area) to water crossings or sensitive terrestrial or aquatic ecological receiving environments, such as ponds, lakes, creeks, streams, rivers, and wetlands;
- Developed First Nation communities within the Local Study Area, where structures, infrastructure, and / or local wells or drinking water sources exist; and
- Areas where significant construction or geotechnical works could be required, including areas subjected to excavation, dewatering, water discharge, groundwater extraction, blasting, backfilling, temporary or permanent damming of water, or diversion of water is likely to occur (e.g., along the Construction Disturbance Area, pits and quarries, temporary access roads, and temporary construction camps).

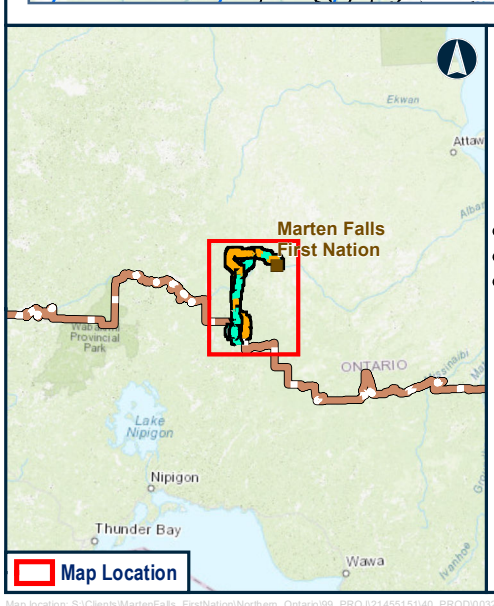
Considering the extent of the wetland areas, the number of water crossings, and the potential pits and quarries associated with the Project, it is not feasible to directly assess every feature or affected area. Based on the study plan, 20 locations were identified for additional groundwater field characterization.

Groundwater monitoring stations were installed in areas of varied geology along the Construction Disturbance Area to allow for groundwater quality and quantity monitoring in a variety of geologic units within the Local Study Area. Groundwater monitoring station locations were proposed where key geological features (e.g., eskers, wetlands, bedrock outcrops) and substantial construction works (e.g., pits, quarries, major water crossings) were likely to occur. At each selected groundwater monitoring station, up to four monitoring wells were installed. Typical stations involve two wells (nested shallow and deep) to facilitate water level monitoring, water quality sampling and determination of vertical gradients. Detailed monitoring stations consisted of four monitoring wells. Three shallow monitoring wells were installed to allow for horizontal gradient calculation and groundwater flow direction determination. The shallow groundwater monitoring wells were installed in a triangular pattern, with one well installed on the inferred upgradient side of the Construction Disturbance Area and two wells installed in the inferred downgradient side of the Construction Disturbance Area. To allow for vertical gradient calculation and flow determination, a single deep well was installed adjacent to one of the downgradient shallow well locations.

There were 15 typical and five detailed groundwater monitoring stations installed during this investigation. The final locations of monitoring wells within the Local Study Area were determined in collaboration with the Indigenous Knowledge and the Consultation and Engagement Programs, and communities with interests in the Local Study Area were provided an opportunity to comment on the proposed monitoring locations.

Groundwater monitoring station locations are shown on **Figure 4-3**. Specific details regarding monitoring well installation, testing, and monitoring are discussed in the subsequent sections of this report.





Legend

- MONITORING WELL LOCATION
- CONSTRUCTION DISTURBANCE AREA
- POTENTIAL CAMP SITE (SIZE)
  - 50 PERSONS
  - 200 PERSONS
- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- ROAD
- WATERBODY
- WATERCOURSE
- FAR NORTH BOUNDARY
- FIRST NATION COMMUNITY
- PROVINCIAL PARK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Groundwater Monitoring Well Locations

0 5 10 20
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 4-3

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0002_4-3.mxd
Date Saved: 11/11/2024 11:22:25 AM User Name: INGU06951

4.3.2.2 Borehole Drilling Program

Groundwater monitoring wells are required to collect water quality and quantity data at key groundwater study area locations. Based on the expected depths to groundwater and the presence of dense soils and bedrock in the Local Study Area, a drill rig was required to drill the boreholes required to install the monitoring wells. Due to the remote setting of the Local Study Area, a specialized drill rig that can be disassembled and transported using a helicopter was used for the groundwater field investigation. Prior to conducting the drilling work, brush / tree clearing for drill rig and helicopter landing pads was required. The size of these pads was determined by the required safe helicopter landing area and the required drill rig set up and working areas located outside of the helicopter landing area. Existing cleared areas and natural clearings were used where available near the target groundwater monitoring locations. The tree clearing for the groundwater monitoring locations was carried out by a specialist contractor under a Forest Resource Licence and a Permit to Remove Forest Resources issued by the Ministry of Natural Resources (formerly known as the Ministry of Northern Development, Mines, Natural Resources and Forestry) and the groundwater monitoring locations were established under a Land Use Permit from the Ministry of Natural Resources.

Input on the groundwater drilling sites was provided by Marten Falls First Nation due to community concerns relating to the potential for sedimentation discharges within proximity to the Albany River, and other watercourses known to contain fish spawning and fish harvesting (i.e., fishing areas). As a result, the selected groundwater drilling sites were located away from the identified watercourses (Marten Falls First Nation, 2021).

The drill advanced the boreholes using solid stem and hollow stem augers in overburden and coring equipment for drilling in bedrock and overburden with boulders. Samples of the overburden materials were collected with a standard split spoon during drilling. Samples were collected and logged in the field at typical intervals of 0.8 m or up to 1.5 m intervals for borehole depths greater than 3 m. Bedrock was collected and logged as continuous cored samples.

Up to five samples were collected from each drilling location and submitted for laboratory analysis of geochemical parameters to support the geochemistry characterization. These samples were selected to be representative of the various overburden and bedrock materials encountered at each drilling site. A total of 94 samples were collected and submitted for geochemical testing over the borehole drilling investigation. Details of these samples and test results are provided in the supporting *Geochemical Characterization Technical Support Document* (**Attachment B**).

Borehole drilling and installation of groundwater monitoring wells to determine existing seasonal conditions in the Local Study Area began in September 2022 and continued through to the onset of severe winter weather in December 2022. The remaining boreholes and well installations were completed in April and June 2023.

4.3.2.3 Groundwater Monitoring Well Installation

Monitoring wells were constructed using nominal 38 mm diameter polyvinyl chloride Schedule 40 well screens (10 slot) and solid riser pipes, respectively. Monitoring wells were completed using a threaded polyvinyl chloride well point cap at the bottom end of the screen interval and a “j-plug” style sealable plug used to cap the well at surface. A monument-type steel or aluminum protective casing was installed over the top of each monitoring well to protect the above ground portion of the well riser.

A filter pack consisting of clean, inert rounded to sub-rounded 1 to 3 mm diameter silica sand was installed around and above each well screen interval. In general, the sand pack was extended to a minimum height of 0.6 m above the top of the well screen unless otherwise dictated by field or local site / geological conditions. In some locations, the surrounding soil materials were loose and collapsed around the well screen before a manufactured sand pack could be installed. These soils were typically of a sandy composition and were considered to have formed a “natural” filter pack around the well.

A minimum 1.0 m thick non-permeable seal was installed within the borehole annulus atop the filter pack using bentonite pellets or chips, where installation depths allowed. The thickness of the bentonite seal was confirmed by the drilling contractor through direct measurement. The remaining annular space above the bentonite seal was backfilled to ground surface using either bentonite or soil cuttings and bentonite.

Drill cuttings generated during borehole drilling were raked out and mounded around the exterior of the protective casing to prevent pooling and to encourage runoff flow away from each monitoring well. To complete the installation, each monitoring well was tagged in accordance with *Ontario Regulation 903: Wells*, under the *Ontario Water Resources Act* (Government of Ontario, 1990d), and a water well record prepared and submitted by the drilling contractor to the Ministry of the Environment, Conservation and Parks.

Monitoring wells will be used to monitor water quantity and quality before, during, and following construction activities. When monitoring is no longer required, all installed monitoring wells are required to be abandoned in accordance with *Ontario Regulation 903: Wells* (Government of Ontario, 1990d). In accordance with the regulation, monitoring wells must be abandoned by a Ministry of the Environment, Conservation and Parks licensed water well contractor.

Well Surveying

Monitoring wells were surveyed to determine Universal Transverse Mercator coordinates, ground elevation and top of pipe elevation. Survey data are important for accurate determination of groundwater elevations, gradients, and flow directions, which can be challenging to infer in areas with little topographic relief and a flat-water table. Monitoring well locations were surveyed with a global positioning system unit; however, the remote

location of the Project limited the available accuracy of these measurements. To help confirm that calculated groundwater depths and gradients were accurate between wells within each site, the relative locations and elevations of each monitoring well were also directly surveyed on each site with laser instruments.

4.3.2.4 Monitoring Well Development

Following well installation and surveying, each monitoring well was developed to remove sediment and drill fluids from the wellbore and geologic formation. Well development was conducted prior to groundwater sample collections to allow for collection of groundwater quantity and quality data that are representative of in situ conditions.

Appropriate well development methods were determined by location, based on the total depth of installation, local groundwater conditions / water column height, and sediment content of the groundwater. The majority of the monitoring wells were successfully developed using manual inertial pumps and associated polyethylene tubing. The typical well development process employed for this Project was as follows:

- A minimum of three wellbore volumes of water were removed from each monitoring well, using dedicated equipment;
- Where wells were screened in a low permeability media (e.g., silt and clay) and it was observed that slow recharge and dry conditions were occurring, the monitoring well was purged dry a minimum of one time, following water level recovery to a minimum of 80% of the static levels;
- Where possible, repetitive groundwater field parameter measurements were obtained during the development process (including pH, temperature, electrical conductivity, turbidity, and visual appearance); and
- Where a dry condition was not reached, the monitoring well was developed until a visual improvement was observed in the turbidity level of the purged water, or until field parameters stabilized.

4.3.2.5 Groundwater Quantity and Quality Monitoring Program

The groundwater level monitoring program was completed in conjunction with the groundwater quality sampling program, both of which are discussed below.

4.3.2.6 Water Level Measurements

Groundwater level measurements were obtained at each monitoring well following the well installations with a partial round of measurements collected from available wells in fall 2022 and six full rounds of measurements collected through 2023 (in June, August, and September) and 2024 (June, August, and September / October) to assess seasonal

fluctuation of the groundwater table over two full years. No groundwater level measurements or samples were conducted during winter months, as it was determined that accessing locations with thick snow cover during winter would prove to be too difficult and introduce health and safety risks that could not be sufficiently mitigated. Further, shallow groundwater may be frozen, inhibiting collection of groundwater quantity and quality data.

Groundwater level measurements were obtained using an electronic water level indicator. The electronic water level indicator was lowered into the riser pipe of each monitoring well until water was encountered, as indicated by the instrument signal. The groundwater levels were measured with respect to a fixed “top-of-casing” reference point and entered in a field log.

Following completion of groundwater level measurement at each monitoring well, the electronic water level tape was cleaned to eliminate the possibility of cross-contamination between monitoring well locations.

At the detailed groundwater monitoring stations, all four monitoring wells were instrumented with pressure transducers to allow for continuous monitoring of groundwater levels (at one-hour intervals). These data are used to assess seasonal changes in groundwater levels and flow directions over all four seasons. In addition, one barometric pressure transducer (barologger) was installed within at least 30 km of each detailed monitoring station to allow for water level compensation of atmospheric pressure fluctuations. All pressure transducers were downloaded and redeployed during each site visit.

4.3.2.7 Groundwater Quality Sampling

Groundwater quality sampling was completed at all groundwater monitoring stations. Two samples were collected at each location, including one sample from the deep well and one sample from a shallow well. As with the groundwater monitoring, samples were collected three times in 2023 and three times in 2024 to assess seasonal variability in water quality and build an existing conditions groundwater quality database over two full years.

Industry standard quality assurance / quality control protocols were followed for bottle preparation, groundwater sample collection and transportation, as outlined within pertinent Ministry of the Environment, Conservation and Parks guidance documents (Ministry of Environment, 2016) as well as WSP Standard Operation Procedures. Groundwater samples were collected using a peristaltic pump, high-density polyethylene and silicone tubing or using a dedicated bailer where groundwater depths preclude use of a peristaltic pump. Field parameters (pH, temperature, dissolved oxygen, turbidity, oxidation-reduction potential and specific conductance) were measured using a YSI water quality instrument and a flow-through cell to record in situ groundwater conditions. Using a combination of peristaltic pumps and bailers allows for proper collection of samples for analysis of volatile parameters.

Each groundwater sample was placed in laboratory-supplied sample bottles prepared in advance with the appropriate preservatives, sealed, labelled, and stored cooled or on ice to maintain a sample temperature of 10°C or lower during transportation under chain of custody documentation to a Canadian Association for Laboratory Accreditation-accredited environmental analytical laboratory within the specified sample analyte holding times. To provide for an extended hold time for Biological Oxygen Demand samples, these samples were frozen on the date of collection and kept frozen until submitted to the lab. Field filtration for certain parameters (e.g., dissolved metals) was completed at the time of sample collection using a dedicated 0.45 micrometre (µm) filter.

Collected groundwater samples were submitted under chain of custody documentation for the following suites of analytical parameters:

- General parameters (pH and conductivity);
- Total and dissolved metals, including:
    - Aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, calcium, chromium, hexavalent chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, selenium, silicon, silver, sodium, strontium, thallium, tin, titanium, uranium, vanadium, and zinc.
- Mercury and methylmercury;
- Hardness (as calcium carbonate);
- Alkalinity (total as calcium carbonate);
- Ammonia;
- Biological oxygen demand;
- Chemical oxygen demand;
- Total suspended solids;
- Total dissolved solids;
- Dissolved organic carbon;
- Anions (chloride, bromide, fluoride, and sulphate);
- Nutrients (nitrate, nitrite, and phosphorus);
- Volatile organic compounds;
- Polycyclic aromatic hydrocarbons; and
- Radionuclide parameters.

The above suite of analytical parameters was considered sufficient to assess existing concentrations of potential contaminants of concern associated with the proposed Project activities, including placement of fill material (general parameters, anions, metals, and radionuclides), blasting residual (nutrients), acid rock drainage and buffering capabilities (metals and alkalinity), metal leaching (metals and general parameters), hydrocarbons and solvents (volatile organic carbons and polycyclic aromatic hydrocarbons), and permanent infrastructure, such as bridges, piles, and culverts (metals). Radionuclide parameters were screened based on gross alpha / beta amounts during the first year of monitoring. Based on these results, monitoring wells that showed gross alpha / beta levels above the *Canadian Drinking Water Quality Guidelines* screening levels will be sampled for a suite of naturally occurring radionuclide isotopes to determine the potential sources of the elevated alpha / beta emissions.

4.3.2.8 Hydraulic Conductivity Testing

Hydraulic conductivity testing was conducted at two locations (the nested shallow and deep monitoring well pair) at each monitoring station to provide an estimate of shallow and deep hydraulic conductivity (K) values of the screened geologic media. The hydraulic conductivity testing was carried out through Single Well Response Tests during the August 2023 groundwater monitoring event.

The Single Well Response Test method involves causing a rapid change in hydraulic head in a well and measuring the water level response within the well over time. Single Well Response Test methods may include one or a combination of rising head or falling head tests, depending on the position of the static groundwater level within the monitoring well being tested. In slow recharge wells, bail down tests may be used in place of rising head or falling head tests.

The Single Well Response Test process employed for this Project was as follows:

- At the start of the test, a static water level was initially measured within the monitoring well;
- An electronic pressure transducer (datalogger) was then installed in the well below the water level and configured to monitor water levels at one second intervals (or less);
- Rising head tests were carried out by rapidly removing a volume of water from the well using a bailer;
- Immediately following the removal of the bailer from the well, manual groundwater level measurements were collected to supplement the datalogger readings, and recovery of the water level was timed; and
- Testing was generally concluded when a minimum of 65% recovery of the static water level was achieved in the well (>90% recovery preferred).

Single Well Response Test was not completed at monitoring wells that were observed to be dry or possessed an insufficient water column height (i.e., <0.5 m).

4.3.2.9 Monitoring Well Decommissioning

Following the completion of the existing conditions groundwater field program in October 2024, plans were made to decommission the monitoring wells. Well decommissioning was completed in September and October of 2025 during the Fall timing window when Species at Risk would be less likely to be adversely affected by the helicopter flights and decommissioning activities. Sixteen of the 20 groundwater monitoring stations were decommissioned by removing the monitoring well surface casings, pulling the PVC monitoring well pipes out of the ground and sealing the boreholes with a bentonite grout. At a few locations the PVC pipe was broken and could not be pulled entirely from the ground, the remaining pipe that could not be removed was grouted in place. All well decommissioning was carried out in accordance with *Ontario Regulation 903: Wells*, under the *Ontario Water Resources Act* (Government of Ontario, 1990d). Four groundwater monitoring locations, MW22-05, MW22-06, MW22-10, and MW22-11, were not decommissioned but were transferred to the Northern Road Link project team for use in their technical studies and monitoring.

4.4 Effects Assessment

The following is a broad overview of the approach for the identification, assessment, and evaluation of the potential effects:

- Review construction and operations activities to identify potential interaction(s) that could result in environmental effects;
- Characterize the existing environment for both route alternatives, which considers past, present, and approved projects;
- Identify potential environmental effects of the Preferred Route and recommend mitigation measures to avoid or minimize identified effects, as well as identify opportunities to enhance benefits to the environment;
- Predict and assess potential environmental effects remaining after taking into consideration the recommended mitigation measures (i.e., residual effects) using direction, magnitude, geographic extent, duration, frequency, reversibility, and likelihood;
- Predict cumulative effects that may result from a combination of the residual effects of the Preferred Route with the effects of other past, present, and reasonably foreseeable projects; and

- Identify a follow-up program for the Preferred Route that includes monitoring to verify the prediction of the effects assessment and effectiveness of the mitigation measures, and a requirement for monitoring of the commitments made in the *Terms of Reference* and *Environmental Assessment / Impact Statement Report*.

The following sections provide discipline-specific input and considerations as they pertain to the methodology for the effects assessment. For detailed descriptions of the methodology used to inform this study refer to the *Environmental Assessment / Impact Statement Report*. Refer to **Section 6** for details related to the Preferred Route, including the revised Study Area that have been used in the effects assessment.

4.4.1 Project–Environment Interactions

Considering the Project components and activities presented in **Section 2**, interactions were identified between the Project components and activities to the existing conditions of the groundwater Valued Component. These interactions support the identification of potential effects, both direct and indirect, that may result in changes to groundwater. The likely Project–environment interactions were identified based on professional judgment, activities planned to occur, and as described in the *Marten Falls Community Access Road Project Tailored Impact Statement Guidelines* (Impact Assessment Agency of Canada, 2020a). **Table 4-6** provides the preliminary analysis of Project–environment interactions for groundwater that was presented in the *Groundwater and Geochemistry Study Plan* (AECOM, 2021). The analysis of Project–environment interactions for groundwater that are likely to have a potential effect is provided in **Section 7.2**.

Table 4-6: Project–Environment Interactions

Project Phases	Project Activities	Groundwater
Construction Phase	Mobilization of equipment and supplies	**N/A**
	Temporary construction staging areas	**X**
	Temporary access roads and trails	**X**
	Temporary construction camps	**X**
	Right-of-way clearing and grubbing	**X**
	Brush and timber disposal	**N/A**
	Pits and quarries	**X**
	Drilling / blasting / aggregate production	**X**
	Road construction (stripping, subgrade excavation, embankment fill placement, grading, ditching)	**X**
	Bridge and culvert installation (approach embankments, foundations, substructures, superstructures, traffic protection, erosion controls)	**X**

Project Phases	Project Activities	Groundwater
	Construction site restoration	**X**
	Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act*	**X**
	Decommissioning and reclamation temporary camps, roads / trails, and staging areas	**X**
Operation and Maintenance Phase	Operate the preferred route	**N/A**
	Maintain the preferred route	**X**

Notes:
Temporary construction staging areas, access roads, construction camps, and pits and quarries activities include construction and use of this equipment or infrastructure.
Maintenance of the route includes general maintenance activities (e.g., grading, erosion control, quarrying, and pits and quarries), seasonal maintenance activities (e.g., snow clearing and bridge and culvert maintenance), and special maintenance activities (e.g., slope failures and road settlement / break-up).
x = interaction., N/A = not applicable

4.4.2 Assessing Residual Effects

4.4.2.1 Potential Effects

Following the identification of the Project–environment interactions, the existing conditions for the Preferred Route were reviewed to determine the potential effects of the Project. The potential effects on groundwater were described as either direct or indirect, and the potential direct and indirect on other disciplines were described as Discipline Interactions. The potential direct and indirect effects resulting from the Project–environment interactions were based on input received through the Indigenous Knowledge Program and Consultation and Engagement Program, regulatory agency guidance, and professional judgement.

A **direct effect** is an immediate change to an environmental component caused by a project activity at the same time and place as the activity.

An **indirect effect** occurs when a change resulting from a project activity leads to subsequent changes in other environmental component, which may occur later in time or at a different location but are reasonably foreseeable. **Table 4-7** provides a preliminary identification of how changes to groundwater may result in indirect effects on other environmental disciplines.

Residual effects are the effects that remain after the application of mitigation measures. These effects are described in **Section 0** and include descriptions in detail of the potential

adverse and positive residual effects in relation to each temporal phase of the Project as outlined in **Section 4.2.1**.

Discipline interactions occur when a change to one Valued Component resulting from a Project activity causes a change to another Valued Component in another discipline (e.g., changes in groundwater levels or distribution could indirectly affect surface water levels).

Table 4-8 provides a preliminary identification of how changes to other environmental disciplines may result in indirect effects on groundwater.

Table 4-7: Potential Groundwater Interactions with Other Disciplines

Indirect Interactions with Groundwater and Geochemistry	Discipline and Associated Valued Components															
	Aboriginal and Treaty Rights and Interests	Atmospheric Environment	Climate Change	Acoustic and Vibration Environment	Physiography, Geology, Terrain, and Soils	Surface Water	Groundwater and Geochemistry	Vegetation	Wildlife	Fish and Fish Habitat	Social	Economy	Land and Resource Use	Human Health and Community Safety	Visual Aesthetics	Archaeological and Cultural Heritage
Indirect effects on groundwater as a result of changes in other disciplines	-	-	X	-	X	X		X	-	-	-	-	X	-	-	-

Notes: X = interaction; - = no interaction.

4.4.2.2 Mitigation and Enhancement Measures

Following the identification of potential effects, the effects assessment has explored technically and economically feasible mitigation measures to avoid or minimize the identified negative effects. In addition, enhancement measures to increase positive effects beyond those that are already inherent to the design have been considered where appropriate. These measures consist of industry-standard practices, federal and provincial standard specifications, regulator-mandated measures, best management practices, Indigenous and community recommendations, and recommendations from environmental professionals based on expertise, scientific publications, experience, and judgement.

It is important that mitigation and enhancement measures are achievable, measurable, verifiable, and monitored for compliance and effectiveness during all temporal phases as part of the Project follow-up monitoring plan. Recommended environmental monitoring will verify the potential environmental effects predicted, evaluate the effectiveness of mitigation and enhancement measures, and identify the process the Proponent will follow if mitigation and enhancement measures are not effective.

The *Tailored Impact Statement Guidelines* (Impact Assessment Agency of Canada, 2020a) Section 20 requirements and *Terms of Reference* Requirements (AECOM, 2020) for groundwater are provided in **Table 4-8**. The applicability of these requirements has been evaluated and will be adapted to the needs of the site, environment, and Project activities.

Table 4-8: Tailored Impact Statement Guidelines Section 20 Requirements and Terms of Reference Requirements

Tailored Impact Statement Guidelines Section 20 Requirement	Section Addressed In
Describe the standard mitigation practices, policies, and commitments that constitute proven technically and economically feasible mitigation measures and that are to be applied as part of standard practice regardless of location as well as any new or innovative mitigation measures being proposed. Mitigation measures must be specific, achievable, measurable, and verifiable, and must be described in a manner that avoids ambiguity in intent, interpretation, and implementation.	**Section 7.3**
Describe mitigation measures that are specific to each environmental, health, social, or economic effect identified. Mitigation measures are to be written as specific commitments that clearly describe when and how the Proponent intends to implement them, what decision-making criteria will be used, and the outcome these mitigation measures are designed to address.	**Section 7.3**
Specify the actions, works, minimal disturbance footprint techniques, best available technology, best environmental practices, corrective	**Section 7.3**

***Tailored Impact Statement Guidelines* Section 20 Requirement**	**Section Addressed In**
measures, or additions planned during the Project's various phases to eliminate or reduce adverse effects.	
Provide an assessment of the likely effectiveness of the proposed technically and economically feasible mitigation measures and describe all relevant uncertainties on the effectiveness of the measures.	**Sections 7.3, 7.4, and 7.5**
Describe all relevant uncertainties on the effectiveness of the measures to address the Project residual adverse effects.	**Sections 4.4.2.5, and 7.5**
Identify the party responsible for the implementation of mitigation measures and the system of accountability.	**Sections 7.3 and 9**
***Terms of Reference* Requirement (AECOM, 2020)**	**Section Addressed In**
Construction activities such as use of quarry, borrow and aggregate materials having acid rock drainage or metal leaching potential, dewatering, water use, and the creation of impervious surfaces have the potential to result in effects to groundwater quality, quantity and flow.	**Sections 7.3 and 7.4**
Blasting of bedrock also has the potential to change groundwater quantity. Groundwater quality may also be affected through agitation of subsurface conditions and the potential release of fine particulate and / or soluble substances	**Sections 7.3 and 7.4**
Construction dewatering has the potential to change groundwater quality in areas of substantial groundwater recharge through the release of contaminated construction dewatering discharge	**Sections 7.3 and 7.4**
Groundwater quality may also be affected by leaks and accidental releases of contaminants during construction and operations	**Section 7.3**

4.4.2.3 Predicting Residual Effects

Following the identification of direct and indirect effects and identification of mitigation and enhancement measures, residual effects are predicted. Residual effects are the effects remaining after the application of mitigation and enhancement measures. Where a potential effect has been identified but implementation of mitigation measures is likely to avoid or sufficiently minimize the potential for an effect, the result is no residual effect, and no further analysis is required.

Once predicted, residual effects are characterized by residual effects characteristics, which are described below. Any predicted residual effects are also carried forward into the cumulative effects assessment, which is described in **Section 4.4.3**.

4.4.2.4 Characterization of Predicted Residual Effects

Predicted residual effects, if identified, will be described in terms of the effects assessment characteristics presented in **Table 4-9**. These effect characteristics are described in detail in the *Environmental Assessment / Impact Statement Report*. The section that follows outlines how these characteristics were applied as well as any discipline-specific characteristics, if applicable.

Table 4-9: Residual Effects Characteristics

Effects Characteristic	Definition	Description
Context	■ Social context ■ Ecological context ■ Timing of effect in relation to sensitive activities	■ See description in **Section 0**
Direction	■ Direction of change from existing conditions	■ Positive: net gain or positive effect ■ Neutral: no change to existing condition ■ Negative: net loss or adverse effect
Magnitude	■ The expected change from existing conditions	■ Negligible, low, medium, high ■ See detailed descriptions in **Section 0**, **Table 4-10** and **Table 4-11**
Geographic Extent	■ The spatial area in which the effect is expected to occur	■ Construction Disturbance Area: effect is confined within the direct physical disturbance of the Project ■ Local: effect extends into the Local Study Area ■ Regional: effect extends into the Regional Study Area ■ Beyond Regional: effect extends beyond the Regional Study Area
Duration	■ The period of time in which the effect is expected to occur	■ Short term: effect ends before the end of construction ■ Medium term: the effect occurs during the Construction Phase and ends soon after operation begins and / or maintenance ends soon after the activity causing the effect ends ■ Long term: the effect occurs the Construction Phase and persists into operation and / or the effect is considered permanent or the likelihood of reversibility is low or uncertain

Effects Characteristic	Definition	Description
Frequency	■ How often the effect is expected to occur	■ Infrequent: the effect is expected to occur rarely ■ Frequent: the effect is expected to occur intermittently ■ Continuous: the effect is expected to occur continuously
Reversibility	■ The ability to return to existing conditions	■ Reversible: the effect is not permanent ■ Irreversible: the effect is permanent
Likelihood	■ Probability that the effect will occur	■ Unlikely: the effect is not likely to occur ■ Possible: the effect may occur, but is not likely ■ Probable: the effect is likely to occur ■ Certain: the effect will occur
Uncertainty	■ Social context ■ Ecological context ■ Timing of effect in relation to sensitive activities	■ See description in **Section 0**
Direct / Indirect	■ Nature of the pathway through which the effect occurs.	■ Direct effects are typically immediate and spatially aligned with the activity. Indirect effects may be delayed or spatially removed but are causally linked and predictable.

4.4.2.5 Discipline-Specific Characteristics

In addition to the residual effects characteristics described in **Table 4-9**, characterization of the following discipline-specific characteristics are required to characterize residual effects and to determine the significance of those effects from the Project on groundwater.

Ecological Context

The context within which the Project's potential effects may occur was taken into account when considering the effects criteria. Effects criteria considered the physical characteristics of an effect (e.g., magnitude, geographical extent, timing, duration), as well as the context-specific value characteristics (e.g., environmental, health, social, and economic conditions). Context is considered one of the most critical factors when evaluating effects, and the effects assessment has considered potential or existing effects

or pressures on social, economic, and health conditions affecting the sensitivity or resilience of a Valued Component.

Context for groundwater considers sensitivity, resilience, and adaptive capacity, status and trends, and applicable legislation and best management practices. The current and future sensitivity and resilience of the groundwater Valued Component to change caused by the Project are considered, and includes Indigenous Knowledge where it was available. The ecological context of the effect includes a discussion of the environmental consequences of the predicted effect.

Magnitude

Magnitude refers to the amount of change in a measurable parameter relative to the existing conditions of a Valued Component, with and without the Project in place, or to other standards or guidelines. When evaluating the magnitude of effects, this study considers both the proportion of the Valued Component affected within identified spatial boundaries and the relative effect.

For magnitude, environmental discipline-specific definitions are required and are provided in **Table 4-10** and **Table 4-11**.

Table 4-10: Groundwater Quantity Magnitude Definition

Magnitude Level	Definition	Rationale
Negligible	Range of seasonal fluctuation in groundwater levels or the predicted water balance remains within the range of natural seasonal variability.	Monitoring wells show no discernable change to water levels, therefore there is no effect on ecological life or water well supply.
Low	Range of seasonal fluctuation in groundwater levels or the predicted water balance is marginally outside the range of natural seasonal variability (up to 20% higher / lower than existing condition values).	Temporary or permanent change to water levels is discernable but water supply remains protective of ecological life and enough for existing water well supply.
Medium	Range of seasonal fluctuation in groundwater levels or the predicted water balance is modestly outside the range of natural seasonal variability (between 20% and 50% higher / lower than existing condition values).	Temporary or permanent change to water levels is substantial but water supply remains protective of ecological life and sufficient for existing water well supply.
High	Range of seasonal fluctuation in groundwater levels or the predicted water balance is substantially outside the range of natural seasonal variability (up to over 50% higher / lower than existing condition values).	Temporary or permanent change to water quantity is substantial and can potentially impair ecological use or existing water well supply.

Notes: % = percent.

Table 4-11: Groundwater Quality Magnitude Definition

Magnitude Level	Definition	Rationale
Negligible	There is little to no variation predicted in measurable parameters and is within the range of natural variation.	Monitoring wells show no discernable change to water quality, therefore there is no effect on ecological life or potable use.
Low	There is a small variation predicted in measurable parameters, that are outside the range of natural variation and below the applicable water quality criteria or within 20% of existing condition values.	Temporary effect or permanent change to water quality is discernable but remains protective of ecological life and potable water sources.
Medium	There is a modest variation predicted in measurable parameters, that is significantly different from existing conditions and is below the applicable water quality criteria or is between 20% to 50% of existing condition values.	Temporary effect or permanent change to water quality is discernable but remains protective of ecological life and potable water sources.
High	There is a large variation predicted in measurable parameters, exceeds applicable water quality criteria, or is greater than 50% of existing condition values.	Temporary effect or permanent change to water quality is discernable and can potentially impair ecological or potable uses of water.

Notes: % = percent.

Prediction Confidence and Uncertainty

Prediction confidence refers to the degrees of certainty in the predicted residual effects and associated determination of significance. All Impact Assessments involve some level of uncertainty, often over many geographic, biophysical, and social dimensions, and observed results may deviate, to some degree, from predictions made in the assessment. Therefore, the residual effects predictions vary in their level of certainty, which could be related to a number of factors, such as Project design and components, existing conditions, spatial and temporal scope, Valued Component response, effectiveness of mitigation measures, overall scope of factors considered, and natural and human causes of accidental events.

Transparency in describing sources of uncertainty is critical to understanding the confidence that can be attributed to the analysis of effects and is important to decision-making. Efforts to address uncertainties have been focused on those uncertainties that are most meaningful to decision-making, such as how the biophysical and human environment will respond to changes and the efficacy of mitigation measures.

Prediction confidence for groundwater in effects analyses can be related to the availability and accuracy of existing conditions data, accuracy and scale of available background data (i.e., published reports and mapping), level of understanding of the strength of Project–environment interactions in terms of the effects they are likely to have on groundwater, level of certainty associated with the effectiveness of proposed mitigations, and the level of understanding of existing groundwater conditions, resiliency, and range of natural variations.

There is inherent uncertainty in groundwater assessments based on the complexity of subsurface conditions and the limited direct observations of the subsurface (i.e., only at boreholes / monitoring wells). Other uncertainties in assessing residual effects are a result of incomplete information of Project design, implementation, and operational details at the current stage of the Project life cycle.

Residual effects are assigned a level of uncertainty as a means of ranking the potential effects on groundwater. The levels of uncertainty were defined as:

- **Low:** Uncertainty was considered to be low if there was extensive existing conditions data available, the Project-related effects are clearly understood, and the level of certainty associated with the effectiveness of proposed mitigations is high;
- **Moderate:** Uncertainty was considered to be moderate if there was some existing conditions data available, the Project-related effects are mostly understood, and the level of certainty associated with the effectiveness of proposed mitigations is moderate to high; and
- **High:** Levels of uncertainty were considered to be high if there were no existing conditions data available, the Project-related effects are poorly understood, and the level of certainty associated with the effectiveness of proposed mitigations is low or unknown.

4.4.2.6 Determination of Significance

A conclusion on significance will be made using the characteristics described in **Section 4.4.2.4** and **Section 0** as well as by taking professional judgement into consideration.

The assessment of significance of residual effects of the Project was informed by the interaction between the residual effects characteristics, with magnitude, duration, and geographic extent being the most important factors, along with consideration of context. Consideration was also given to concerns of Indigenous communities, interested agencies, groups and individuals raised during engagement.

Using the overall residual effects characteristics, provided in **Table 4-9**, each of the potential residual effects was assigned a significance level as a means of ranking the

potential effects on groundwater quantity or groundwater quality. The significance levels are defined as:

- **Significant:** Residual effects were considered to be significant if the majority of the residual effects characteristics were assessed as high in magnitude, long-term or permanent duration, irreversible, and at any geographic extent or they represented a management concern; and
- **Not Significant:** Residual effects were considered not significant if they demonstrated any other combination.

Taking into account the significance for each residual effect along with the context, an overall significance determination was completed for the groundwater Valued Component.

4.4.3 Assessing Cumulative Effects

The Impact Assessment Agency of Canada defines **cumulative effects** as "changes to the environment, health, social and economic conditions, as a result of the Project's residual environmental, health, social and economic effects combined with the existence of other past, present and reasonably foreseeable physical activities, as well as within activities of the Project itself from multiple emissions and discharges (e.g., simultaneous operations) to understand synergistic or additive effects" (Impact Assessment Agency of Canada, 2020). Cumulative effects may result if:

- The implementation of the Project has the potential to cause direct residual adverse effects on the Valued Components, taking into account the application of technically and economically feasible mitigation measures; and
- The same Valued Component may be affected by other past, present, and future physical activities.

A cumulative effect on an environmental, health, social, or economic component may be important even if the Project's effects on this component by themselves are minor. The method for assessment of cumulative effects is consistent with the *Tailored Impact Statement Guidelines*, *Operational Policy Statement: Assessing Cumulative Environmental Effects* under the *Canadian Environmental Assessment Act*, 2012 (Canadian Environmental Assessment Agency, 2013), and the *Interim Technical Guidance for Assessing Cumulative Environmental Effects* under the *Canada Environmental Assessment Act*, 2012 (Canadian Environmental Assessment Agency, 2018). The identification and assessment of cumulative effects will be undertaken as follows:

- Identify and assess the residual effects of the Project;
- Define the spatial and temporal boundaries for cumulative effects based on the residual effects predicted;

- Identify other past, present, and reasonably foreseeable activities with effects likely to overlap in type of effect (i.e., Valued Component), temporally, and spatially with the predicted residual effects of the Project; and
- Predict potential cumulative effects and identify additional mitigation.

4.4.3.1 Cumulative Effects Scoping

4.4.3.2 Valued Components with Residual Effects

The cumulative effects assessment builds on the results of the residual effects assessment described in **Section 4.4.2** and will consider the incremental changes that are predicted to have a likely residual adverse effect on a Valued Component. The Valued Components that do not have a residual effect predicted, or the residual adverse effect is of negligible magnitude, unlikely or possible to occur, or positive in direction, will not be carried forward into the cumulative effects assessment. All residual effects on Valued Components identified will be brought into the cumulative effects assessment. The rationale for the exclusion of Valued Components from the cumulative effects assessment will be provided.

4.4.3.3 Temporal and Spatial Boundaries

Temporal boundaries, as described in **Section 4.2.1**, correspond to the duration that the likely residual adverse effects of the Project are predicted to occur. The *Tailored Impact Statement Guidelines* (Impact Assessment Agency of Canada, 2020a) indicate the cumulative effects assessment should look at potential effects throughout the life cycle of the Project, including decommissioning and abandonment; however, there are currently no plans to decommission the Project. Therefore, this assessment is limited to identifying and assessing cumulative effects during the Project Construction and Operations and Maintenance Phases.

Spatial boundaries, which are the Study Area(s) within which the geographic extent of cumulative effects will be studied, may vary by the residual effects of each Valued Component selected. For example, the geographic extent of residual effects on the migration patterns of wildlife Valued Components may differ from the geographic extent of habitat loss to the same Valued Components as a result of the Project. The spatial boundaries used to assess cumulative effects are described in **Section 8.1.2**.

4.4.3.4 Identification of Past, Present, and Reasonably Foreseeable Developments

Activities that will be considered in the cumulative effects assessment will include other past and existing anthropogenic (i.e., human-made) developments and future activities that are reasonably foreseeable. For an activity to be considered foreseeable and included in the cumulative effects assessment, sufficient information about the activity must be available to make a reasonable assessment of its potential effects (i.e., in the planning / approvals / design stage). This will include induced development that is certain

or reasonably foreseeable and activities with additive effects where appropriate (Canadian Environmental Assessment Agency, 2018). Reasonably foreseeable activities that will not be considered are those for which formal plans have not been publicly disclosed, and information is not available. For a potential future project to be considered in the cumulative effects assessment, preliminary information such as activity description, activity size, footprint, project components, and anticipated timelines need to be identified. This information will help to evaluate if the Project and the potential future project will overlap. The full list of past, present, and reasonably foreseeable developments considered in the cumulative effects assessment is presented in the *Environmental Assessment / Impact Statement Report*.

To determine which past, present, and reasonably foreseeable developments and their activities should be considered in the groundwater cumulative effects assessment, the following questions will be answered. If effects of the activities of the Projects are expected to overlap in type, time, and space with the residual effects of the identified Valued Components, it will be assumed that those activities will act cumulatively and be assessed for cumulative effects with the Project.

- Do the project's activities overlap in the type of effects (e.g., permanent removal of vegetation)?
- Do the project's activities overlap in the timing of effects (i.e., do they overlap with the cumulative effect spatial boundaries with the identified residual effects)?
- Do the project's activities overlap in the location of effects (i.e., do they overlap with the cumulative effect temporal boundaries)?

4.4.3.5 Cumulative Effects Assessment

Following the scoping of the cumulative effects assessment, cumulative effects are assessed for applicable Valued Components. Cumulative effects on each Valued Component will be assessed by comparing the future scenarios with the Project and without the Project. Effects of past activities (i.e., activities that have been carried out) will be used to contextualize the current state of the Valued Component.

Mitigation measures that are technically and economically feasible to eliminate or reduce adverse cumulative effects will be described. A qualitative assessment of the effectiveness of the measures will be provided, taking into consideration all applicable reasonably foreseeable developments to provide a regional context. Cumulative effects will be characterized using the same effects characteristics presented in **Table 4-9**.

4.5 Identify Monitoring Programs and Commitments

Following the residual and cumulative effects assessments, effects monitoring programs are recommended to verify the prediction of the effects assessment and the effectiveness of the mitigation and enhancement measures presented in this report. Commitments made in this report are also presented to support compliance monitoring to evaluate whether the Project has been constructed, implemented, and operated in accordance with the commitments made.

4.6 Predicting Future Conditions

Future conditions are predicted based on the measured and inferred properties of geological materials and groundwater in the Project area and industry standard analytical equations used to estimate groundwater behaviour over time. These estimates are combined with the predicted future conditions where the Community Access Road is constructed and operated to predict future groundwater quality and quantity.

Analytical calculations and analysis software packages (e.g., AQTESOLV) have been utilized for the estimation of hydraulic conductivity values and results presented in the existing conditions (**Section 5**). Hydraulic conductivity values and measured hydraulic gradients have been used to estimate groundwater travel times between Project areas and downgradient receptors. Hydraulic conductivity values also inform estimates of the water quantity and quality effects on receptors based on preliminary design plans. Assessments include:

- Withdrawal of groundwater or surface water;
- Changes to the groundwater recharge / discharge areas;
- Temporal and spatial changes in groundwater quantity, quality, and flow (e.g., long-term changes in water levels), including how these changes may relate to water supply wells;
- The flow or volume of water available in the waterbodies; and
- Management of any groundwater or wastewater discharge.

Analytical equations use field derived aquifer properties to estimate Project construction related zones of influence / drawdown cones to assess for potential interference with ecological systems or drinking water sources. In addition, a water balance model approach is utilized to evaluate the effect of groundwater quantity on receptors.

4.7 Data Management and Analysis

Data management including quality assurance / quality control has been employed to minimize potential for data entry and analysis errors, prepare datasets for analysis, and limit sensitive data distribution in accordance to established agreements.

4.7.1 Field Surveys

To maintain consistency and for quality assurance / quality control of the data collected, standardized datasheets were used in the field. Field studies followed technical protocols that outlined specific work instructions and were developed to follow federally and provincially acceptable methods. Completeness and accuracy of field data were verified during field verification and field photos, and coordinate information was backed up regularly.

4.7.2 Geographic Information Systems

Where existing conditions data are available in Geographic Information Systems format, this information will be provided to the Impact Assessment Agency of Canada as electronic geospatial data file(s) compliant with the International Organization for Standardization 19115 standard. This will support the Government of Canada's commitment to Open Science and Data and will facilitate the sharing of information with the public through the Canadian Impact Assessment Registry Internet Site and the Government's Open Science and Data Platform. The Impact Assessment Agency of Canada intends to make the geospatial data files available to the public under the terms of the *Open Government Licence – Canada*, excluding geospatial data files related to sensitive species at risk and Indigenous Knowledge.

Complete datasets from all survey sites will be provided upon finalization of this report. They will be in the form of complete and quality assured relational databases, with precisely georeferenced site information, precise observation / visit information, and observations and measurements in unsummarized form. Databases and Geographic Information Systems files will be accompanied by detailed metadata that meet International Organization for Standardization 19115 standards. Documentation and digital files will be provided for all results of analyses that allow for a clear understanding of the methods and a replication of the results.

4.7.3 Data Analysis

Groundwater data were collected from each monitoring well location by field records, direct measurements, and from laboratory analyses of samples. These data were compiled by attributes such as location, depth, and time and used to inform assessments of existing

conditions and trends. The data were analyzed using industry standard procedures to estimate groundwater characteristics.

The field data were also supplemented with and compared to published data from other investigations. Details of the data analyses are provided in **Section 5**.

5 Existing Conditions

The existing conditions are described based on a combination of information obtained through engagement and consultation, desktop assessment, field investigation, and modelling.

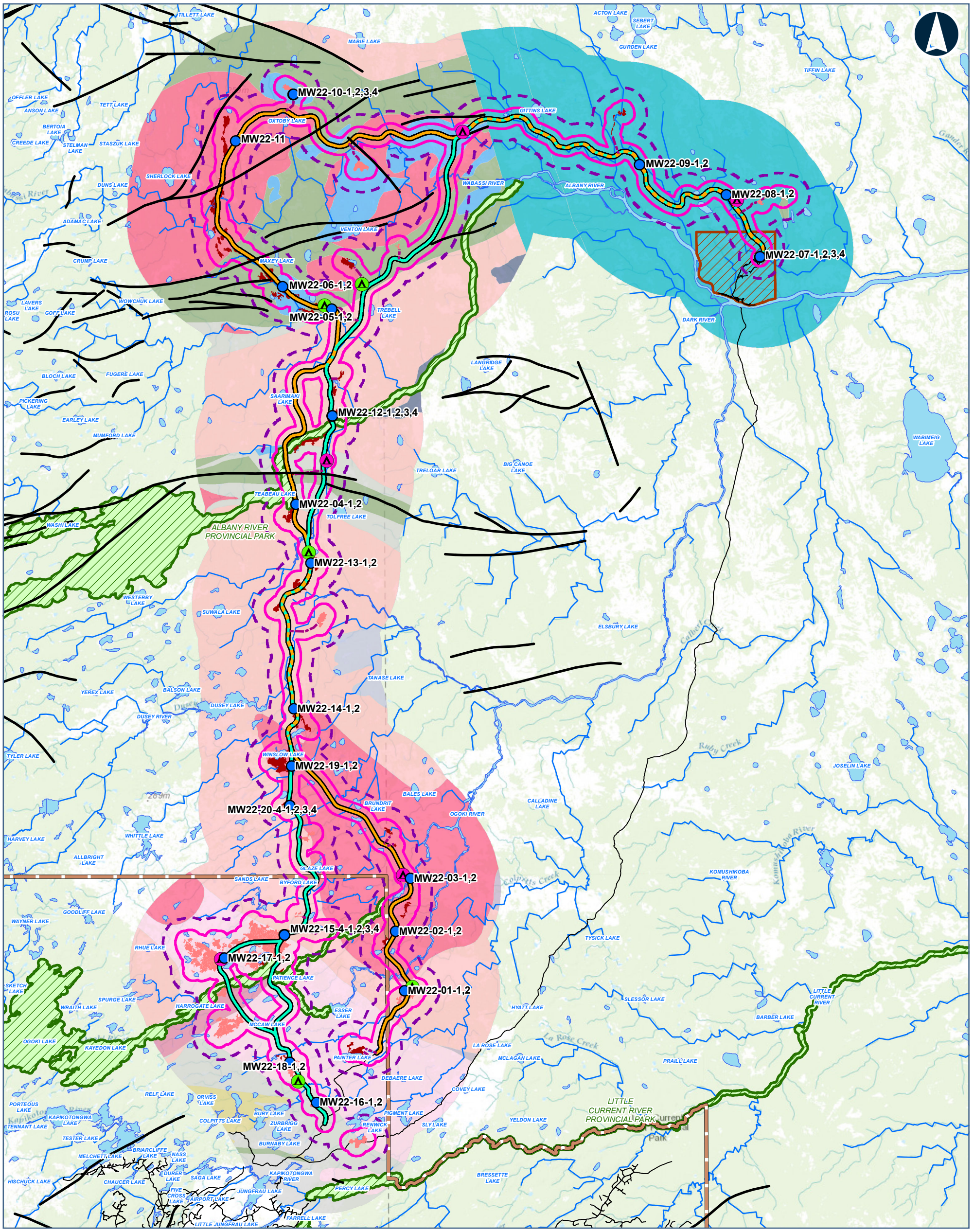
5.1 Desktop Assessment

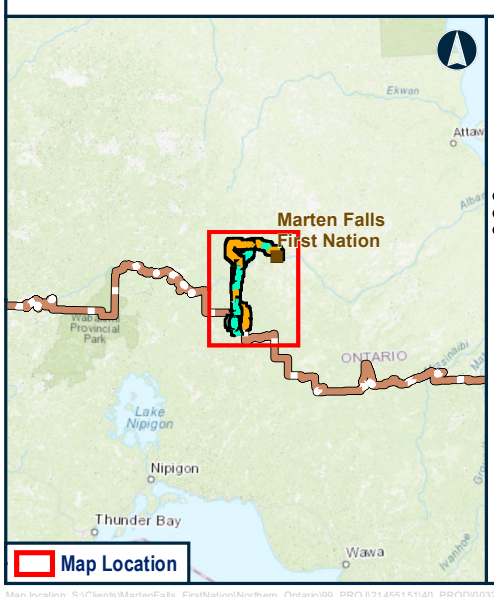
Due to the remote and largely undeveloped setting of the Study Area, there is limited hydrogeological information available based on previous local investigations. The hydrogeological environment of northern Ontario and the Study Area can be generally divided into two major regions that correspond with the underlying bedrock type: Precambrian Sheild and Hudson Bay Lowland. The bedrock geology of the groundwater Regional Study Area, based on mapping from the Ontario Geological Survey, is shown in **Figure 5-1**. The Precambrian Shield is composed of older crystalline bedrock, while the Hudson Bay Lowlands consists of younger sedimentary lithologies overlaying the older crystalline bedrock (Wang & Chin, 1978). In both of these regions, the bedrock tends to be the most common source for groundwater wells with overburden wells only feasible in the limited areas that have sufficiently thick, extensive, and permeable overburden deposits. Groundwater availability in the bedrock is dependant on the number, size, and interconnectivity of the fractures in the rock. Potential well yields from bedrock wells are therefore highly variable, depending on the local fracture network in the bedrock (Singer & Cheng, 2002). Where sufficient thicknesses of overburden are present, groundwater availability in the overburden deposits is dependant on the permeability of the deposit materials. Surficial geology of the groundwater Regional Study Area, as mapped by the Ontario Geological Survey, is shown in **Figure 5-2**. Sand and gravel materials are typically permeable enough to form aquifers while silt and clay materials are less permeable and tend to form aquitards. The overburden aquifer deposits in the area consist of four main types (Wang & Chin, 1978):

- Sand and gravel in eskers;
- Sand and gravel in outwash deposits;
- Sand in glaciolacustrine deposits; and
- Sand till associated with moraines.

Based on a statistical analysis of specific capacities of wells estimated from well record data for Northern Ontario, Singer and Cheng (2002) determined that overburden wells had about twice the water yielding capacity of Paleozoic bedrock wells which had, in turn, a slight advantage over Precambrian bedrock wells (mean specific capacities of 5.0, 2.5 and 1.9 litres per minute per metre [L/min/m], respectively).

Regional studies of Northern Ontario hydrogeology indicate that the water table tends to follow the ground surface topography with low horizontal hydraulic gradients. Groundwater in upland areas was observed to have downward vertical flow gradients while groundwater in river valleys was observed to have upward vertical flow gradients (Wang & Chin, 1978). These observations suggest that the regional shallow groundwater system recharges in upland areas and discharges in low lying areas such as river valleys. Recharge of groundwater occurs when surface water from precipitation or waterbodies can infiltrate through the subsurface to the water table. Most groundwater recharge in the area occurs in the spring when snowmelt releases the accumulated winter precipitation, and a water surplus is available for recharge. Conversely, recharge is limited through the winter months when precipitation is frozen (Singer & Cheng, 2002). Permafrost occurrence is not generally recorded in the Study Areas (Heginbottom, Dubreuil, & Harker, 1995); however, there are areas of palsa features mapped near the northern edges of the Study Areas (Barnett, 2013). Palsas are formed by ground ice but the ground features can remain after the ice has melted.





Legend

- MONITORING WELL LOCATION
- CONSTRUCTION DISTURBANCE AREA
- POTENTIAL CAMP SITE (SIZE)
  - 50 PERSONS
  - 200 PERSONS
- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- ROAD
- WATERBODY
- WATERCOURSE
- FAR NORTH BOUNDARY
- FIRST NATION COMMUNITY
- PROVINCIAL PARK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA
- FAULTS

BEDROCK GEOLOGY

- SHALE, LIMESTONE, DOLOSTONE, SILTSTONE (PALEOZOIC)
- MASSIVE TO FOLIATED GRANODIORITE TO GRANITE (NEO-TO MESOARCHEAN)
- DIORITE, QUARTZ DIORITE, MINOR TONALITE, MONZONITE, GRANODIORITE, SYENITE AND HYPABYSSAL EQUIVALENTS (NEO-TO MESOARCHEAN)
- MUSCOVITE-BIOTITE AND CORDIERITE-BIOTITE GRANITE, GRANODIORITE-TONALITE (NEO-TO MESOARCHEAN)
- TONALITE TO GRANODIORITE-FOLIATED TO MASSIVE (NEO-TO MESOARCHEAN)
- GABBRO, ANORTHOSITE, ULTRAMAFIC ROCKS (NEO-TO MESOARCHEAN)
- METAVOLCANIC ROCKS, MINOR METASEDIMENTARY ROCKS, MAFIC GNEISSES OF UNCERTAIN PROTOLITH, GRANITIC GNEISSES (NEO-TO MESOARCHEAN)
- WACKE, SILTSTONE, ARKOSE, ARGILLITE, SLATE, MUDSTONE, MARBLE, CHERT, IRON FORMATION, MINOR METAVOLCANIC ROCKS, CONGLOMERATE, ARENITE, PARAGNEISS, MIGMATITES (NEO-TO MESOARCHEAN)
- WACKE, SILTSTONE, ARKOSE OR ARGILLITE (FROM LOWLANDS) (NEO-TO MESOARCHEAN)
- PARAGNEISS AND MIGMATITES (NEO-TO MESOARCHEAN)
- RHYOLITIC, RHYODACITIC, DACITIC AND ANDESITIC FLOWS, TUFFS AND BRECCIAS, CHERT, IRON FORMATION, MINOR METASEDIMENTARY AND INTRUSIVE ROCKS; RELATED MIGMATITES (NEO-TO MESOARCHEAN)
- BASALTIC AND ANDESITIC FLOWS, TUFFS AND BRECCIAS, CHERT, IRON FORMATION, MINOR METASEDIMENTARY AND INTRUSIVE ROCKS, RELATED MIGMATITES (NEO-TO MESOARCHEAN)

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Bedrock Geology in the Groundwater Existing Conditions Regional Study Area

0 5 10 20
Kilometres

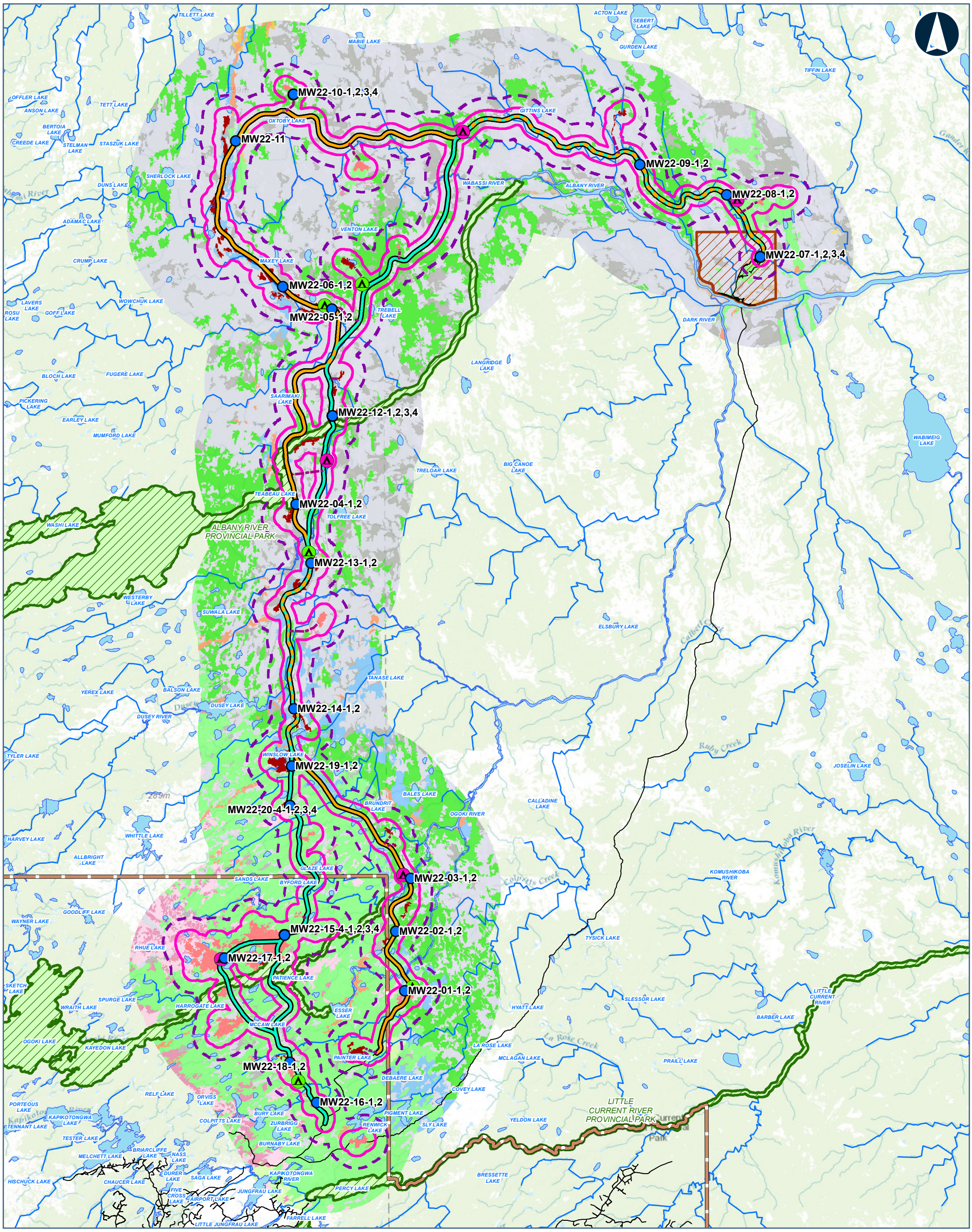
Datum: NAD 1983 CSRS UTM Zone 16N

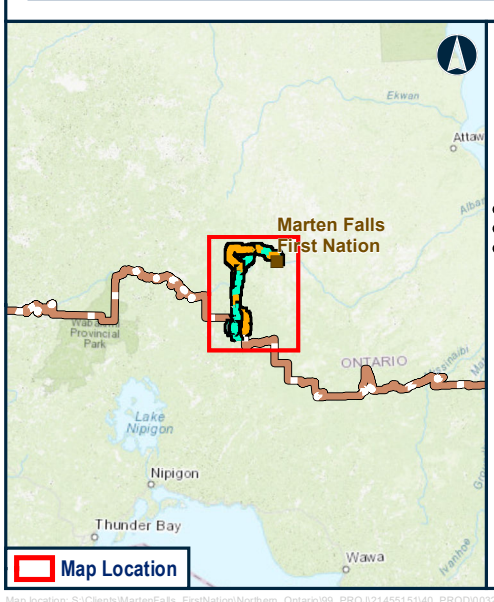
Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 5-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0004_5-1.mxd
Date Saved: 11/11/2024 11:18:25 AM User Name: INGU06951





Legend

- MONITORING WELL LOCATION
- CONSTRUCTION DISTURBANCE AREA
- POTENTIAL CAMP SITE (SIZE)
  - 50 PERSONS
  - 200 PERSONS
- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- ROAD
- WATERBODY
- WATERCOURSE
- FAR NORTH BOUNDARY
- FIRST NATION COMMUNITY
- PROVINCIAL PARK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

SURFICIAL GEOLOGY

- ORGANIC DEPOSITS (FEN)
- ORGANIC DEPOSITS (BOG)
- FLUVIAL DEPOSITS (RECENT)
- FLUVIAL DEPOSITS (ABANDONED)
- MARINE BEACH AND NEAR-SHORE
- GLACIOLACUSTRINE BEACH AND NEAR-SHORE
- GLACIOLACUSTRINE BASIN DEPOSITS
- GLACIOFLUVIAL ICE-CONTACT DEPOSITS
- CLAYEY-SILT TO CLAY TILL
- SANDY SILT TO SILT TILL
- SILTY SAND TO SAND TILL
- THIN SEDIMENT OVER BEDROCK
- BEDROCK (PRECAMBRIAN)

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Surficial Geology in the Groundwater Existing Conditions Regional Study Area

0 5 10 20
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 5-2

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0003_5-2.mxd
Date Saved: 11/11/2024 11:22:08 AM User Name: INGU06951

Review of the water well records database maintained by the Ministry of the Environment, Conservation and Parks (Ministry of the Environment, Conservation and Parks, 2024a) indicated that there were no well records within the existing conditions Regional Study Area. Thirteen well records were located just outside the existing conditions Regional Study Area (within about 6 km of the Project centreline). These well records included three test wells drilled to the northwest of the Marten Falls First Nation community. These wells were drilled by the Department of Mines in 1968 and are mapped as being near the Albany River between Peacock Island and Robins Island. These wells were drilled to depths of 32 to 50 metres below ground surface (mbgs) with bedrock encountered at approximately 10 to 30 mbgs. One well recorded a water level of 3.7 mbgs. Nine well records were located just west or northwest of the Marten Falls First Nation community and included five test wells, three water supply wells, and one abandoned well record. These wells were recorded as being drilled between 1978 or 1983 by either the Department of Indian Affairs and Northern Development or no well owner was listed. These well records recorded well depths of 21 to 45 mbgs with four wells recording depths to bedrock of 6 to 20 mbgs. The recorded static groundwater levels ranged from 2.7 to 15.5 mbgs. The other well record was for a group of six monitoring wells installed around the Marten Falls First Nation community land fill area in 2012. These wells were drilled to depths of about 6 to 11 mbgs in overburden and recorded static water level depths of 3.4 to 8.9 mbgs. Based on the information provided by Marten Falls First Nation community representatives (see below) and in the Ministry of the Environment, Conservation and Parks well records database it is understood that the recorded wells are not in use for water supply.

Marten Falls First Nation has highlighted the importance of water and highlighted that water is life-giving to the land and all species of life. Marten Falls First Nation has also noted that the Study Areas include different forms of water, including groundwater and springs. Major water flows in the area were noted to be towards the Attawapiskat and Albany Rivers, which flow to James Bay. Additionally, Marten Falls First Nation has noted that water flows to smaller rivers, streams, and peatlands were more complicated and could locally flow in almost any direction (Marten Falls First Nation, 2021).

Similarly, Aroland First Nation shared knowledge relating to the presence and location of areas along Ogoki River where spring water is collected for drinking, noting the importance of these features (e.g., springs) within their traditional territory (Shared Value Solutions, 2024). Aroland First Nation’s interests include concerns on potential effects of the Project on these springs, which may have spiritual value to the community (Dillon, 2026b). One of the springs identified by Aroland First Nation is understood to be located within the existing conditions Local Study Area but outside of the effects assessment Regional Study Area. This spring location was not available at the time of the groundwater field study so no field investigation of the spring was carried out. Identified spring locations will be noted as potential drinking water sources for assessment during detailed design and pre-construction groundwater studies.

Marten Falls First Nation community representatives were also consulted about water supply wells in the community, and they indicated that there were no drinking water supply wells in the community but noted that there were some monitoring wells associated with the landfill and that there was a well in use at the community airport. No information on spring water sources was available. Follow up consultation with the airport operator (Ontario Ministry of Transportation) revealed that the well at the airport was not a source of potable water. Based on these consultations it is understood that groundwater is not used for drinking water in the Marten Falls First Nation community and therefore the water supply well sampling program originally proposed for the community was not carried out.

No Water Supply sources (Ministry of Natural Resources, 2008), active Permits to Take Water (Ministry of the Environment, Conservation and Parks, 2024b), or Environmental Activity and Sector Registrations for water taking were reported in the Study Area (Ministry of the Environment, Conservation and Parks, 2024c). The Study Area is not located within any Source Protection Areas (Ministry of the Environment, Conservation and Parks, 2015).

5.2 Borehole Drilling Investigation

During the groundwater field investigations, a series of boreholes were drilled to allow the installation of the groundwater monitoring wells. The geological materials encountered while drilling these boreholes were logged by WSP Canada Inc. staff at each groundwater monitoring station. The drilling observations are summarized below and the observed geology at each monitoring well location are included in **Attachment C – Borehole Logs**.

The surficial materials encountered at the borehole locations generally consisted of dark brown organic material and deposits of silt and sand. Surficial organic and peat-like material extended to depths ranging from 0.02 to 2.29 mbgs, with an average thickness of approximately 0.73 m. Organic materials were encountered at surface in all boreholes except for MW22-05, MW22-07, MW22-09, MW22-13, MW22-14, and MW22-19 where surficial deposits ranging from sandy silt, silty sand, and clayey silt were encountered.

The organic materials were generally underlain by deposits ranging in gradation from silt to gravelly sand except for MW22-01, MW22-03, MW22-08, MW22-12, and MW22-20 where deposits of silty clay and clay were encountered under the organic materials.

Generally, the overburden consisted of deposits ranging in gradation from silt to sand, ranging in thickness from 1.37 to 11.28 m (depth of exploration). Deposits of clayey silt, silt and clay, or silty clay were generally interbedded within the silt to sand deposits except for MW22-04, MW22-06, MW22-13, MW22-15, and MW22-17, where coarser deposits ranging in gradation from silty sand, gravelly silt and sand, sand, gravelly sand, and sand and gravel were encountered from 0.02 to 11.28 mbgs and ranged in thickness from 3.91 to 11.23 m.

Coarse grained, light to dark grey granitoid bedrock was encountered and cored at MW22-01, MW22-15, MW22-16, MW22-17, MW22-18, and MW22-20. Depth to bedrock ranged from 1.37 to 9.14 mbgs.

These subsurface observations were comparable to the regional geology and other boreholes drilled near the Regional Study Area (Wang & Chin, 1978; Golder Associates Ltd., 2013). They support the conceptual understanding of the regional geology as consisting of mostly glacial deposits of sand to silt tills with variable clay and gravel content. There are also deposits of glaciolacustrine or ice-contact deposits of sandy soils which are more local in extent and are typically associated with esker and moraine landforms. Organic soils and peat deposits overlie low-lying areas and have variable thicknesses. The two bedrock regions tend to define the topography and the distribution of the overburden deposits with more rolling topography and variable overburden thickness in the Precambrian Shield region and more level topography with consistent overburden thickness over the Paleozoic bedrock of the Hudson Bay lowland region.

5.3 Groundwater Quality

Previous regional investigations of groundwater quality have indicated that groundwater in northern Ontario often exceeds drinking water aesthetic objectives / operational guidelines for hardness (> 100 milligrams per litre [mg/L]) and iron (> 0.3 mg/L) (Wang & Chin, 1978). Groundwater from the sedimentary bedrock units typically has higher levels of mineralization relative to groundwater from overburden or crystalline bedrock.

Groundwater samples were collected from selected monitoring wells installed as part of this program. Samples have been collected over two years from all sites during six monitoring events in 2023 (June / July, August, and September) and 2024 (June, August, and September / October). Limited samples were also collected from available monitoring wells in November 2022. Availability of monitoring wells in November 2022 was limited due to the ongoing monitoring well drilling program and the onset of freezing temperatures.

The groundwater quality sample results are provided in **Attachment D – Groundwater Quality Summaries and Laboratory Data** including a summary of exceedances of the selected guidelines, standards, and objectives. The groundwater quality results have been compared to the following:

- *Canadian Drinking Water Quality Guidelines*: Published by Health Canada (2024);
- *Ontario Drinking Water Quality Standards*: Established by *Ontario Regulation 169/03* (as amended), aesthetic objectives and operational guidelines as per the *Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines* published by the Government of Ontario (2006);

- *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*: Published by the Ontario Ministry of the Environment (2011); and
- *Provincial Water Quality Objectives*: Published by the Ontario Ministry of Environment and Energy (1994).

These guidelines, standards, and objectives provide references to compare the sampled groundwater quality in the Study Area to drinking water quality (*Canadian Drinking Water Quality Guidelines*, *Ontario Drinking Water Quality Standards*), background groundwater levels (*Ontario Soil, Groundwater, and Sediment Standards*), and water quality levels protective of aquatic life (*Provincial Water Quality Objectives*). Comparison to guidelines and objectives related to aesthetic considerations and water treatment and distribution systems are also provided by the aesthetic objectives and operational guidelines which form part of the *Canadian Drinking Water Quality Guidelines* and *Ontario Drinking Water Quality Standards.*

The groundwater results are summarized below where exceedances of regulatory guidelines were observed and detailed results are provided in **Attachment D**:

- Exceedances of total and dissolved metals maximum acceptable concentrations for drinking water standards (*Canadian Drinking Water Quality Guidelines* and *Ontario Drinking Water Quality Standards)*:
    - Dissolved arsenic (11.1 to 27.6 micrograms per litre [µg/L]), dissolved manganese (121 to 889 µg/L), and dissolved uranium (40.8 to 46.8 µg/L) exceeded the *Canadian Drinking Water Quality Guidelines* maximum acceptable concentration.
    - Total aluminum (3,060 to 535,000 µg/L), total arsenic (11 to 120 µg/L), total barium (3,160 to 4,300 µg/L), total chromium (50.2 to 1,120 µg/L), total lead (5.36 to 297 µg/L), total manganese (124 to 17,400 µg/L), and total uranium (50.9 to 69.8 µg/L) exceeded the *Canadian Drinking Water Quality Guidelines* maximum acceptable concentration.
    - Dissolved arsenic (11.1 to 27.6 µg/L), dissolved thorium (0.11 to 0.64 µg/L) and dissolved uranium (40.8 to 46.8 µg/L), exceeded the *Ontario Drinking Water Quality Standards* maximum acceptable concentration.
    - Total arsenic (11 to 120 µg/L), total barium (1,200 to 4,300 µg/L), total chromium (50.2 to 1,120 µg/L), total lead (10.6 to 297 µg/L), total thorium (0.1 to 254 µg/L), and total uranium (50.9 to 69.8 µg/L) exceeded the *Ontario Drinking Water Quality Standards* maximum acceptable concentration.

- Exceedances of total and dissolved metals and volatile organic compounds for water quality standards (*Soil, Groundwater, and Sediment Standards* and *Provincial Water Quality Objectives*):
  - Total arsenic (109 to 120 µg/L), total boron (315 to 547 µg/L), total cadmium (0.204 to 4.06 µg/L), total hexavalent chromium (1.04 to 2.07 µg/L), total cobalt (0.91 to 311 µg/L), total copper (5.46 to 666 µg/L), total iron (303 to 616,000 µg/L), total molybdenum (81.5 µg/L), total nickel (26.7 to 767 µg/L), total silver (0.102 to 21.3 µg/L), total thallium (0.309 to 7.37 µg/L), total tungsten (31.5 to 95.5 µg/L), total uranium (5.82 to 69.8 µg/L), total vanadium (6.03 to 1,250 µg/L), total zinc (30.6 to 1,440 µg/L) and total zirconium (4.26 to 309 µg/L) exceeded the *Provincial Water Quality Objectives*.
  - Dissolved antimony (1.6 µg/L), dissolved arsenic (13.6 to 27.6 µg/L), dissolved beryllium (0.51 to 0.58 µg/L), dissolved copper (11.8 to 20.2 µg/L), dissolved molybdenum (8.4 µg/L), dissolved nickel (14.6 µg/L), dissolved uranium (10.7 to 46.8 µg/L), dissolved vanadium (3.9 to 9.2 µg/L), and dissolved zinc (194 µg/L) exceeded the *Soil, Groundwater, and Sediment Standards*.
  - Dissolved hexavalent chromium (1.01 to 1.49 µg/L), dissolved cobalt (0.93 to 2.74 µg/L), dissolved copper (11.8 to 20.2 µg/L), dissolved iron (318 to 14,600 µg/L), dissolved molybdenum (84.4 µg/L), dissolved silver (0.106 to 0.138 µg/L), dissolved tungsten (30.6 to 89.8 µg/L), dissolved uranium (5.35 to 46.8 µg/L), dissolved vanadium (8.4 to 9.22 µg/L), dissolved zinc (32.2 to 194 µg/L) and dissolved zirconium (4.35 to 5.91 µg/L) exceeded the *Provincial Water Quality Objectives*.
  - Toluene (910 to 4,610 µg/L) exceeded the *Provincial Water Quality Objectives*.
  - Dichloromethane (5,900 to 20,900 µg/L), ethylbenzene (530 to 1,360 µg/L), and toluene (910 to 4,610 µg/L) exceeded the *Soil, Groundwater, and Sediment Standards*.
- Exceedances of total and dissolved metals, dissolved organic carbon, total dissolved solids, hardness, and pH for water quality objectives and guidelines (*Aesthetic Objectives and Operational Guidelines for Canadian Drinking Water Quality Guidelines* and *Ontario Drinking Water Quality Standards)*:
  - Total aluminum (101 to 535,000 µg/L), total iron (122 to 616,000 µg/L), and total manganese (21 to 17,400 µg/L) exceeded the *Canadian Drinking Water Quality Guidelines Aesthetic Objectives and Operational Guidelines*.
  - Dissolved aluminum (101 to 1,040 µg/L), dissolved iron (110 to 14,600 µg/L), and dissolved manganese (20.6 to 889 µg/L) exceeded the *Canadian Drinking Water Quality Guidelines Aesthetic Objectives and Operational Guidelines*.

- Total dissolved solids (501 and 1,320 milligrams per litre [mg/L]) and pH (6.66 and 6.97) exceeded the *Canadian Drinking Water Quality Guidelines Aesthetic Objectives and Operational Guidelines*.
- Total aluminum (101 to 535,000 µg/L), total iron (303 to 616,000 µg/L), and total manganese (50.2 to 17,40 µg/L) exceeded the *Ontario Drinking Water Quality Standards Aesthetic Objectives and Operational Guidelines*.
- Dissolved aluminum (101 to 1,040 µg/L), dissolved iron (318 to 14,600 µg/L), and dissolved manganese (53.6 to 889 µg/L) exceeded the *Ontario Drinking Water Quality Standards Aesthetic Objectives and Operational Guidelines*.
- Total alkalinity as calcium carbonate (16.3 to 29.9 mg/L, and 602 to 892 mg/L) exceeded the *Ontario Drinking Water Quality Standards Aesthetic Objectives and Operational Guidelines*.
- Dissolved hardness as calcium carbonate (19 to 76 mg/L, and 103 to 356 mg/L) total dissolved solids (501 and 1,320 mg/L), and dissolved organic carbon (5.02 to 56.8 mg/L) exceeded the *Ontario Drinking Water Quality Standards Aesthetic Objectives and Operational Guidelines*.

Radiological parameters were screened for in all sampled monitoring wells during the first year (2023) of monitoring by analysis of gross alpha and beta radiation levels. These were compared to the *Canadian Drinking Water Quality Guidelines* of 0.5 and 1.0 Bq/L, respectively. Monitoring wells where gross alpha and/or beta levels exceeded the screening levels were further sampled in June 2024 for a set of naturally occurring radionuclides as summarized in **Attachment D.** No exceedances of the individual radionuclide parameters was reported relative to the *Canadian Drinking Water Quality Guidelines, Ontario Drinking Water Quality Standards,* or *Provincial Water Quality Objectives* however some parameters had laboratory detection limits which were greater than the regulatory guidelines.

As noted above, for a previous groundwater study in northern Ontario the concentrations of hardness and iron were above the aesthetic objectives / operational guidelines. Similar trends were observed during the groundwater monitoring with most samples above the aesthetic objectives / operational guidelines for hardness and iron.

Time series plots of selected groundwater quality parameters are provided in **Attachment E – Water Quality Graphs**. These plots provide a summary of changes to groundwater quality over time based on the multiple sampling events at the groundwater monitoring wells. Filtration of samples (with a 0.45 µm filter) to assess dissolved metals was noted to reduce the exceedances compared to (unfiltered) total metals for most parameters suggesting that particulates entrained in the samples contribute significantly to the concentrations of some parameters. To limit the variable effects of particulates on the

concentrations, the time series plots only show dissolved concentrations for metal parameters. The time series plots show the changing concentrations over time for common groundwater quality assessment parameters as well as parameters which exceeded the drinking water and water quality guidelines.

Most of the time series plots indicate that the concentrations of the parameters in the groundwater are steady over time with some variation. The majority of monitoring wells show similar ranges of concentrations of each parameter, but several parameters show elevated concentrations at a few wells. A few monitoring wells show potentially increasing trends in some metals concentrations over the two years of monitoring, however these increases are not consistent across monitoring wells or parameters. Most of the concentrations with potentially increasing trends remain within the range of observed concentrations at other wells where the apparent trends are steady or decreasing. This suggests that the observed metals concentrations and trends are likely within the range of natural variability.

Low level detections of polycyclic aromatic hydrocarbons such as naphthalene and volatile organic compounds such as toluene, ethylbenzene, and xylene have been observed at a few monitoring wells. These compounds generally show a declining trend in concentrations with lower or non-detectable levels in 2024 compared to 2023 but potential increasing trends in naphthalene are observed at monitoring well MW22-07-2, and slightly higher concentrations were observed at MW22-03-1, and MW22-10-1 in 2024. These compounds may be reflective of natural background conditions as most can have both natural and anthropogenic sources and most are within the background conditions (SGWS Table 1) range. It was also noted that many of the polycyclic aromatic hydrocarbon and volatile organic compounds detected in some groundwater samples were also occasionally detected in equipment blank and field blank samples. This suggests that there may have been an equipment or sampling environment contribution to these detections despite industry standard sampling protocols being followed. The exceedances of dichloromethane in particular are regarded as anomalous and not representative due to only being detected in four samples collected during one sampling event (August 2023), and two of these detections were in duplicate samples that did not show a corresponding detection in the parent sample.

No seasonal trends in groundwater quality are apparent except for methylmercury where the concentrations in most monitoring wells were notably higher in August 2023 and 2024 relative to the previous June / July samples or the following September / October samples. All measured methylmercury concentrations were below applicable regulatory guidelines.

The surface water sampling conducted for the Project and detailed in the *Surface Water Technical Support Document: Existing Conditions and Effects Assessment* report (WSP, 2026a) noted exceedances of iron, manganese, and methylmercury at one or more waterbody crossing locations compared to *Ontario Drinking Water Quality Standards*,

Provincial Water Quality Objectives, and / or *Canadian Water Quality Guidelines for the Protection of Aquatic Life* (CCME (Canadian Council of Ministers of the Environment), 1999). The groundwater samples also contained many exceedances of iron and manganese concentrations compared to *Canadian Drinking Water Quality Guidelines*, *Ontario Drinking Water Quality Standards*, and *Provincial Water Quality Objectives*. No exceedances of methylmercury compared to the *Soil, Groundwater, and Sediment Standards* or the *Canadian Water Quality Guidelines for the Protection of Aquatic Life* were observed in the groundwater samples.

5.4 Groundwater Quantity

Groundwater levels were previously reported from boreholes drilled along and near to the existing conditions Construction Disturbance Area for a transportation corridor study (Golder Associates Ltd., 2013). Grouped by surficial geology, the groundwater levels were reported to range from 0.2 to 3.5 m deep in till and glaciomarine deposits, 1.5 to 4.5 m deep in glaciofluvial ice-contact deposits and 0 to 2.0 m deep in organic deposits. Groundwater observations were also made during hand auger and power auger test drilling conducted during preliminary geotechnical investigations for the Community Access Road. These observations, from test holes ranging from 0.5 to 3.4 m in depth indicated that groundwater was observed at depths ranging from 0.1 to 1.8 m and no groundwater was observed in some test holes up to greater than 3 m in depth (KGS Group, 2020). These groundwater depth ranges indicate that across the Study Area, groundwater is consistently encountered within a few metres below the ground surface and can be found at ground surface in areas with organic deposits.

Groundwater levels measured in the monitoring wells installed during the current program are listed in tabular form and shown graphically on hydrographs in **Attachment F – Water Levels and Hydrographs**. A summary of the observed groundwater levels, trends, and vertical gradients at the monitoring locations is provided below:

- **MW22-01**: Groundwater levels occur within about 1 m of the ground surface and have been observed to reach the ground surface at times ranging from approximately 243 to 244 metres above sea level (masl). Observed vertical gradients at this location change between upward and downward;
- **MW22-02**: Groundwater levels have occurred between approximately 0.3 and 2.7 mbgs (247.2 to 249.8 masl) and show a downward gradient at this location;
- **MW22-03**: Groundwater levels at this location occur within 1.3 m of ground surface and have been observed to reach ground surface at times, ranging from approximately 231.7 to 233.2 masl. Observed vertical gradients are low and have been observed to change between upward and downward;

- **MW22-04**: Groundwater levels at the deep well have ranged from approximately 6.6 to 6.9 mbgs (233.2 to 233.5 masl). The shallow well groundwater levels have occurred at approximately 4.4 mbgs (235.8 masl) indicating a downward gradient at this location;
- **MW22-05**: Groundwater levels at this location have occurred between approximately 0.0 and 0.3 mbgs (214.7 to 215.0 masl) and have shown a slight upward gradient;
- **MW22-06**: Groundwater levels at this location have occurred between approximately 4.4 and 5.5 mbgs (214.5 to 215.6 masl). Initially an upward gradient was observed, but the groundwater levels were nearly equal in the two wells through 2024, indicating neutral gradient;
- **MW22-07**: Groundwater levels at the deep well have been observed between approximately 5.6 and 10.4 mbgs (157.6 to 162.35 masl). Groundwater levels at the three shallow wells have been observed between approximately 4.0 and 6.0 mbgs (162.7 to 164.5 masl) indicating a downward gradient. The datalogger data at this location indicate that the deep well has a very slow recovery period following water removal during sampling events with groundwater levels continuing to recover for over two months following sampling. The shallow well MW22-07-2 also had a delayed recovery following the sampling events but groundwater levels in this well were fully recovered after about a week. The groundwater levels in the shallow monitoring wells all showed the same long-term declining trend in groundwater levels through the July to March period followed by an increasing trend in groundwater levels through the April to June period, as recorded by the dataloggers. The shallow groundwater levels fluctuated by about 1.5 m over the monitoring period;
- **MW22-08**: Groundwater levels at this location have occurred between approximately 0.3 and 1.0 mbgs (170.0 to 170.7 masl). The observed vertical gradient has been consistently slightly downward;
- **MW22-09**: Groundwater levels at this location have occurred between approximately 0.2 and 0.6 mbgs (171.4 to 171.8 masl). The observed vertical gradient has been nearly neutral;
- **MW22-10**: Groundwater levels at this location have occurred between approximately 0.2 and 1.1 mbgs (231.8 to 233.5 masl). The groundwater levels at the MW22-10-1 and MW22-10-2 wells have been consistently lower below ground surface than the levels at MW22-10-3 and MW22-10-4, but when adjusted for elevation, the groundwater levels at MW22-10-1, MW22-10-2, and MW22-10-3 are nearly the same while the level at MW22-10-4 is about 1.3 m lower. This difference is similar to the difference in ground surface elevations between the wells. Vertical gradient, as measured between MW22-10-1 and MW22-10-2, is neutral to slightly downward;

- **MW22-11**: Groundwater levels at this location have occurred between approximately 0.0 and 0.2 mbgs (232.8 to 233.0 masl);
- **MW22-12**: Groundwater levels at this location have occurred between approximately 0.5 m above ground surface and 1.3 mbgs (226.7 to 228.6 masl). There appears to be a slight vertical gradient between MW22-12-1 and MW22-12-2 that changes from upward and downward. All four monitoring wells at this location have shown a similar trend in groundwater levels based on the available datalogger data;
- **MW22-13**: Groundwater levels at this location have occurred between approximately 0.2 m above ground surface and 0.7 mbgs (230.3 to 231.2 masl). The vertical gradient appears to be variable, ranging from slightly upward to slightly downward;
- **MW22-14**: Groundwater levels at this location have occurred between approximately 0.2 and 2.5 mbgs (247.5 to 249.8 masl). Observed vertical gradients have been downwards and variable;
- **MW22-15**: Groundwater levels at this location have occurred between approximately 0.3 meters above ground surface and 2.4 mbgs (274.6 to 276.5 masl). Measured vertical gradients between MW22-15-1 and MW22-15-2 have been neutral to slightly downward, though the datalogger levels suggest a variable gradient. The datalogger records at this location all show similar groundwater level fluctuations and levels until spring 2024 when the levels at MW22-15-1 and MW22-15-2 increased to about 1 m above the levels at MW22-15-3 and MW22-15-4 before gradually returning to similar levels in the fall of 2024;
- **MW22-16**: Groundwater levels at this location have occurred between approximately 0.5 and 2.4 mbgs (260.6 to 262.3 masl). The observed vertical gradients have been neutral to slightly downward;
- **MW22-17**: Groundwater levels at this location have occurred between approximately 0.1 and 0.8 mbgs (292.3 to 292.9 masl) aside from the initial measurement at MW22-17-2. The observed vertical gradients have been neutral to slightly upwards;
- **MW22-18**: Groundwater levels at this location have occurred between approximately 0.1 to 2.0 mbgs (286.1 to 287.9 masl). The observed vertical gradients have been neutral to slightly downward, aside from the June 2023 and June 2024 measurements that indicated a strong upward gradient, possibly affected by sampling and well testing activities;
- **MW22-19**: Groundwater levels at this location have occurred between approximately 1.3 and 5.0 mbgs (246.0 to 249.7 masl). The observed vertical gradients have been downwards; and

- **MW22-20**: Groundwater levels at this location have occurred between approximately at ground surface and 1.1 mbgs (241.9 to 243 masl). The observed vertical gradients between MW22-20-1 and MW22-20-2 have been neutral to slightly downward. The datalogger recorded groundwater levels at all the wells show similar levels and fluctuation patterns.

The placement of the shallow monitoring wells at the five detailed ground water monitoring sites allows for the calculation of the local groundwater flow direction and velocity based on the measured groundwater levels and hydraulic conductivities. The hydraulic conductivities measured at each of the monitoring wells are provided on **Table 5-1** and the hydraulic conductivity test analyses summaries are provided in **Attachment G – Hydraulic Conductivity Testing.**

Table 5-1: Hydraulic Conductivity Results

Monitoring Well ID	Hydraulic Conductivity (m/s)	Well Screened in	Testing Notes
MW22-01-1	7.6E-06	Silty sand	
MW22-01-2	1.2E-07	Silty sand / silty clay	
MW22-02-1	2.7E-08	Silty sand	
MW22-02-2	1.4E-08	Silty sand	
MW22-03-1	4.1E-06	Clay	
MW22-03-2	3.4E-08	Silty clay	
MW22-04-1	1.5E-05	Silty sand	
MW22-04-2	n/d	Silty sand	Well dry
MW22-05-1	1.5E-07	Silty sand to sandy silt	
MW22-05-2	7.7E-07	Silty sand to sandy silt	
MW22-06-1	1.2E-04	Sand / silt	
MW22-06-2	3.6E-04	Sand	
MW22-07-1	n/d	Clayey silt till	Long recovery time
MW22-07-2	n/d	Clayey silt till / sandy silt	Long recovery time
MW22-07-3	2.6E-07	Clayey silt till / sandy silt	
MW22-07-4	9.3E-08	Clayey silt till / sandy silt	
MW22-08-1	8.9E-07	Clay	
MW22-08-2	2.1E-07	Clay / silt	
MW22-09-1	4.6E-07	Silt and clay	
MW22-09-2	4.8E-07	Silt and clay	
MW22-10-1	3.7E-07	Silt / clay	
MW22-10-2	1.3E-06	Silt / clay	
MW22-10-3	6.3E-07	Silt / clay	
MW22-10-4	1.4E-05	Silt / clay	
MW22-11-1	9.8E-05	Silty sand	
MW22-12-1	1.8E-07	Silty sand	
MW22-12-2	2.2E-08	Silty clay	
MW22-12-3	3.2E-07	Silty clay	

Monitoring Well ID	Hydraulic Conductivity (m/s)	Well Screened in	Testing Notes
MW22-12-4	3.8E-06	Silty clay	
MW22-13-1	2.5E-05	Sand	
MW22-13-2	7.0E-07	Silty sand / sand	
MW22-14-1	1.2E-07	Silty sand till / gravelly sand	
MW22-14-2	2.5E-07	Sand till / silty sand till	
MW23-15-1	5.1E-07	Bedrock	
MW22-15-2	n/d	Silt and sand till	No recovery
MW22-15-3	1.5E-07	Silt and sand till	
MW22-15-4	1.7E-05	Silt and sand till	
MW23-16-1	7.5E-06	Bedrock	Limited test displacement/data
MW22-16-2	1.6E-06	Sand / sandy silt	
MW22-17-1	3.5E-05	Bedrock	
MW22-17-2	1.6E-07	Sand and gravel / silty sand	
MW22-18-1	1.1E-07	Bedrock	
MW22-18-2	1.3E-06	Bedrock	
MW22-19-1	1.3E-07	Gravel / sandy silt till	
MW22-19-2	n/d	Sand	Well dry
MW22-20-1	1.5E-06	Bedrock	
MW22-20-2	1.2E-06	Silty clay	
MW22-20-3	1.9E-07	Silty clay	
MW22-20-4	2.1E-06	Silty clay	

Notes: m/s = metre per second; n/d = no data collected

The observed groundwater flow directions are shown for each of the detailed groundwater monitoring stations on **Figures 5-3.1** through **Figures 5-3.9**. Cross-sections provided in **Attachment H – Detailed Groundwater Monitoring Station Cross-Sections** show the groundwater levels relative to the subsurface geology and the various monitoring wells at each detailed groundwater monitoring station. The horizontal groundwater flow directions, gradients, and velocity observations are summarized in **Table 5-2** below.

Table 5-2: Groundwater Flow Observations

Monitoring Well Location	Observed Groundwater Flow Directions	Horizontal Groundwater Gradients (unitless)	Groundwater Velocity Estimates (m/d)
MW22-07	South to south-southeast	0.004 to 0.024	3×10^{-4} to 2×10^{-3}
MW22-10	East to east-southeast	0.037 to 0.045	9×10^{-2} to 1×10^{-1}
MW22-12	North-northwest to north-northeast	0.006 to 0.039	5×10^{-3} to 3×10^{-2}
MW22-15	Southwest to north	0.004 to 0.036	1×10^{-2} to 1×10^{-1}
MW22-20	South to west to north-northeast	0.002 to 0.006	1×10^{-3} to 4×10^{-3}

Notes: m/d = metre per day

These results indicate that across much of the Study Area the groundwater table is nearly flat and horizontal groundwater velocities are slow. In areas with greater topographic variation the groundwater gradients and corresponding velocities are expected to be higher.

Groundwater recharge and discharge amounts in the Study Area can be estimated using a water balance approach. A water balance equates the amount of precipitation falling on an area with the various paths that the water takes to leave the area. For example, the total precipitation falling on an area in a year can be divided into amounts of precipitation that run off as surface water, evaporate, or transpire back into the atmosphere and enter storage as surface water or groundwater. If no net changes in surface water or groundwater storage are assumed over the year, then the surface water runoff will equal the surface water discharge and the groundwater recharge will equal the groundwater discharge. In the *Surface Water Technical Support Document: Existing Conditions and Effects Assessment* (WSP, 2026a) report (WSP, 2026a) the annual precipitation for sub-watersheds in the existing conditions Regional Study Area is reported to range from 681 to 698 millimetres per year (mm/yr).

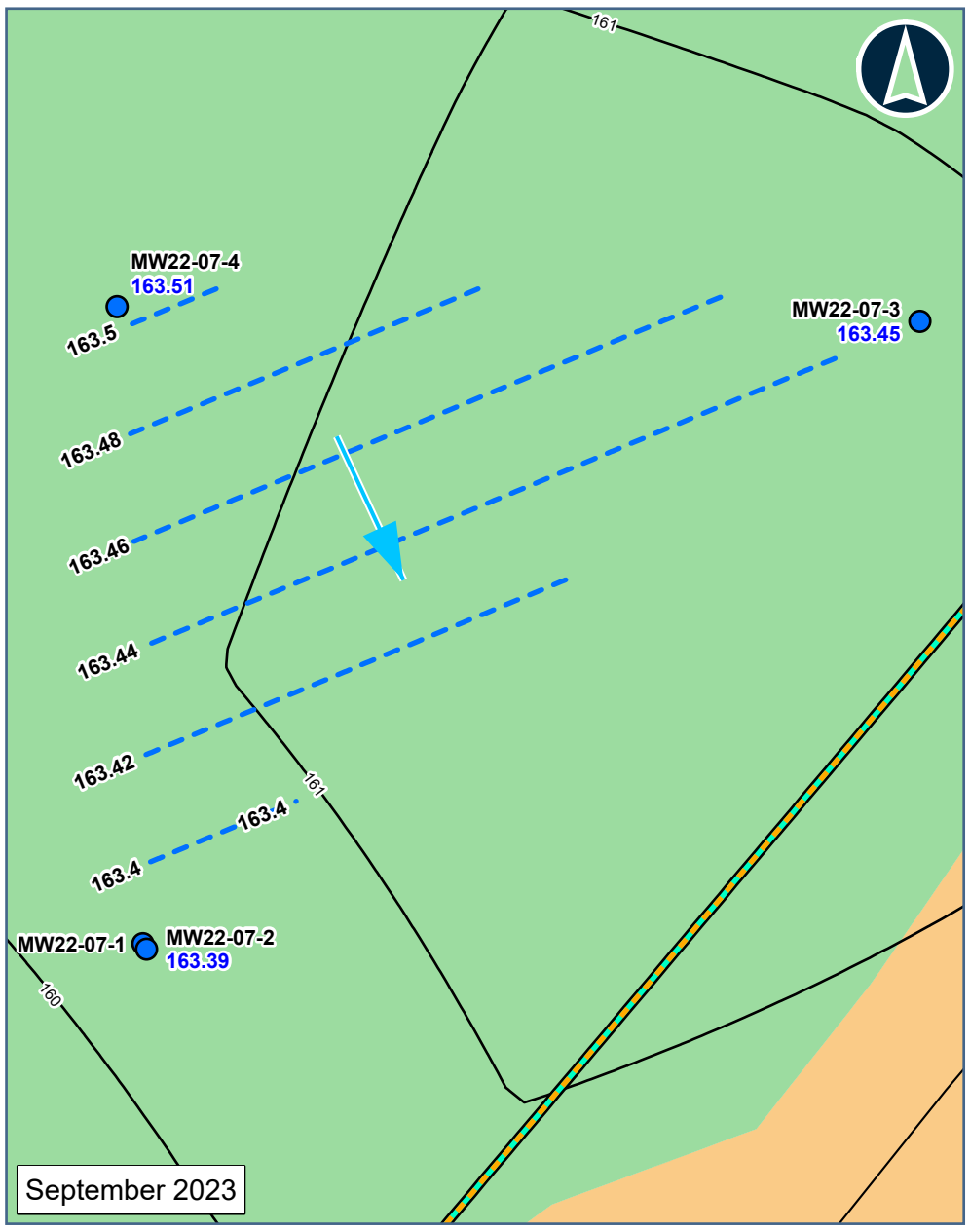
Previous groundwater studies of northern Ontario have produced various estimates of groundwater recharge rates. Wang and Chin (1978) estimated the groundwater discharge rates across northern Ontario sub-watersheds based on the 10-percentile of measured

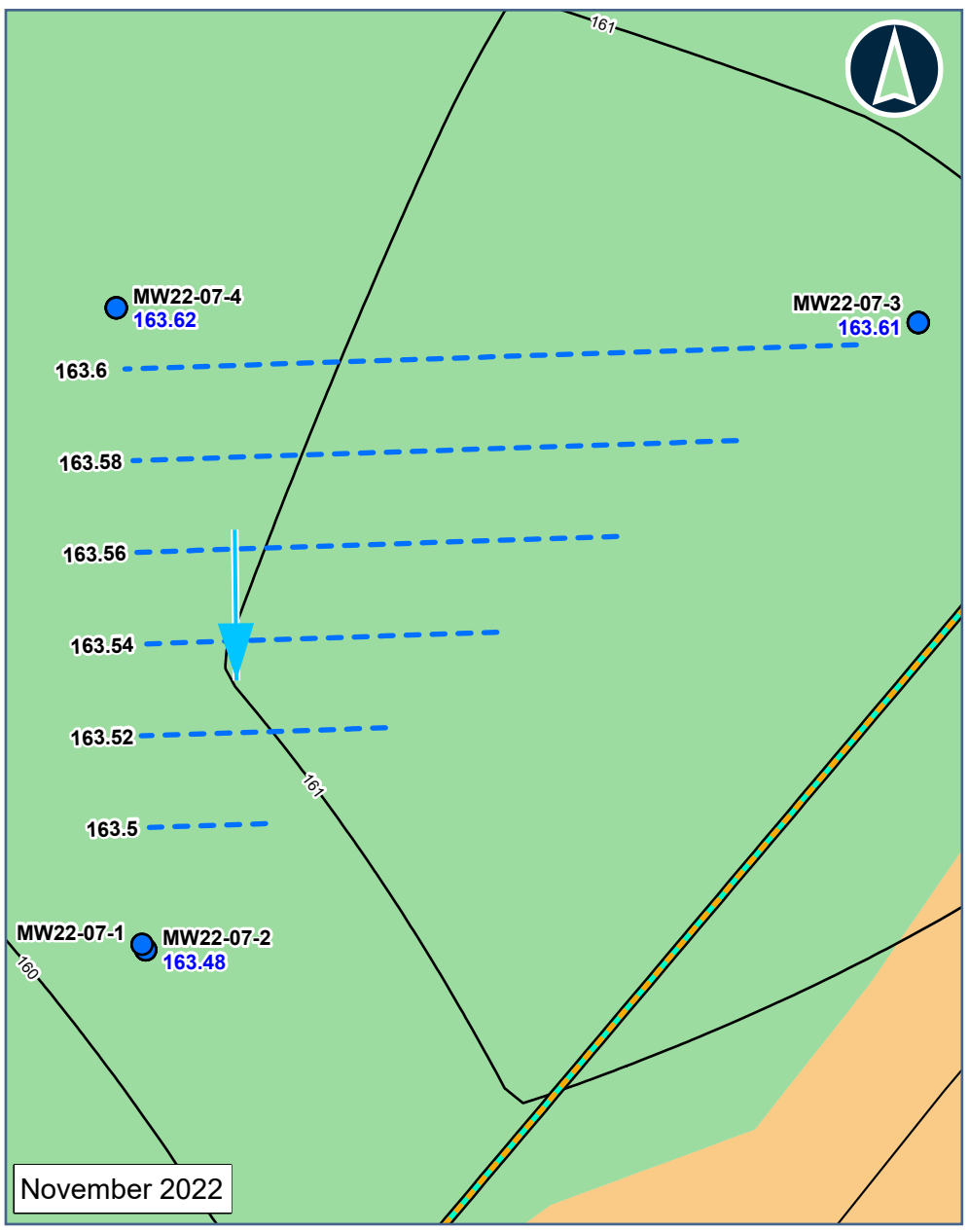
stream flows leaving the sub-watersheds. The result of this analysis for the Albany and Attawapiskat watersheds was an average groundwater recharge estimate of 8% to 9% of the annual precipitation with a range in sub-watershed estimates of 2% to 24%. Using these average estimates and the precipitation values noted above results in estimated average groundwater recharge rates of 54.5 to 62.8 mm/yr. They noted that the groundwater recharge values for sub-watersheds in the upper parts of the watersheds were greater than those for sub-watersheds in the lower parts. They also estimated that the groundwater recharge and discharge across the region was concentrated in the upper groundwater systems where precipitation infiltrated directly to shallow aquifers and discharged to local waterbodies. The deeper, regional groundwater flow system towards Hudson Bay and James Bay was estimated to be less than 1% of the total groundwater flow rates in the region. Singer and Cheng (2002) took a more in-depth look at water balances in northern Ontario and came up with two approaches to estimate groundwater recharge. Their first approach also involved sub-watershed surface water flow measurements which they performed a flow separation analysis on to estimate the groundwater discharge component of the flow. For the three sub-watersheds closest to the existing conditions Regional Study Area (flow stations 04FA003, 04JC003, and 04GB004) they estimated mean annual groundwater discharge rates of 77.7 to 91.4 mm/yr. These sub-watersheds are generally located upstream of the Project area and are in the upper parts of the major watersheds. Singer and Cheng also estimated the groundwater recharge rates based on the areal distribution of surficial geologic formations within the major river watersheds of northern Ontario. This method resulted in recharge estimates of 44 to 55 mm/yr for the Albany River watershed. This method showed that the vast majority of the groundwater recharge in an area would be expected to originate from areas with highly permeable surface materials like sand and gravel or tills with sandy composition.

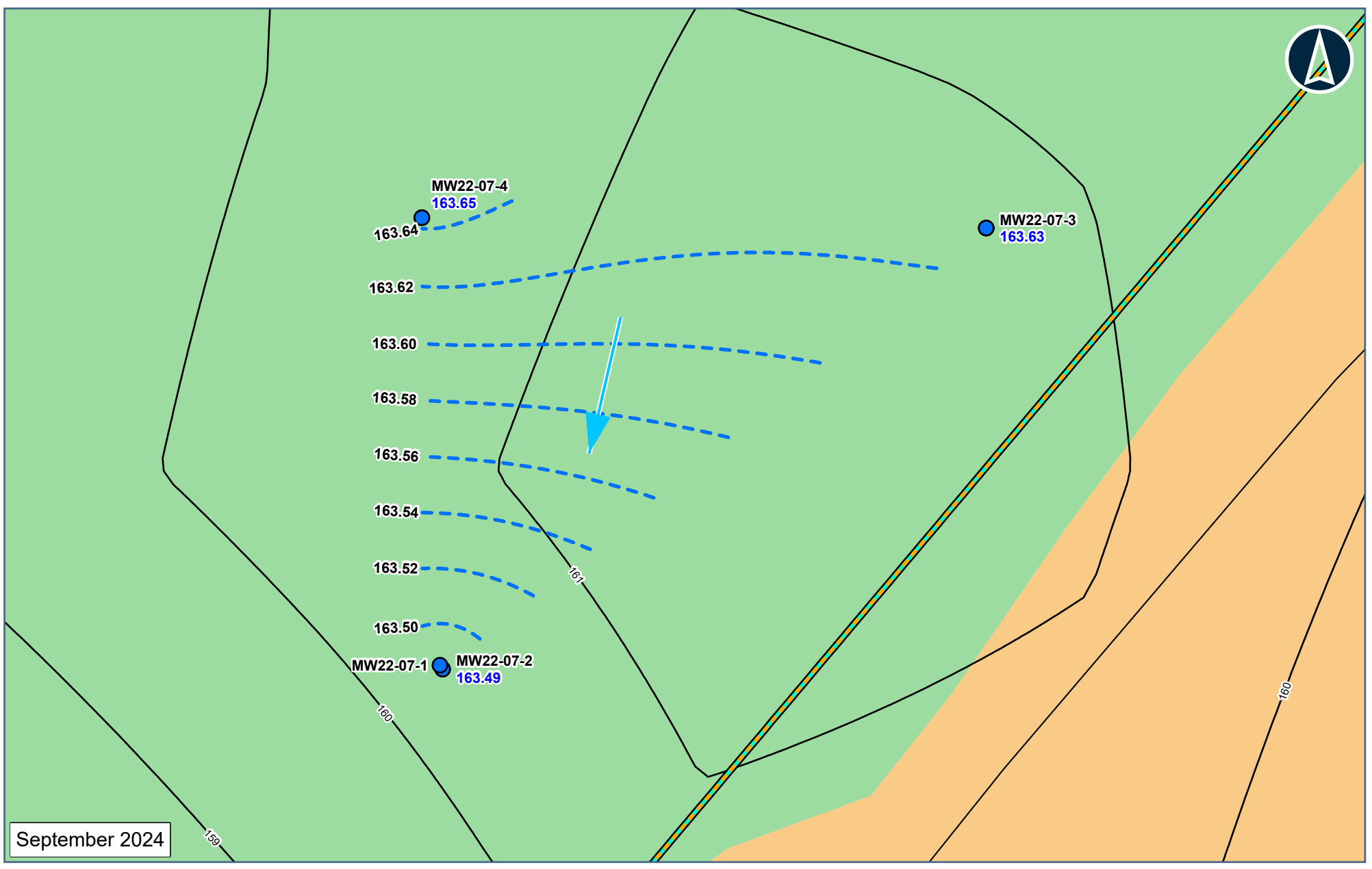
Figures 5-4.1 through **Figures 5-4.4** provide a regional overview of the estimated areas where the potential for groundwater recharge is high within the Regional Study Area. Also shown on these figures are the estimated regional groundwater flow directions. This overview is based on the mapped surficial soil types, bedrock exposures, topography, and surface water features of the Regional Study Area. As noted above, areas with permeable surficial materials and at higher elevations are expected to form the recharge areas and areas at lower elevations with surface waterbodies are expected to be where most shallow groundwater discharge occurs. Local conditions, beyond the scale of this study, will also affect groundwater recharge, discharge and flows, so groundwater at a particular site may not follow the regional trends.

The findings of the desktop and field studies for groundwater allow for the development of a conceptual model of hydrogeology in the Study Areas. The above-described findings suggest that groundwater within the Study Areas occurs in the overburden at shallow depths of typically less than 3 m. Most groundwater recharge and flows are likely to occur through the coarser grained materials, such as sands, with silty and clayey deposits

forming local restrictions to groundwater flow. In the Precambrian Shield region, the groundwater is also likely to flow through the shallow bedrock fractures at similar rates as the overburden. The shallow groundwater likely interacts with surface water features in the region with groundwater recharge at higher elevations locally flowing towards waterbodies at lower elevations and discharging. In areas with low topographic relief, groundwater and surface water levels are likely to be nearly equal with less defined recharge and discharge areas. The groundwater gradients are generally small both horizontally and vertically, indicating slow groundwater flow velocities. Groundwater gradients and velocities are expected to be locally higher in areas with large topographic relief and conductive soils or bedrock.







Legend

- MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- 276.08 GROUNDWATER ELEVATION (m)
- INFERRED GROUNDWATER CONTOUR
- TOPOGRAPHIC CONTOUR 1M INTERVAL
- ALTERNATIVE 1 AND ALTERNATIVE 4
- ROAD
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

DOMINANT SURFICIAL MATERIAL

- GLACIOFLUVIAL MATERIAL - FG
- MORAINAL/TILL - M

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations

0 2.25 4.5 9 13.5 18
Meters

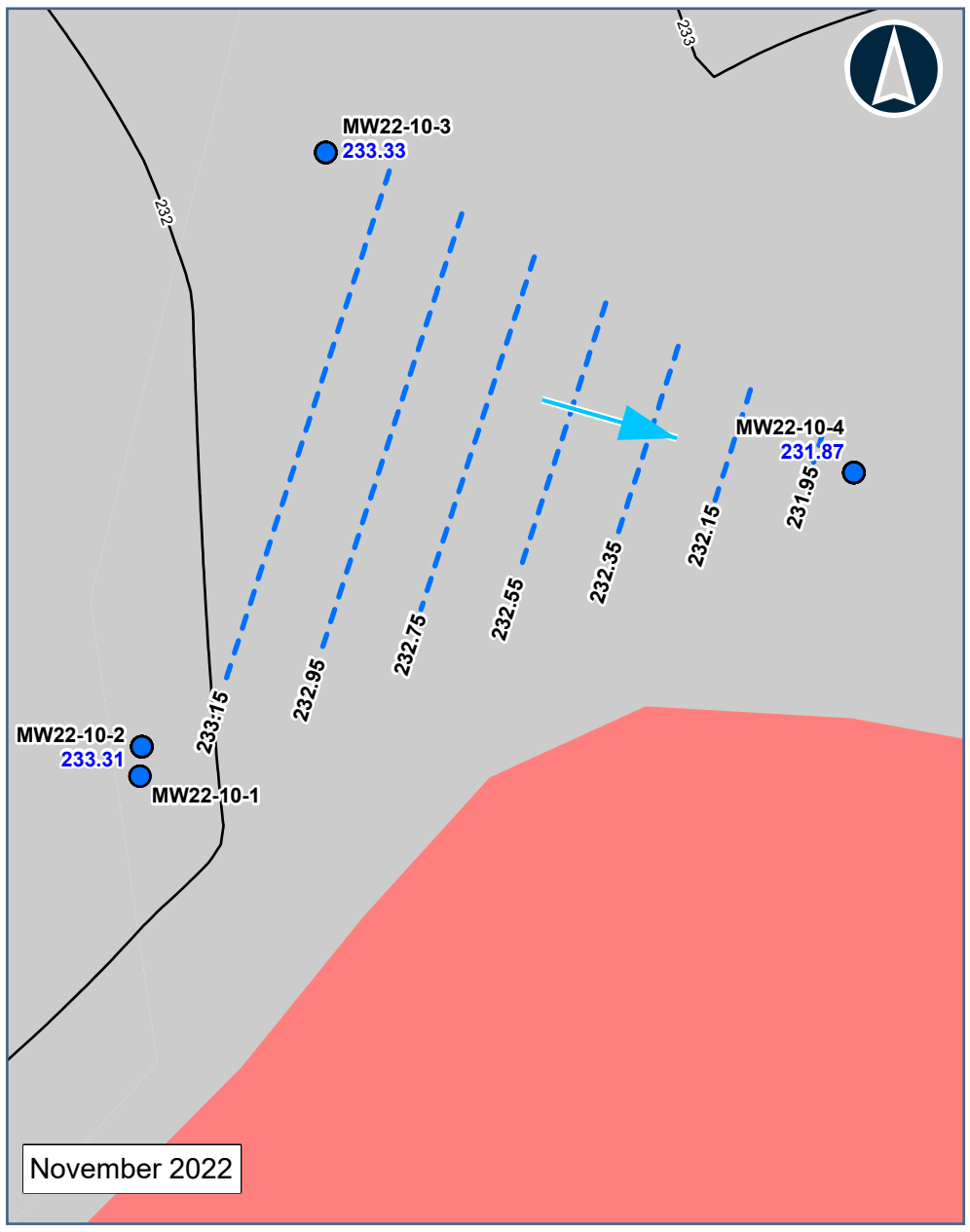
Datum: NAD 1983 CSRS UTM Zone 16N

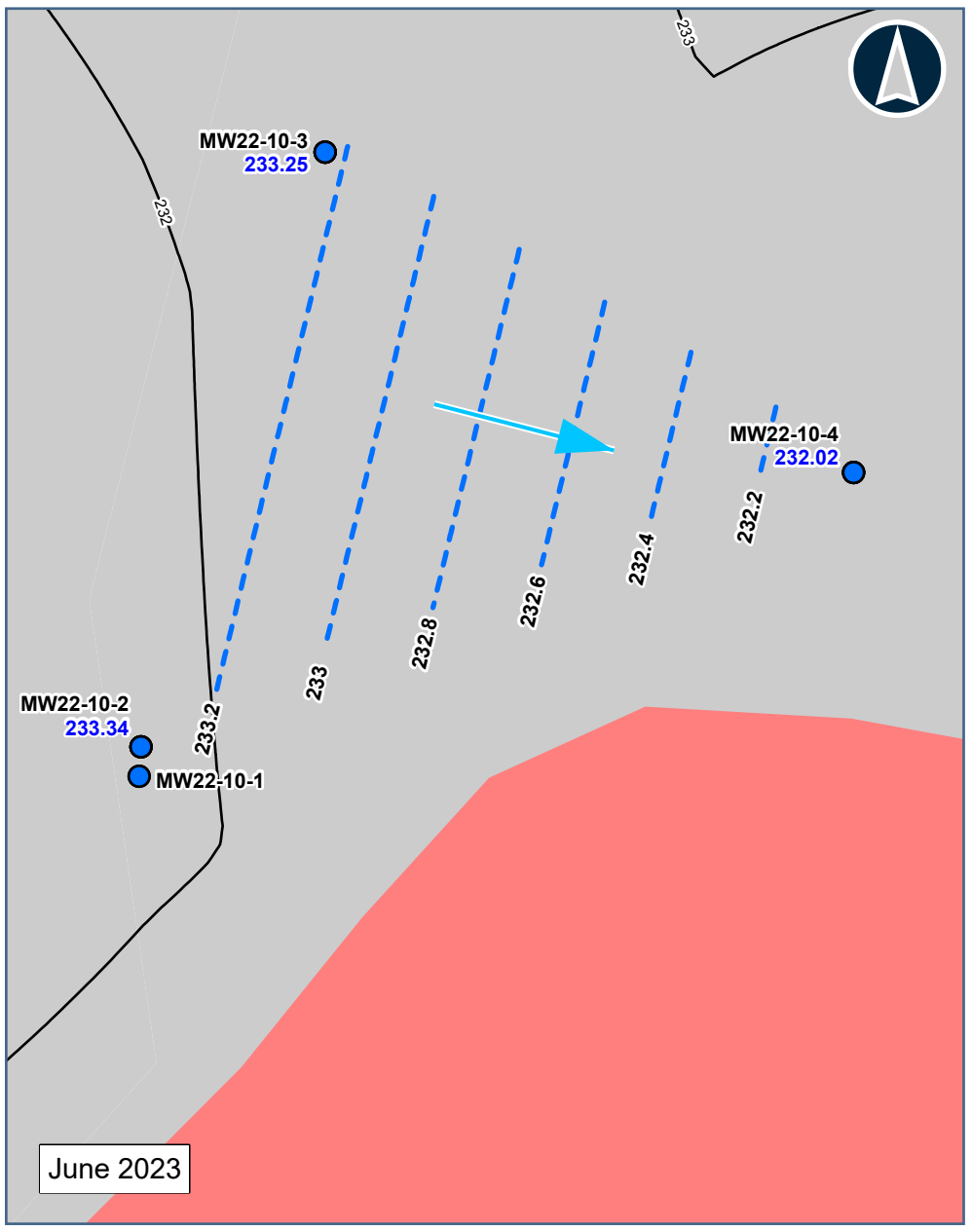
Feb, 2026	1:400 * when printed 11"x17"
Rev:0	

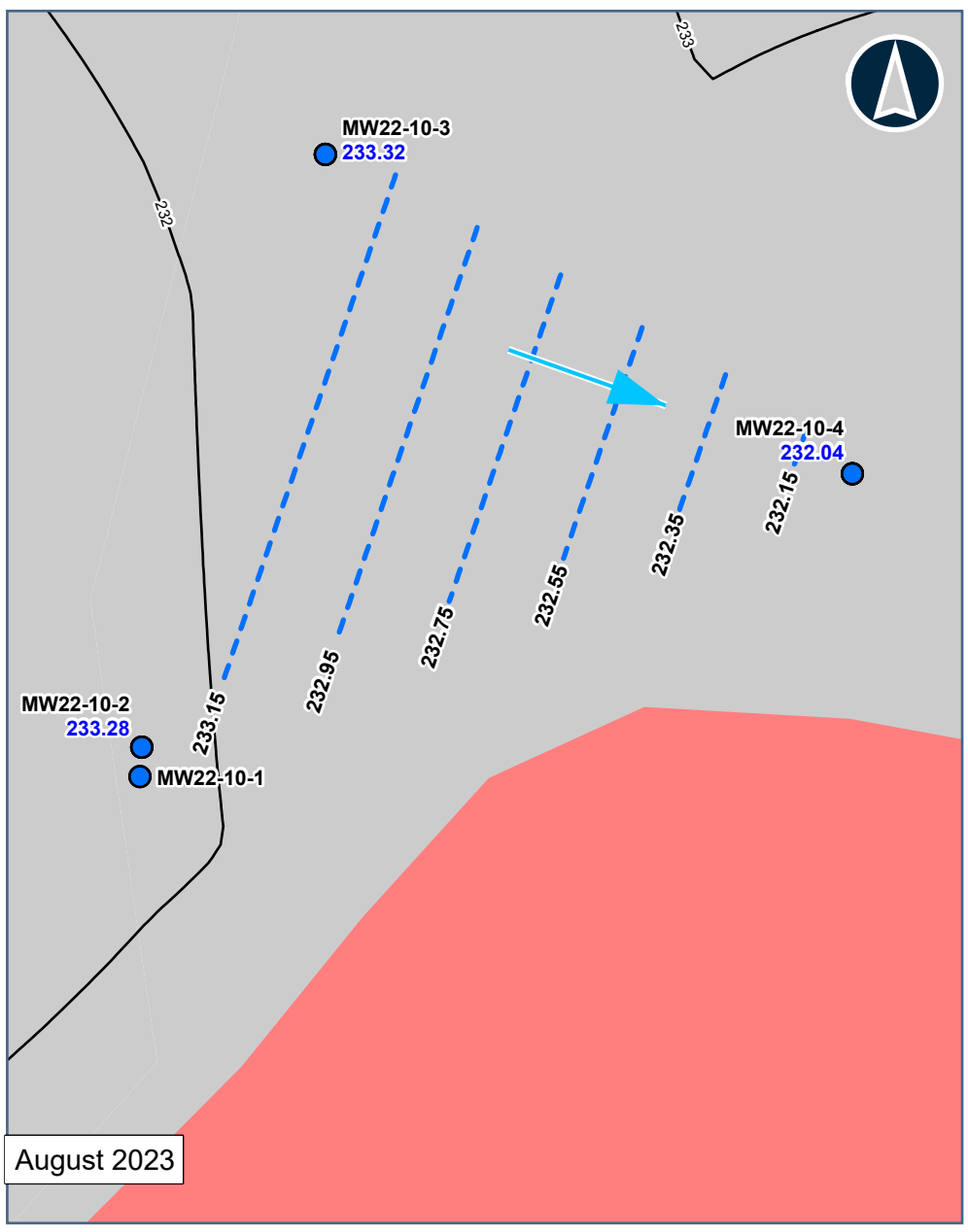
Figure 5-3.1

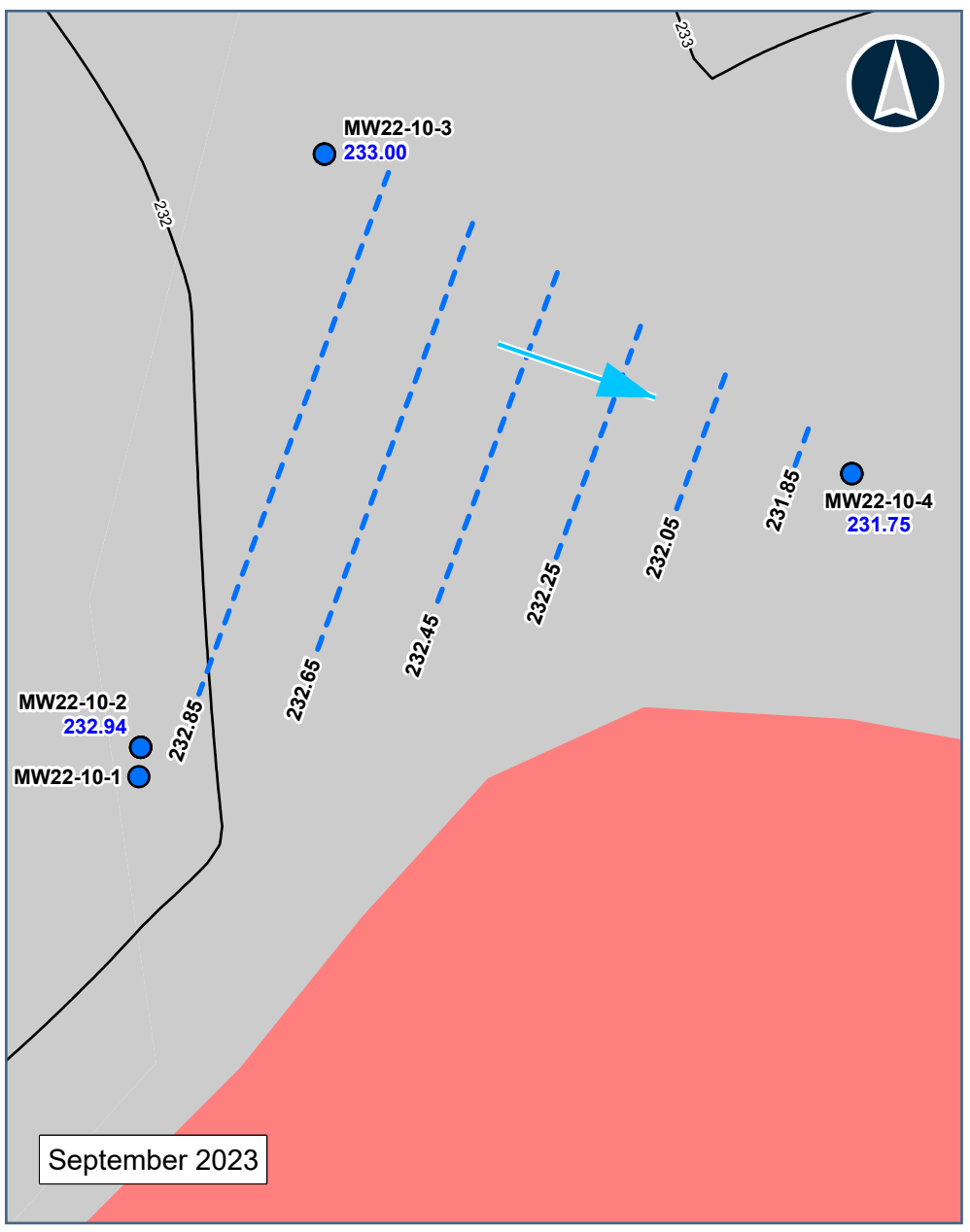
Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0044_GW_Monitoring\21455151-0044-CH-0000.aprx
Date Saved: 2/19/2026 4:01 PM User Name: gld_rduval









Legend

- MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- 276.08 GROUNDWATER ELEVATION (m)
- INFERRED GROUNDWATER CONTOUR
- TOPOGRAPHIC CONTOUR 1M INTERVAL
- BEDROCK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA
- ORGANIC - O

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations

0 2.25 4.5 9 13.5 18
Meters

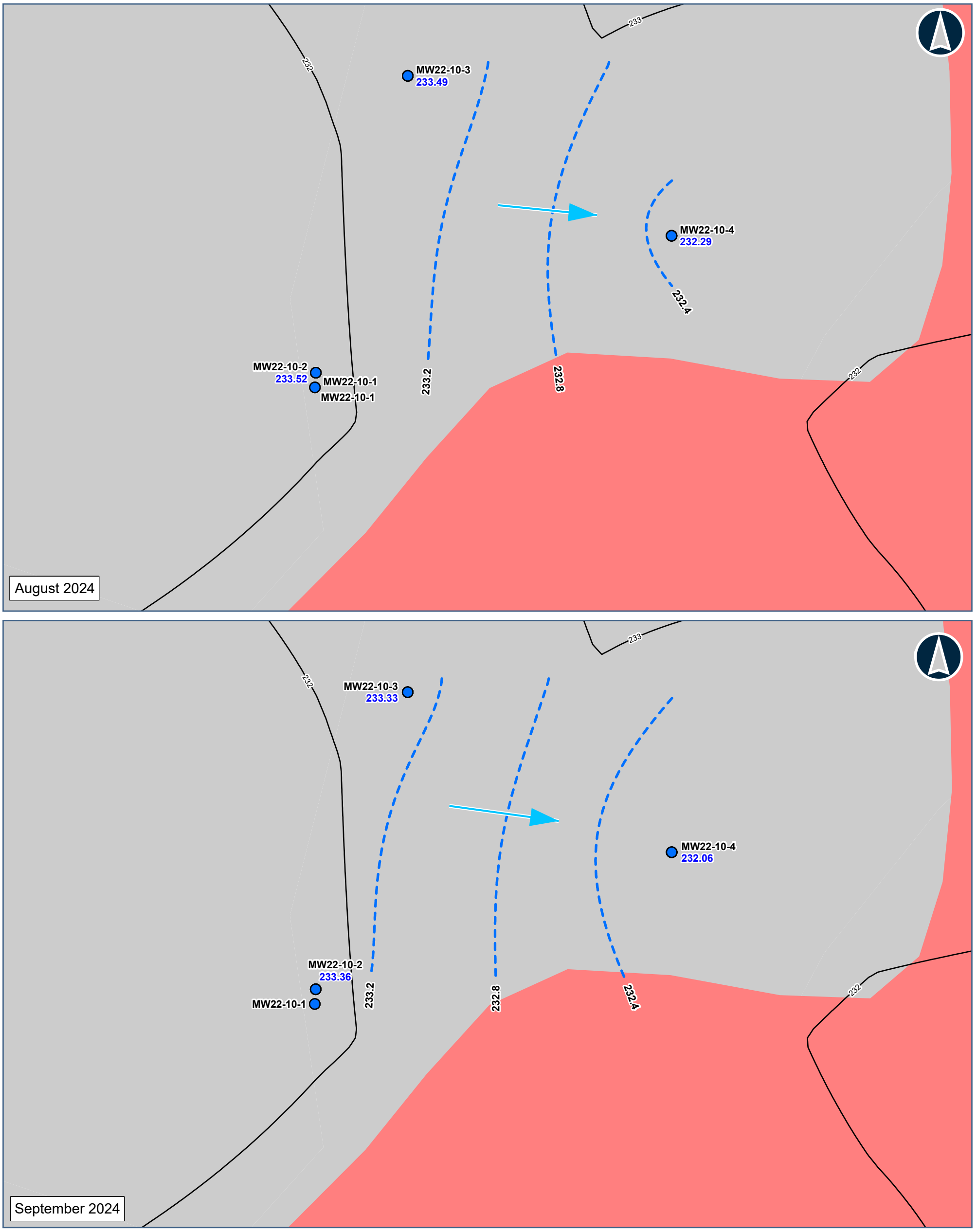
Datum: NAD 1983 CSRS UTM Zone 16N

Feb 2026	1:400 * when printed 11"x17"
Rev:0	

Figure 5-3.2

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0044_GW_Monitoring\21455151-0044-CH-0000.aprx
Date Saved: 2/19/2026 4:01 PM User Name: gld_rduval



Legend

- MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- 276.08 GROUNDWATER ELEVATION (m)
- INFERRED GROUNDWATER CONTOUR
- TOPOGRAPHIC CONTOUR 1M INTERVAL
- BEDROCK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA
- ORGANIC - O

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION
COMMUNITY ACCESS ROAD

Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations

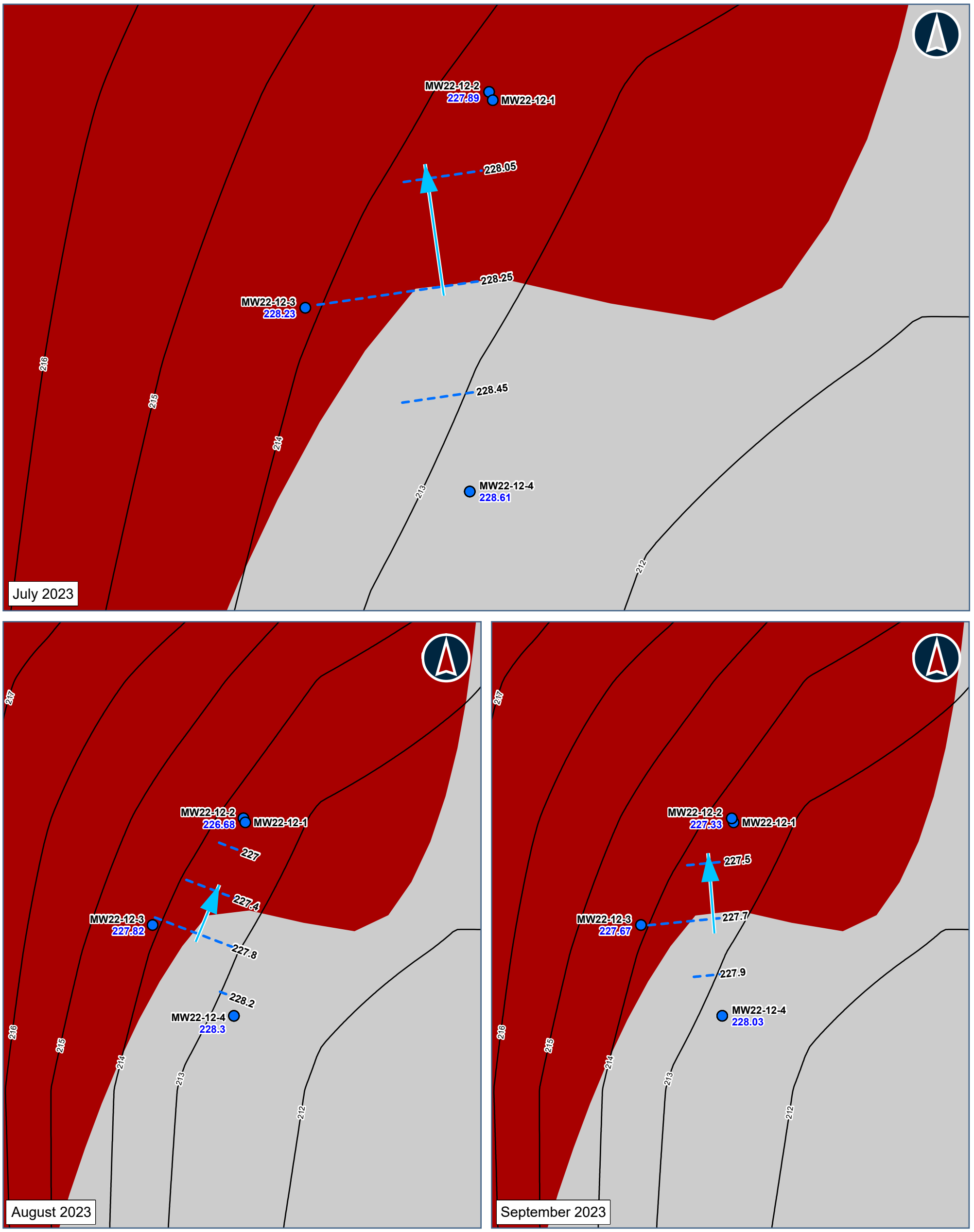
0 2.25 4.5 9 13.5 18
Meters
Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:400 * when printed 11"x17"
Rev:0	

Figure 5-3.3

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0044_GW_Monitoring\21455151-0044-CH-0000.aprx
Date Saved: 2/19/2026 4:01 PM User Name: gld_rduval



Legend

- MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- 276.08 GROUNDWATER ELEVATION (m)
- INFERRED GROUNDWATER CONTOUR
- TOPOGRAPHIC CONTOUR 1M INTERVAL
- SAND AND GRAVEL
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

DOMINANT SURFICIAL MATERIAL

- GLACIOLACUSTRINE - LG

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations

0 2.25 4.5 9 13.5 18
Meters

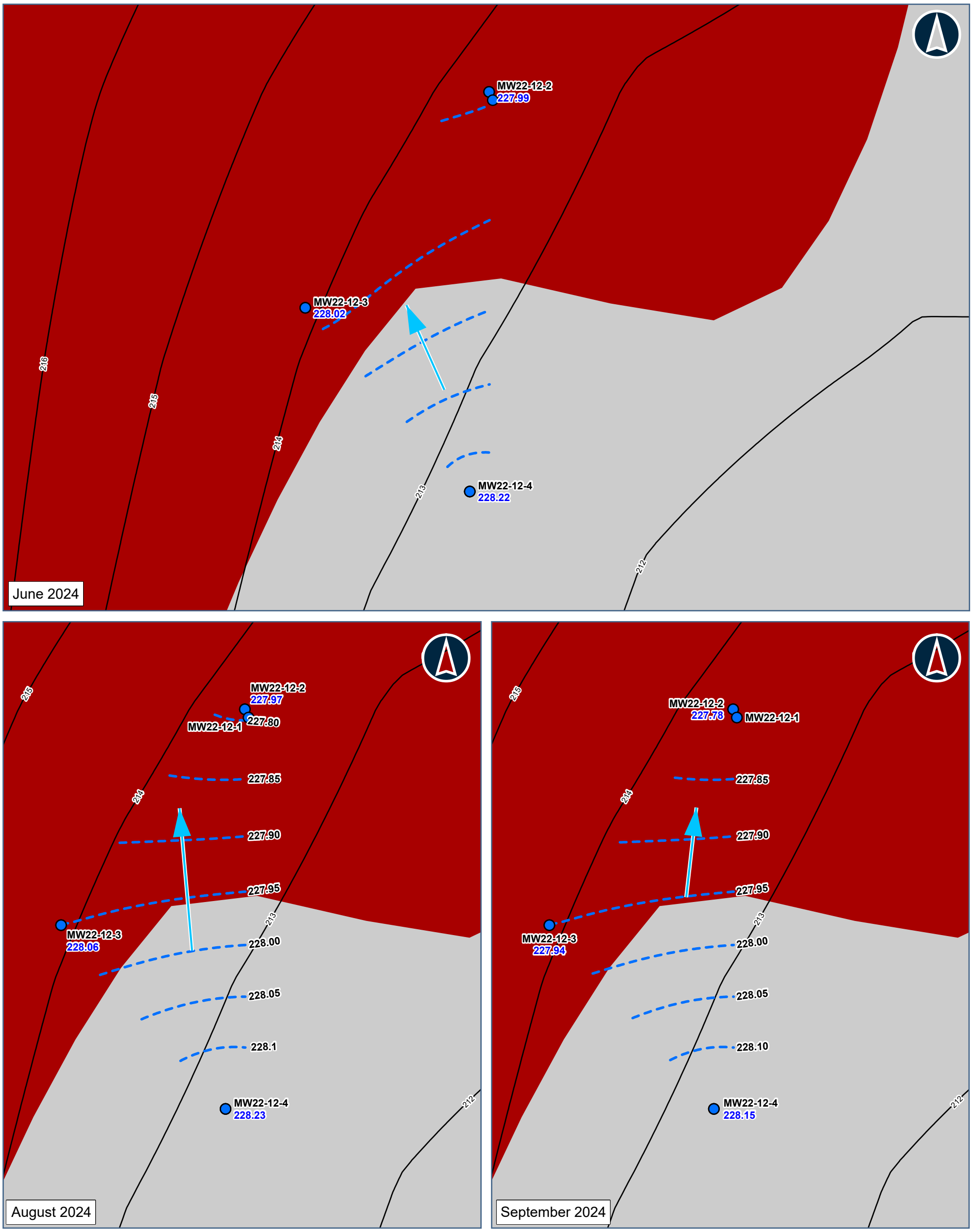
Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:400 * when printed 11"x17"
Rev:0	

Figure 5-3.4

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0044_GW_Monitoring\21455151-0044-CH-0000.aprx
Date Saved: 2/19/2026 4:01 PM User Name: gld_rduval



Legend

- MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- 276.08 GROUNDWATER ELEVATION (m)
- INFERRED GROUNDWATER CONTOUR
- TOPOGRAPHIC CONTOUR 1M INTERVAL
- SAND AND GRAVEL
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

DOMINANT SURFICIAL MATERIAL

- GLACIOLACUSTRINE - LG

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations

0 2.25 4.5 9 13.5 18
Meters

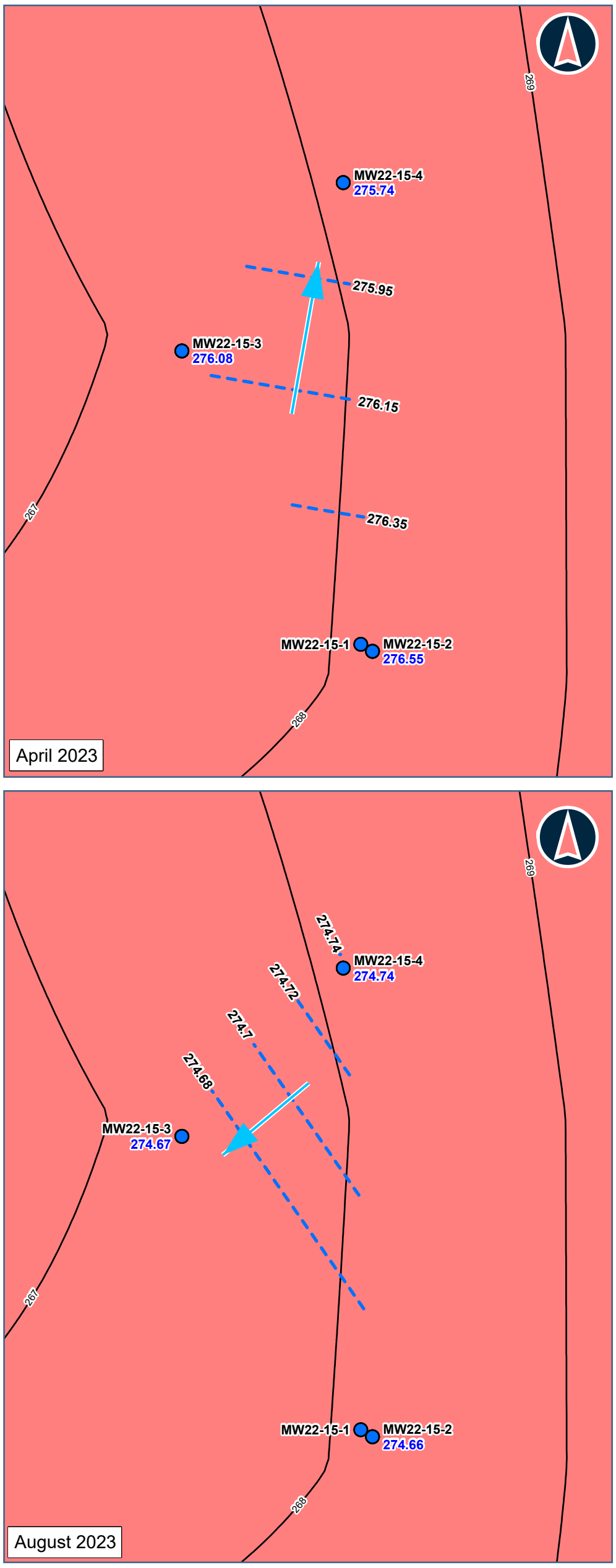
Datum: NAD 1983 CSRS UTM Zone 16N

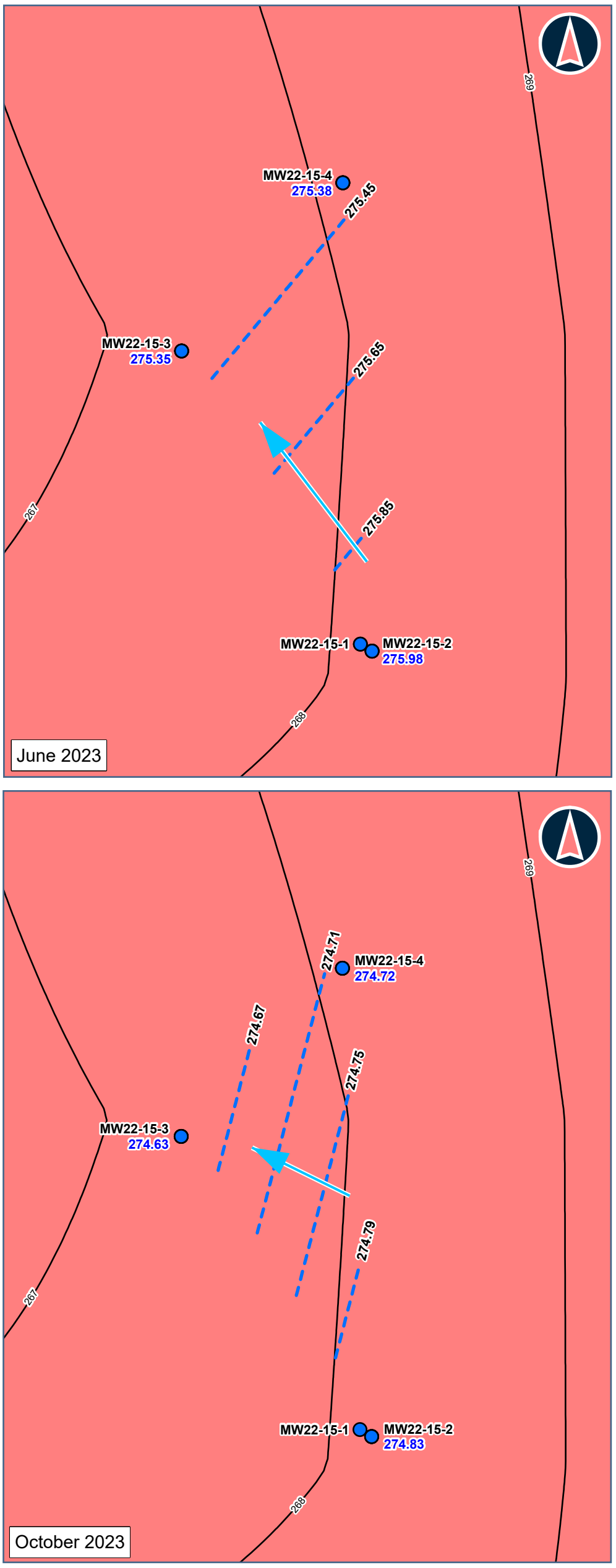
Feb, 2026	1:400 * when printed 11"x17"
Rev:0	

Figure 5-3.5

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0044_GW_Monitoring\21455151-0044-CH-0000.aprx
Date Saved: 2/19/2026 4:01 PM User Name: gld_rduval





Legend

- MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- 276.08 GROUNDWATER ELEVATION (m)
- INFERRED GROUNDWATER CONTOUR
- TOPOGRAPHIC CONTOUR 1M INTERVAL
- BEDROCK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

DOMINANT SURFICIAL MATERIAL

- MORAINAL/TILL - M

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION
COMMUNITY ACCESS ROAD

Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations

0 2.25 4.5 9 13.5 18
Meters

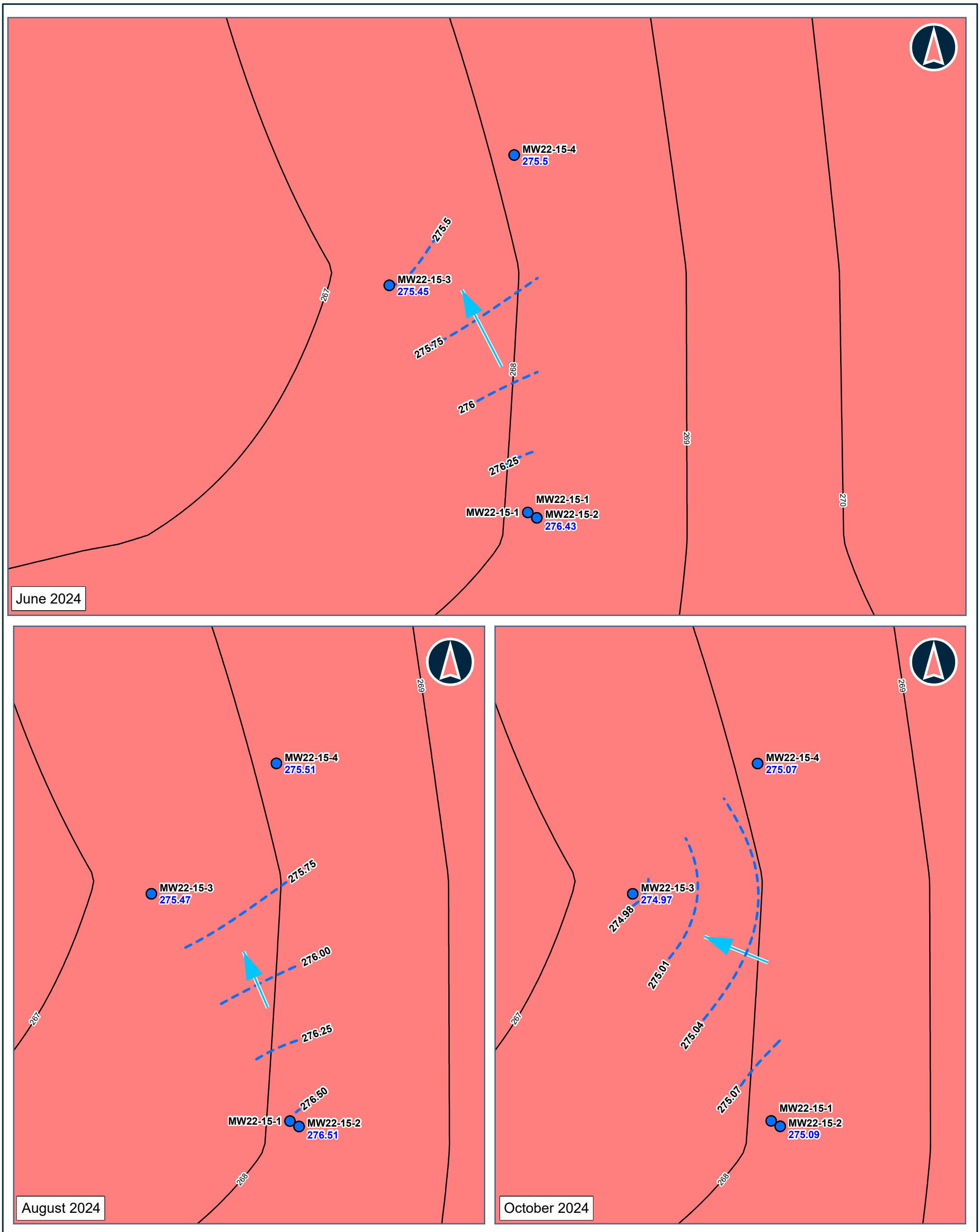
Datum: NAD 1983 CSRS UTM Zone 16N

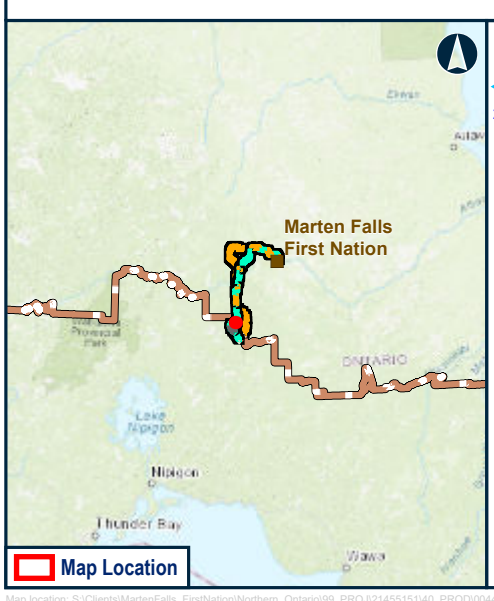
Feb, 2026	1:400 * when printed 11"x17"
Rev:0	

Figure 5-3.6

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0044_GW_Monitoring\21455151-0044-CH-0000.aprx
Date Saved: 2/19/2026 4:01 PM User Name: gld_rduval





Legend

- MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- 276.08 GROUNDWATER ELEVATION (m)
- INFERRED GROUNDWATER CONTOUR
- TOPOGRAPHIC CONTOUR 1M INTERVAL
- BEDROCK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

DOMINANT SURFICIAL MATERIAL

- MORAINAL/TILL - M

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations

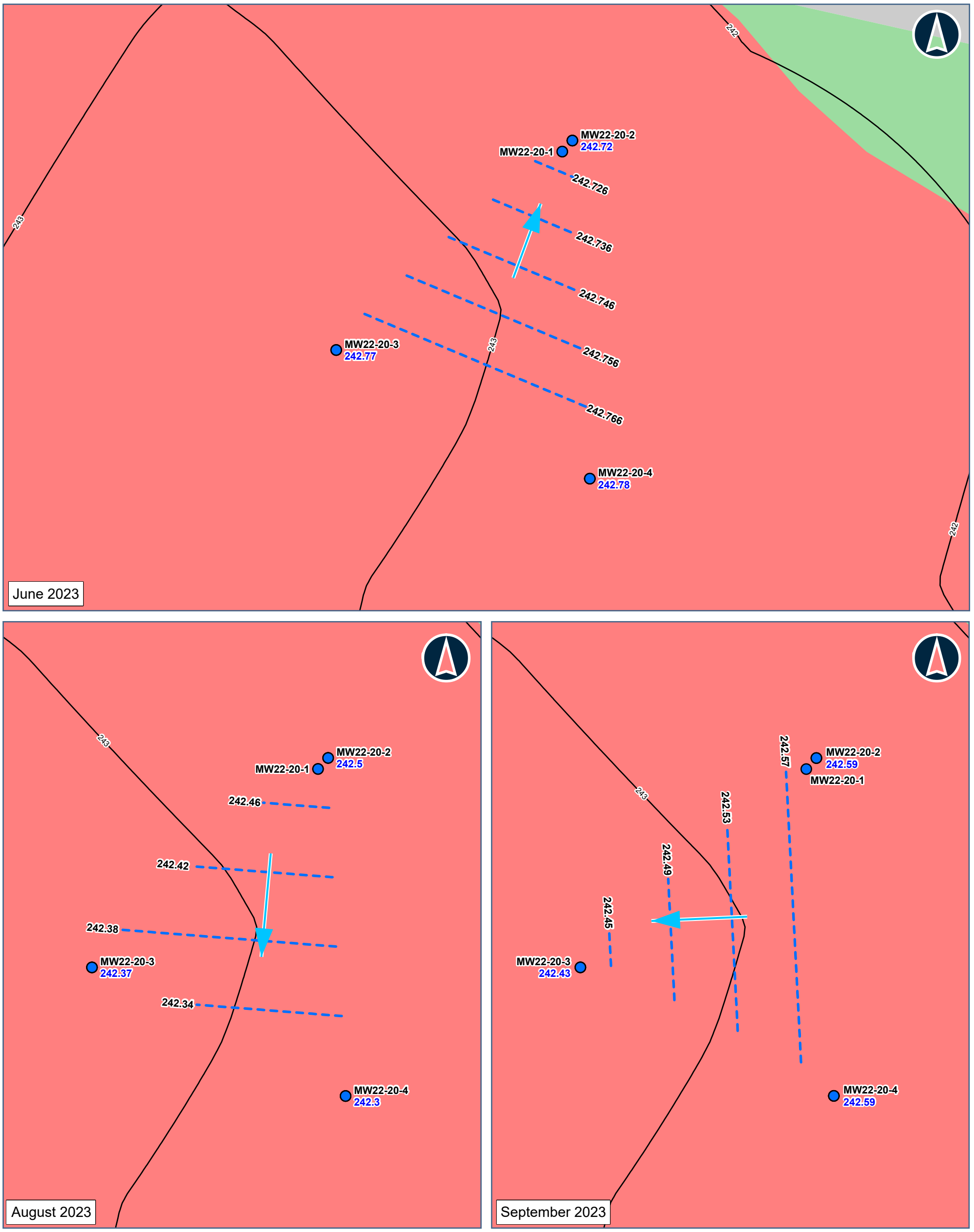
0 2.25 4.5 9 13.5 18
Meters
Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:400 * when printed 11"x17"
Rev:0	

Figure 5-3.7

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0044_GW_Monitoring\21455151-0044-CH-0000.aprx
Date Saved: 2/19/2026 4:01 PM User Name: gld_rduval



Legend

- MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- 276.00 INFERRED GROUNDWATER CONTOUR
- TOPOGRAPHIC CONTOUR 1M INTERVAL
- BEDROCK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

DOMINANT SURFICIAL MATERIAL

- MORAINAL/TILL - M

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION
COMMUNITY ACCESS ROAD

Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations

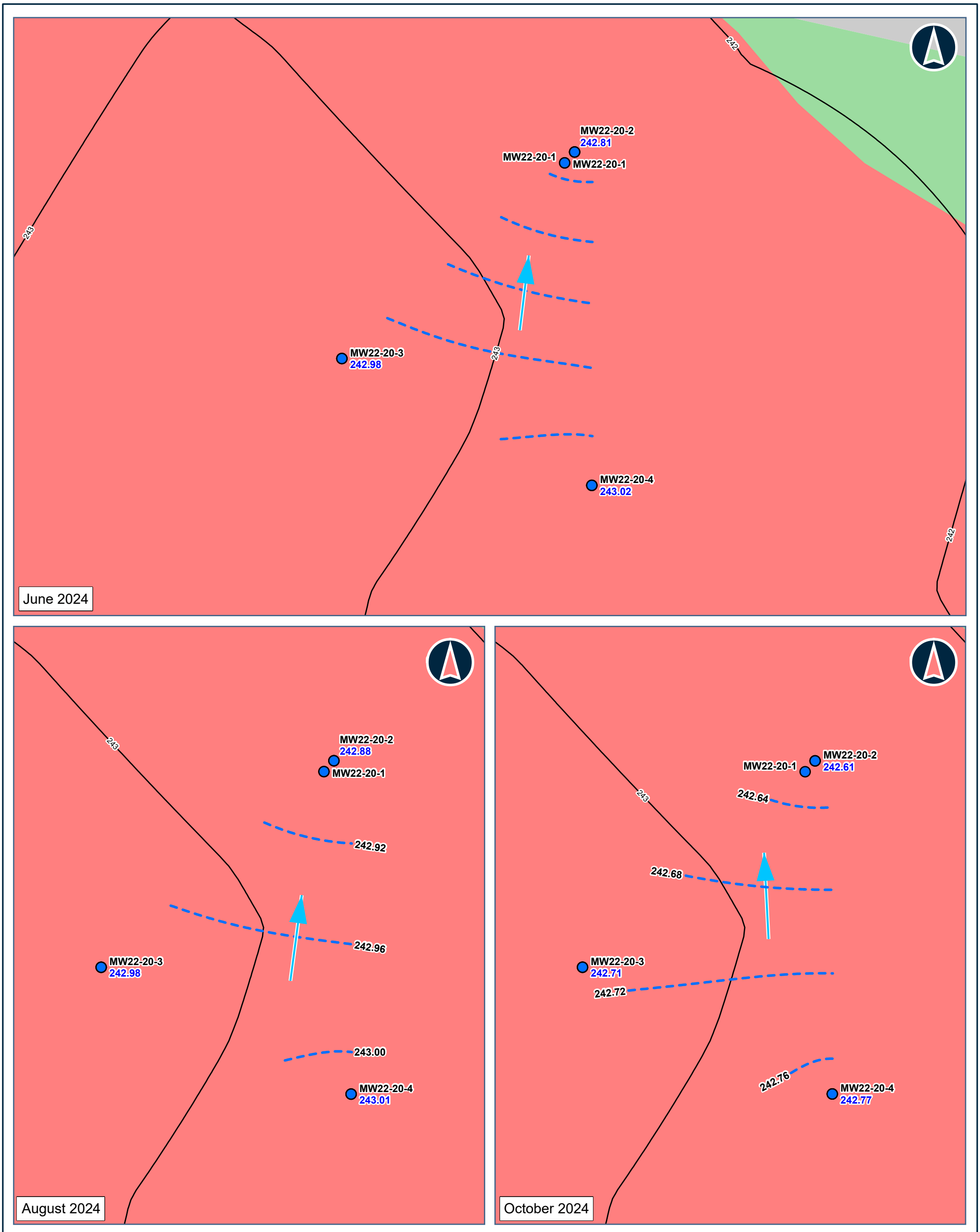
0 2.25 4.5 9 13.5 18
Meters
Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:400 * when printed 11"x17"
Rev:0	

Figure 5-3.8

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0044_GW_Monitoring\21455151-0044-CH-0000.aprx
Date Saved: 2/19/2026 4:01 PM User Name: gld_rduval



Legend

- MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- 276.08 GROUNDWATER ELEVATION (m)
- TOPOGRAPHIC CONTOUR 1M INTERVAL
- BEDROCK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

DOMINANT SURFICIAL MATERIAL

- MORAINAL/TILL - M

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Observed Groundwater Flow Directions at Detailed Groundwater Monitoring Stations

0 2.25 4.5 9 13.5 18
Meters

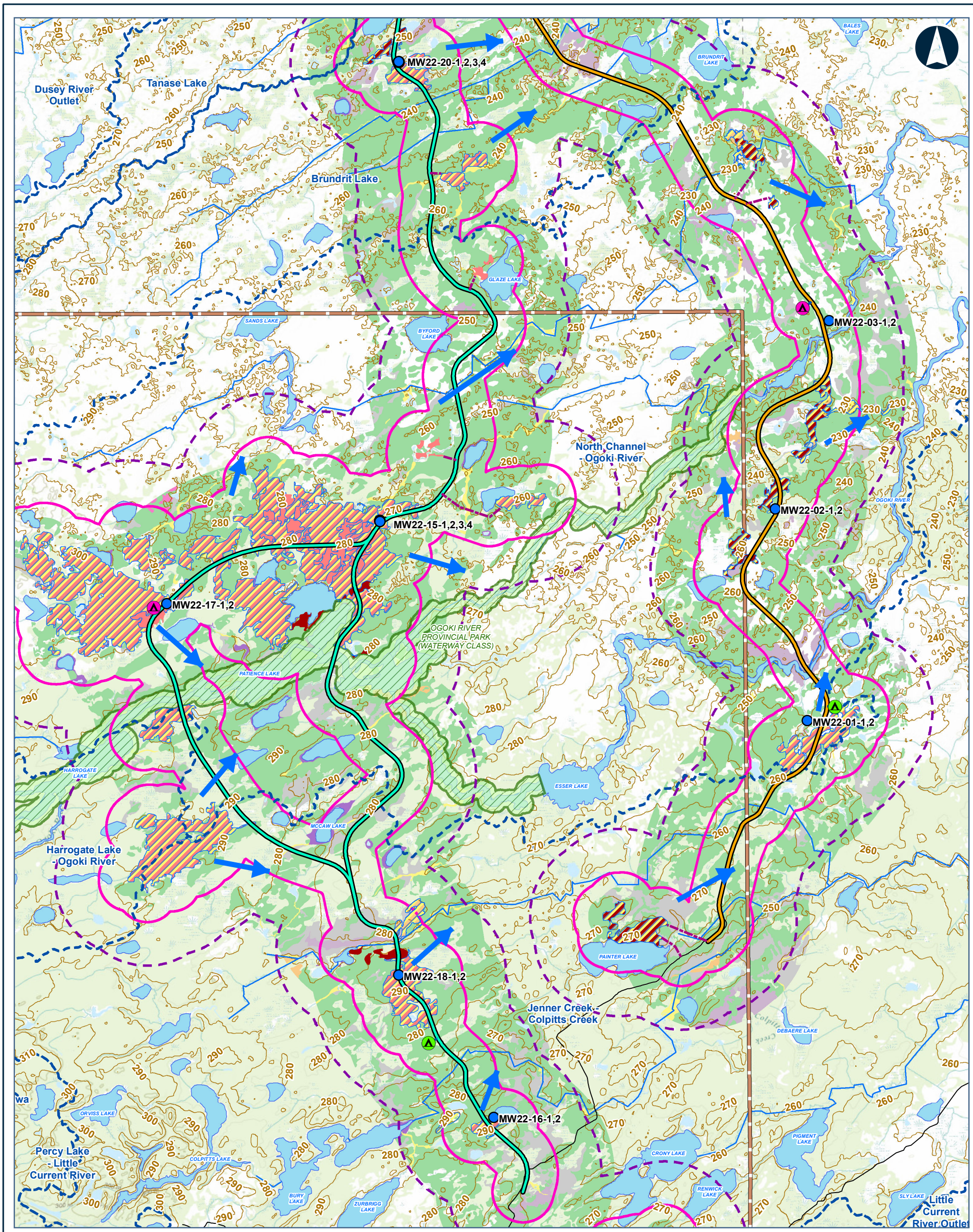
Datum: NAD 1983 CSRS UTM Zone 16N

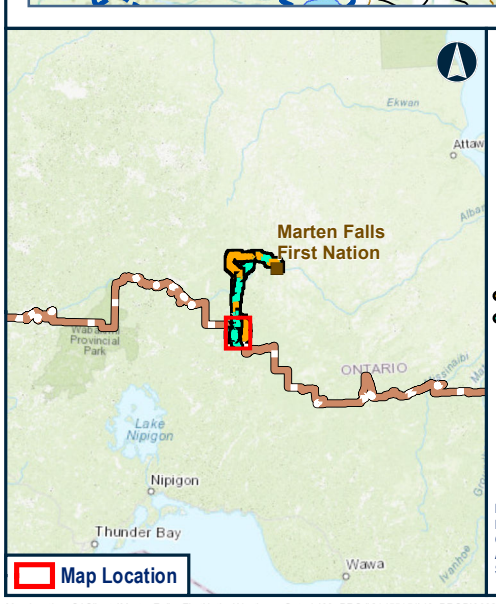
Feb, 2026	1:400 * when printed 11"x17"
Rev:0	

Figure 5-3.9

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0044_GW_Monitoring\21455151-0044-CH-0000.aprx
Date Saved: 2/19/2026 4:01 PM User Name: gld_rduval





Legend

- MONITORING WELL LOCATION
- -ESTIMATED REGIONAL GROUNDWATER FLOW DIRECTIONS
- APPROXIMATE AREAS OF HIGH GROUNDWATER RECHARGE POTENTIAL

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)

- 50 PERSONS
- 200 PERSONS
- ALTERNATIVE 1
- ALTERNATIVE 4
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- ROAD
- WATERBODY
- WATERCOURSE
- FAR NORTH BOUNDARY
- PROVINCIAL PARK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA
- QUATERNARY WATERSHED BOUNDARY

DOMINANT SURFICIAL MATERIAL

- BEDROCK - R
- COLLUVIUM - C
- FLUVIAL - F
- GLACIOFLUVIAL MATERIAL - FG
- GLACIOLACUSTRINE - LG
- LACUSTRINE - L
- MORAINAL/TILL - M
- ORGANIC - O

Data Source:

Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.

Aerial photography provided by:

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Estimated Groundwater Recharge Areas and Flow Directions in the Groundwater Existing Conditions Study Area

0 3 6

Kilometres

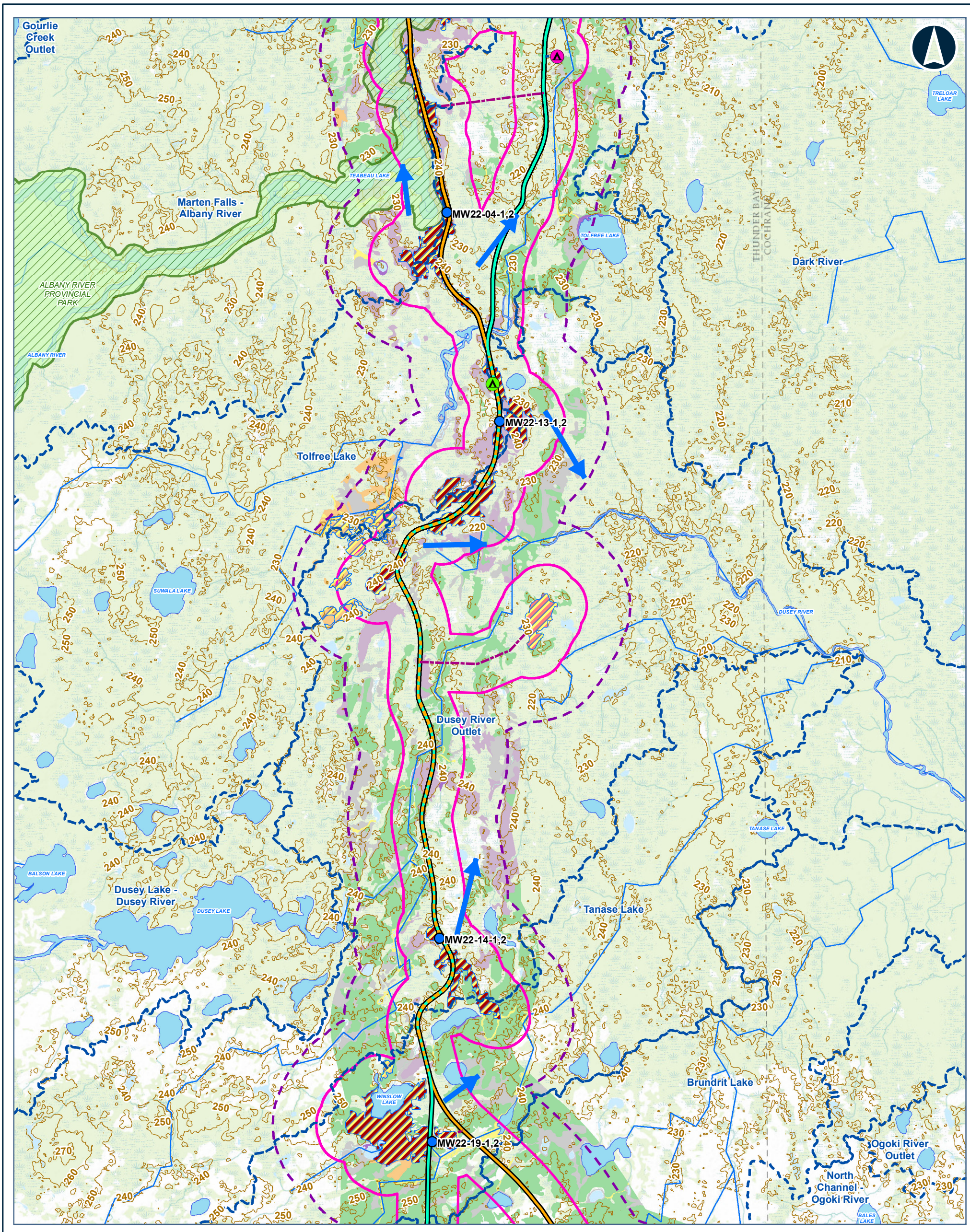
Datum: NAD 1983 CSRS UTM Zone 16N

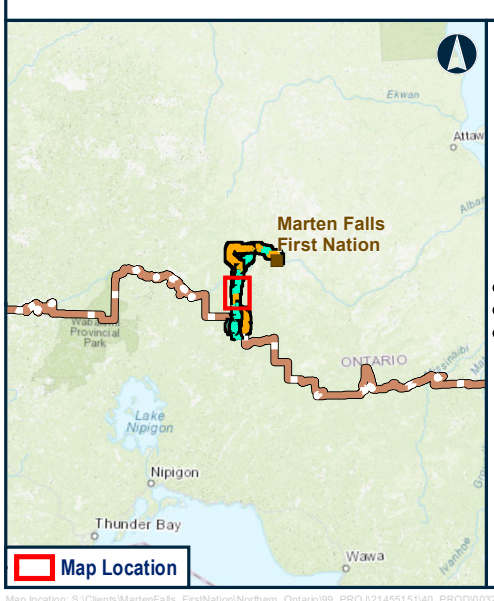
Feb, 2026	1:125,000 * when printed 11"x17"
Rev:0	

Figure 5-4.1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0005_5-4.mxd
Date Saved: 11/21/2024 5:08:10 PM User Name: INGU06951





Legend

- MONITORING WELL LOCATION
- -ESTIMATED REGIONAL GROUNDWATER FLOW DIRECTIONS
- APPROXIMATE AREAS OF HIGH GROUNDWATER RECHARGE POTENTIAL

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)

- 50 PERSONS
- 200 PERSONS
- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- WATERBODY
- WATERCOURSE
- PROVINCIAL PARK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA
- QUATERNARY WATERSHED BOUNDARY

DOMINANT SURFICIAL MATERIAL

- COLLUVIUM - C
- FLUVIAL - F
- GLACIOFLUVIAL MATERIAL - FG
- GLACIOLACUSTRINE - LG
- LACUSTRINE - L
- MORAINAL/TILL - M
- ORGANIC - O

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Estimated Groundwater Recharge Areas and Flow Directions in the Groundwater Existing Conditions Study Area

0 3 6
Kilometres

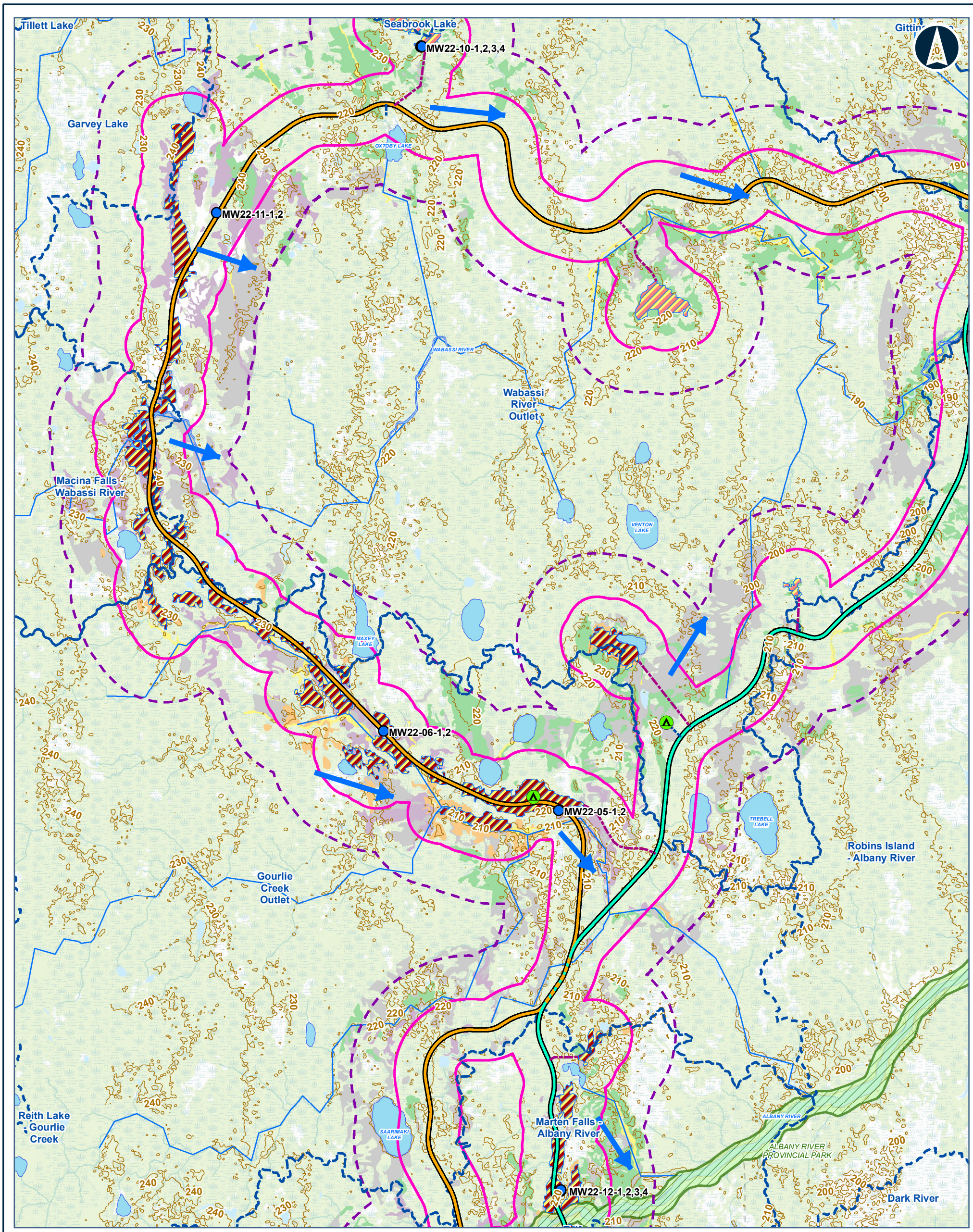
Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:125,000 * when printed 11"x17"
Rev:0	

Figure 5-4.2

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0005_5-4.mxd
Date Saved: 11/21/2024 5:08:10 PM User Name: INGU06951



Legend

- MONITORING WELL LOCATION
- -ESTIMATED REGIONAL GROUNDWATER FLOW DIRECTIONS
- APPROXIMATE AREAS OF HIGH GROUNDWATER RECHARGE POTENTIAL

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)

- 50 PERSONS
- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- WATERBODY
- WATERCOURSE
- PROVINCIAL PARK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA
- QUATERNARY WATERSHED BOUNDARY

DOMINANT SURFICIAL MATERIAL

- COLLUVIUM - C
- FLUVIAL - F
- GLACIOFLUVIAL MATERIAL - FG
- GLACIOLACUSTRINE - LG
- LACUSTRINE - L
- MORAINAL/TILL - M
- ORGANIC - O

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Estimated Groundwater Recharge Areas and Flow Directions in the Groundwater Existing Conditions Study Area

0 3 6
Kilometres

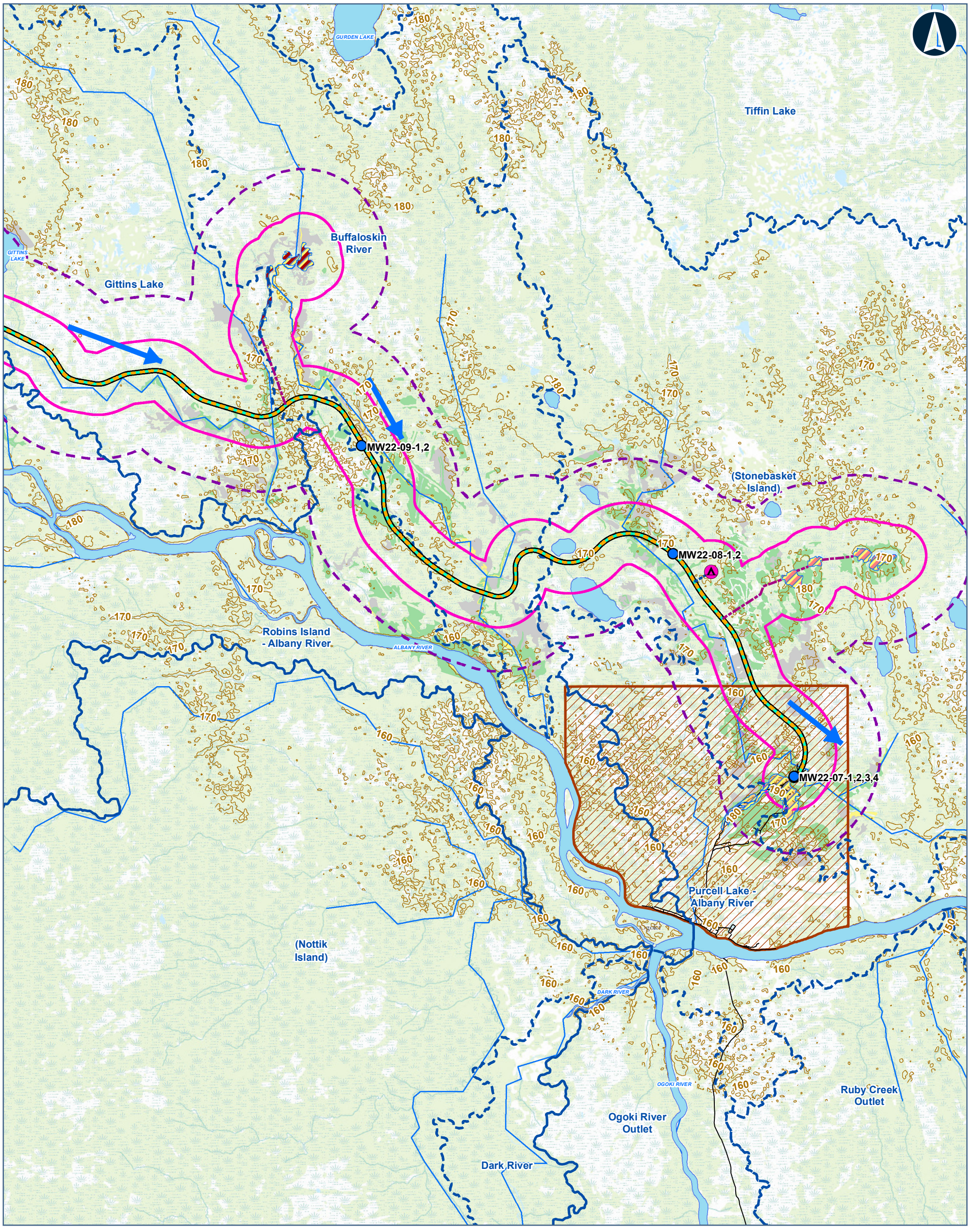
Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:125,000 * when printed 11"x17"
Rev:0	

Figure 5-4.3

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0005_5-4.mxd
Date Saved: 11/21/2024 5:08:10 PM User Name: INGU06951



Legend

- MONITORING WELL LOCATION
- -ESTIMATED REGIONAL GROUNDWATER FLOW DIRECTIONS
- APPROXIMATE AREAS OF HIGH GROUNDWATER RECHARGE POTENTIAL

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)

- 200 PERSONS
- ALTERNATIVE 1 AND ALTERNATIVE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- ROAD
- WATERBODY
- WATERCOURSE
- FIRST NATION COMMUNITY
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA
- QUATERNARY WATERSHED BOUNDARY

DOMINANT SURFICIAL MATERIAL

- COLLUVIUM - C
- FLUVIAL - F
- GLACIOFLUVIAL MATERIAL - FG
- LACUSTRINE - L
- MORAINAL/TILL - M
- ORGANIC - O

Data Source:

Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Estimated Groundwater Recharge Areas and Flow Directions in the Groundwater Existing Conditions Study Area

0 3 6
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:125,000 * when printed 11"x17"
Rev:0	

Figure 5-4.4

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0005_5-4.mxd
Date Saved: 11/21/2024 5:08:10 PM User Name: INGU06951

5.5 Geochemical Characterization

A geochemical characterization was carried out to support the Project Environmental Assessment / Impact Assessment and to inform other environmental effects and technical assessments. The details of the geochemical assessment are provided in **Attachment B - Geochemical Characterization Technical Support Document** and a summary of the results are provided below. This characterization provides a summary of the existing geological characteristics of the rock that may be impacted by exposure to air (oxygen) and water if disturbed.

The geochemical characterization consisted of a desktop review of existing information sources and a field investigation which involved the collection of 108 geological material samples in coordination with the physiography, terrain and soils, and groundwater discipline field programs. The samples consisted of 13 samples of organic material, 14 samples of bedrock material and 81 samples of soil material. The samples were analysed for a suite of properties including: acid base accounting, loss on ignition analysis, elemental analysis, and short-term leach testing. Based on the results of the analyses the samples were classified for their acid rock drainage potential.

Analysis of soil samples indicates that these materials have low acid rock drainage potential. With the exception of one sample, soil samples were classified as non-potentially acid generating.

Analysis of the organic samples indicates that these materials have low acid rock drainage potential. Four of the 13 organic samples analyzed were classified as potentially acid generating, with the remaining nine samples classified as non-potentially acid generating.

Analysis of bedrock samples indicated that all but one bedrock sample was classified as non-potentially acid generating. The sole bedrock sample that indicated a potential for acid generation occurred around borehole site MW22-16.

Leach testing within the non-potentially acid generating soil samples indicated that fluoride and copper were the only parameters that were greater than the *Provincial Water Quality Objectives* and *Canadian Water Quality Guidelines for the Protection of Aquatic Life*, and outside of the naturally occurring groundwater and surface water range.

Leachate results from the non-potentially acid generating organic samples indicated that boron was the only parameter that was greater than the *Provincial Water Quality Objectives* and *Canadian Water Quality Guidelines for the Protection of Aquatic Life*, and was outside of the naturally occurring groundwater and surface water range.

Leach testing within the non-potentially acid generating bedrock samples indicated that silver, aluminum, and vanadium were the only parameters that were greater than the *Provincial Water Quality Objectives* and *Canadian Water Quality Guidelines for the Protection of Aquatic Life*, and outside of the naturally occurring groundwater and surface water range.

Of the six potentially acid generating samples, only two samples of organic material were from locations within the Project Development Area of the Preferred Route (see **Section 6.2**). Both of these samples were further assessed to have no geochemical acid potential based on the analysed sulphur contents.

6 Selection of the Preferred Route

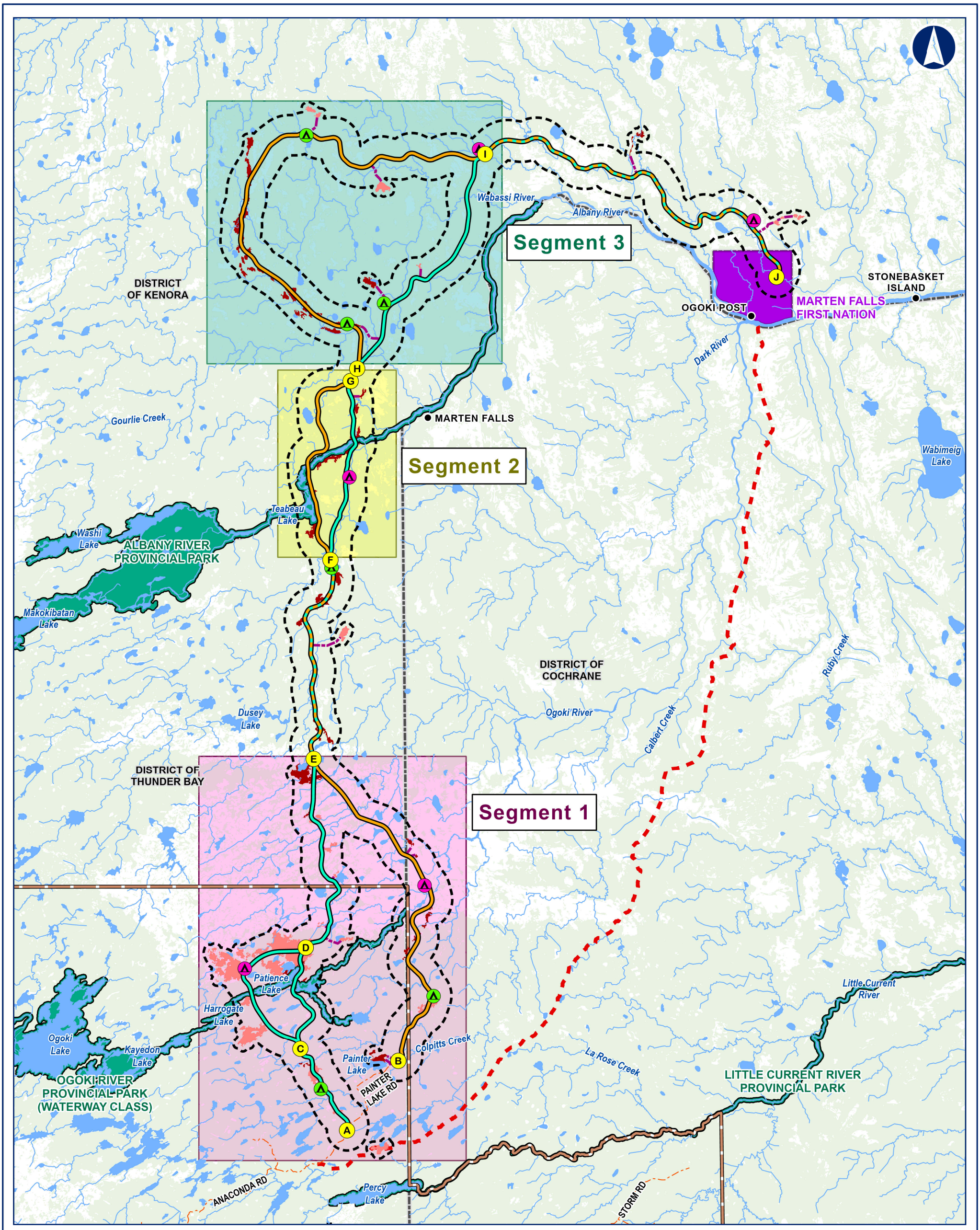
Following the collection of existing conditions information on the existing conditions Study Areas described in **Section 5**, the Project Team undertook an exercise to select a Preferred Route. The methodology and detailed results of this exercise are described in the *Environmental Assessment / Impact Statement Report* and are summarized at a high level below. The Preferred Route includes the footprint of any temporary infrastructure such as pits and quarries, temporary access roads, and worker camps associated with the construction of that route (i.e., the Construction Disturbance Area). The effects assessment will be completed using the identified Preferred Route.

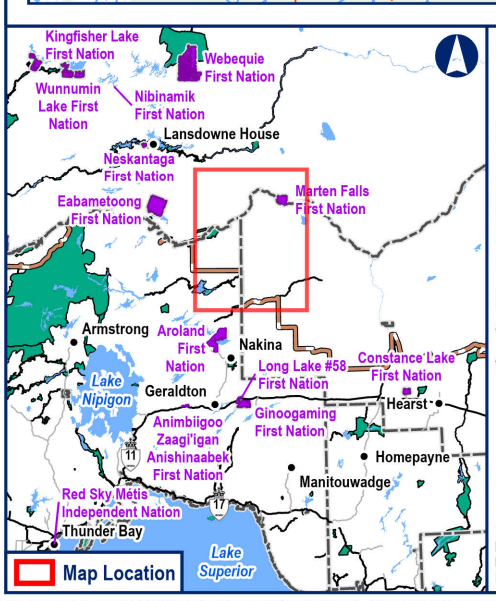
6.1 Alternative Segments and Routes Within Each Segment

To simplify the evaluation of the alternatives, they were divided into three separate segments based on their geographical locations (**Figure 6-1**). The segments were determined so that any alternative route in one segment could connect with any alternative route in the next segment, allowing for decisions to be made based on the environment in each segment and not based on the whole. This approach considers the variable environmental conditions within the Project Study Area, allowing for flexibility to avoid sensitive natural features encountered within the Construction Disturbance Area for each segment instead of requiring decision makers to balance trade-offs of one long route versus the other.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Route Alternatives and Segments





Legend

- Segment Node
- Project Study Area
- Segment 1
- Segment 2
- Segment 3

Construction Disturbance Area

Route Alternatives (100 m Right-of-Way)

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons (108 m x 150 m)
- 200 Persons (108 m x 150 m)
- Approximate Access Road to Potential Construction Camp (10 m Width)

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site (10 m Width)

General Features

- Resource / Recreation Road
- MFFN Existing Winter Access Road
- Watercourse
- Waterbody
- First Nation Reserve
- District Municipal Boundary
- Far North Boundary
- Provincial Park

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Government Licence Ontario.

Notes:
First Nation Reserves of MFFN CAR Neighboring Indigenous Communities are shown within the inset extent.

0 5 10 20
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

January 2026 | 1:450,000 * when printed 11"x17"

Rev:00

Figure 6-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: Queen's Printer of Ontario 2020), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: L:\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2024\EA-IS\PRJ_MFCAR_EA-IS_60593122.aprx Figure: MAP_Fig6-1_MFCAR_RouteAlternatives_60593122
Date Saved: 2026-01-21 6:05 AM User Name: paige.crossman

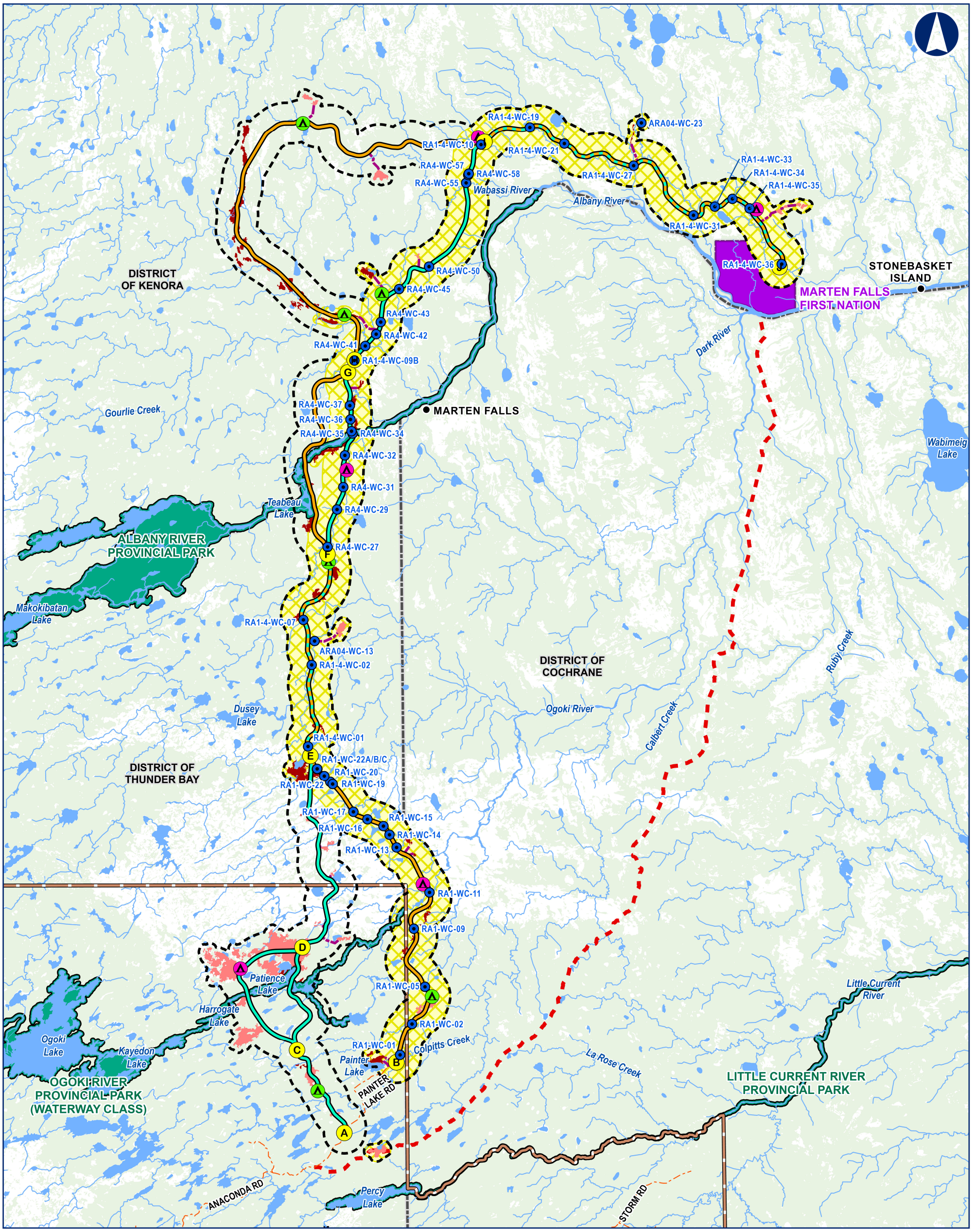
6.2 Preferred Route

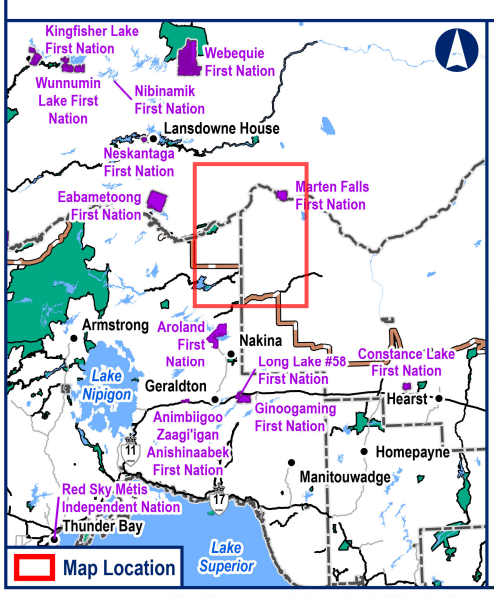
The selection of the preferred route within each segment involved a thorough analysis of technical, economic, natural, social, and cultural factors. The route alternative evaluation considered the potential effects and standard or known mitigation approaches to determine the net positive or negative effects of each alternative; it was completed using the reasoned argument (trade-off) method. The reasoned argument method qualitatively compares the advantages and disadvantages of each alternative including the relative significance of the potential residual effects.

After completing the steps outlined above, obtaining direction from the community of Marten Falls First Nation and Aroland First Nation, and collecting input from the public and regulators, the Proponent identified a preferred route alignment for each segment.

- **Segment 1**—Ogoki Crossing: Alternative 1;
- **Segment 2**—Albany Crossing: Alternative 4; and
- **Segment 3**—North of the Albany: Alternative 4.

The combination of segments 1, 2, and 3 create the final Preferred Route (**Figure 6-2**).





Legend

- Water Crossing
- Segment Node (A)
- Project Study Area
- Final Route Recommendation

Construction Disturbance Area

Route Alternatives (100 m Right-of-Way)

- Alternative 1
- Alternative 4

N/A

- Alternative 1 and Alternative 4

Potential Camp Site

- 50 Persons (108 m x 150 m)
- 200 Persons (108 m x 150 m)

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site (10 m Width)

General Features

- Resource / Recreation Road
- MFFN Existing Winter Access Road
- Watercourse
- Waterbody
- First Nation Reserve
- District Municipal Boundary
- Far North Boundary
- Provincial Park

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Government Licence Ontario.

Notes:
First Nation Reserves of MFFN CAR Neighboring Indigenous Communities are shown within the inset extent.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Final Route Recommendation

0 5 10 20
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

January 2026 | 1:450,000 * when printed 11"x17"

Rev:00

Figure 6-2

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2020), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: \\na.aecomnet.com\LFS\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2024\Route Recommendation\PRJ_MFCAR_Final Route Recommendation_60593122.aprx Figure: MAP_Fig6-2_MFCAR_PerferredRouteWatercrossings_60593122
Date Saved: 2026-01-22 9:07 AM User Name: paige.crossman

7 Residual Effects Assessment

Effects assessment results are provided for the Preferred Route, with consideration of the temporal boundaries of the Project as described in **Section 4.2.1**. This includes the potential effects (positive and negative), mitigation and enhancement measures, and an assessment of residual effects.

7.1 Summary of the Existing Environment Within the Effects Study Areas

Existing conditions were established for groundwater within the effects assessment Construction Disturbance Area, Local Study Area, and Regional Study Area for the Preferred Route (**Table 7-1**). These data have been used to establish a description of the existing conditions for the Effects Assessment.

Table 7-1: Summary of Valued Component and Indicator Existing Conditions Results

Valued Component	Indicator	Local Study Area	Regional Study Area
Groundwater	Groundwater Quality	■ Some groundwater samples exceeded drinking water guidelines for metals parameters. ■ Some groundwater samples exceeded water quality guidelines for metals and volatile organic compounds parameters. ■ Some groundwater samples exceeded aesthetic and operational guidelines for metals and general groundwater quality parameters. ■ Filtered samples for dissolved metals had reduced concentrations compared to unfiltered total metals samples due to the influence of particulates in the samples. ■ Most parameter concentrations were stable over time and similar	■ Some groundwater samples exceeded drinking water guidelines for metals parameters. ■ Some groundwater samples exceeded water quality guidelines for metals and volatile organic compounds parameters. ■ Some groundwater samples exceeded aesthetic and operational guidelines for metals and general groundwater quality parameters. ■ Filtered samples for dissolved metals had reduced concentrations compared to unfiltered total metals samples due to the influence of particulates in the samples. ■ Most parameter concentrations were stable over time and similar

Valued Component	Indicator	Local Study Area	Regional Study Area
		between monitoring wells, but for many parameters a few monitoring wells had elevated concentrations relative to the rest of the monitoring wells. ■ A few monitoring wells were noted to have potentially increasing trends in concentrations of some metals. ■ Exceedances of iron, manganese and hardness guidelines were common in groundwater samples and also noted in previous regional groundwater studies and the Project surface water study.	between monitoring wells, but for many parameters a few monitoring wells had elevated concentrations relative to the rest of the monitoring wells. ■ A few monitoring wells were noted to have potentially increasing trends in concentrations of some metals. ■ Exceedances of iron, manganese and hardness guidelines were common in groundwater samples and also noted in previous regional groundwater studies and the Project surface water study.
	Groundwater Quantity	■ Groundwater is typically encountered near ground surface across the Study Area (0 – 2 mbgs) with a few locations observing groundwater levels greater than 5 mbgs and up to 10 mbgs. ■ Observed horizontal hydraulic gradients and corresponding groundwater velocities were low, with gradients ranging from 0.002 to 0.045 and conductivities ranging from 1×10^{-1} to 3×10^{-4} m/d. ■ Groundwater recharge estimates for the Study Area ranged from 44 to 63 mm/yr. Most groundwater recharge is expected to occur in areas with permeable surficial geology.	■ Groundwater is typically encountered near ground surface across the Study Area (0 – 2 mbgs) with a few locations observing groundwater levels greater than 5 mbgs and up to 10 mbgs. ■ Observed horizontal hydraulic gradients and corresponding groundwater velocities were low, with gradients ranging from 0.002 to 0.045 and conductivities ranging from 1×10^{-1} to 3×10^{-4} m/d. ■ Groundwater recharge estimates for the Study Area ranged from 44 to 63 mm/yr. Most groundwater recharge is expected to occur in areas with permeable surficial geology.

Notes: mbgs = metres below ground surface; m/d = metre per day; mm/yr = millimetre per year.

7.2 Project–Environment Interactions

The analysis of Project–environment interactions for groundwater that are likely to have a potential effect is provided in **Table 7-2**.

Table 7-2: Project–Environment Interactions

Project Phase	Project Activities	Indicator	Description of Project–Environment Interaction
Construction Phase	■ Temporary construction staging areas ■ Temporary access roads and trails ■ Temporary construction camps ■ Right-of-way clearing and grubbing ■ Pits and quarries ■ Temporary concrete batch plants ■ Drilling, blasting, and / or aggregate production ■ Road construction (stripping, subgrade excavation, embankment fill placement, grading, and ditching) ■ Bridge and culvert installation (approach embankments, foundations, substructures, superstructures, traffic protection, and erosion controls) ■ Temporary dewatering of excavations ■ Construction site restoration ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act* ■ Decommissioning of temporary camps, roads, trails, and staging areas	■ Groundwater quantity ■ Groundwater quality	The overall effects due to Project–environment interaction during the Construction Phase can be summarized as follows: ■ Changes to groundwater quantity due to short-term water takings; ■ Changes to groundwater quantity due to reduced or increased recharge; ■ Changes to groundwater quantity due to pit or quarry dewatering; ■ Changes to groundwater quantity due to road construction in peatland areas; ■ Changes to groundwater quality due to accidental spills and leaks; ■ Changes to groundwater quality due to construction wastes and wastewater discharges; ■ Changes to groundwater quality due to blasting residues; and ■ Changes to groundwater quality due to exposure of acid-generating or metal leaching materials.

Project Phase	Project Activities	Indicator	Description of Project–Environment Interaction
Operation and Maintenance Phase	■ Operate the preferred route ■ Maintain the preferred route	■ Groundwater quantity ■ Groundwater quality	The overall effects due to Project–environment interaction during the Operation and Maintenance Phase can be summarized as follows: ■ Changes to groundwater quantity due to short-term water takings; ■ Changes to groundwater quantity due to reduced or increased recharge; ■ Changes to groundwater quantity due to pit or quarry dewatering; ■ Changes to groundwater quantity due to road construction in peatland areas; ■ Changes to groundwater quality due to accidental spills and leaks; ■ Changes to groundwater quality due to blasting residues; ■ Changes to groundwater quality due to exposure of acid-generating or metal leaching materials; and ■ Changes to groundwater quality due to road maintenance.

Notes:
Temporary construction staging areas, access roads, construction camps, and pits and quarries activities include construction and use of this equipment or infrastructure.
Maintenance of the route includes general maintenance activities (e.g., grading, erosion control, quarrying, and pits and quarries), seasonal maintenance activities (e.g., snow clearing and bridge and culvert maintenance), and special maintenance activities (e.g., slope failures and road settlement / break-up).

7.3 Potential Effects, Mitigation and Enhancement Measures, and Predicted Residual Effects

This section presents the potential effects, appropriate mitigation and enhancement measures, and predicted residual Project effects for groundwater. A summary of the potential effects, mitigation and enhancement measures, and residual effects is presented in **Table 7-3**. Residual effects are brought forward for characterization into **Section 7.4** and into the cumulative effects assessment in **Section 8**.

7.3.1 Groundwater Quantity During Construction

The potential effects of the Project on groundwater quantity during the Construction Phase are presented below, along with the associated mitigation and enhancement measures and the predicted residual effects.

7.3.1.1 Changes to Groundwater Quantity Due to Short-Term Water Takings

Potential Effects

During the Project Construction Phase, short-term water takings from groundwater sources may be required for the installation of below ground structures, such as footings or culverts, or for water supply to temporary construction camps or temporary concrete batch plants. These water takings may cause a lowering of the local groundwater levels which could reduce the groundwater quantity available for natural receptors such as vegetation and groundwater-fed waterbodies.

Mitigation and Enhancement Measures

Any water takings of greater than 50,000 litres per day (L/day) will be registered with or permitted by the Ministry of the Environment, Conservation and Parks through the Environmental Activity and Sector Registry or Permit to Take Water programs. These programs will require site-specific studies and assessments of the water takings and any potential effects and mitigation measures. During the permitting and detailed design stage of the Project, the Ministry of the Environment, Conservation and Parks should be consulted to establish the permits required and the preferred permitting processes to be used by the Project.

Short-term water takings for below-ground construction purposes will be designed to remove the minimum practical water volumes to allow construction to proceed safely. The water removed from the construction area will be treated as required and returned to the local watershed and allowed to infiltrate the ground to replenish most of the groundwater volumes removed for construction. Where required, this discharge will be permitted by the Ministry of the Environment, Conservation and Parks under an Environmental Compliance

Approval for sewage works. Sheet piling and other methods of reducing groundwater inflow to construction excavations will be employed where practical so that pumping of groundwater is minimized.

If groundwater is taken for the water supplies of temporary construction camps or temporary concrete batch plants, hydrogeological studies will be performed to confirm that the groundwater resources in the area are of sufficient quality and quantity for the purpose and that any adverse residual effects are avoided or mitigated. Potential mitigation measures could include treating and returning wastewater to the local environment to minimize changes to the local water balance, and use of water efficient processes, fixtures, or systems to reduce the water taking requirements. Groundwater monitoring should be conducted where permit requirements or site-specific hydrogeological studies indicate.

Predicted Residual Effects

Based on the mitigation measures described above it is expected that the residual effects on groundwater quantity due to short-term water takings will be minimized and no residual effects are carried forward.

7.3.1.2 Changes to Groundwater Quantity Due to Reduced or Increased Recharge

Potential Effects

Construction of the Project will result in changes to ground cover and topography. These changes could result in groundwater recharge rates being increased or decreased, which could affect local groundwater levels. Clearing of the effects assessment Construction Disturbance Area, and construction of the road surface and temporary access roads, laydown areas, temporary construction camps, and pits and quarries, will remove much of the vegetative cover and result in gravelled surfaces placed in much of the effects assessment Construction Disturbance Area. These gravelled surfaces may result in different infiltration rates for precipitation relative to the pre-construction conditions. In places where the Project results in lower infiltration rates and higher runoff rates, the runoff may be directed to, and collected, in areas where it is allowed to infiltrate. This may keep the overall recharge rates in the area similar to pre-construction but may cause locally higher or lower rates which may affect local groundwater levels. On a larger scale, the Construction Disturbance Area (4,700 ha) represents less than 4% of the area of the Regional Study Area (126,290 ha) and any changes to infiltration and groundwater recharge are not expected to exceed seasonal variations or be measurable on the regional scale.

Mitigation and Enhancement Measures

Drainage of the Community Access Road and the temporary access roads, laydown areas, construction camps, and pits or quarries should allow for infiltration of the water to the local ground surface to maintain groundwater recharge rates similar to the surrounding undisturbed areas. Some applicable Best Management Practices for drainage management can be found in the Ontario Ministry of Transportation's *Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects* (Ministry of Transportation, 2015) and the Ontario Ministry of Natural Resources' *Environmental Guidelines for Access Roads and Water Crossings* (Ministry of Natural Resources, 1990). Where treatment of runoff is required, infiltration should only be allowed after the treatment to avoid contamination of the groundwater. Infiltration areas should not be located near slopes or sensitive vegetation communities that could be negatively impacted by raised groundwater levels. Remediation of construction sites should seek to restore the ground cover, topography, and vegetation cover of the site to match pre-disturbance conditions.

Predicted Residual Effects

Based on the mitigation measures described above it is expected that the residual effects on groundwater quantity due to reduced or increased recharge will be minimized and no residual effects are carried forward.

7.3.1.3 Changes to Groundwater Quantity Due to Pit or Quarry Dewatering

Potential Effects

If aggregates are extracted from below the water table at pits or quarries, the local groundwater levels would be lowered either by active dewatering or dredging. Active dewatering of aggregate pits or quarries would likely take place using a sump to collect water in the bottom of the pit or quarry and pumping the water out of the sump to discharge outside the pit / quarry area. Dredging would lower groundwater levels to a lesser degree than dewatering. When aggregate material is dredged from below the water table groundwater flows into the pit to fill the volume resulting from the aggregate removal.

Mitigation and Enhancement Measures

Any aggregate pits or quarries to be developed as part of Project construction will be permitted under the *Ontario Aggregate Resources Act* (Government of Ontario, 1990a). As part of the permitting, site specific technical studies will be carried out, including hydrogeological studies for aggregate pits and quarries that will extract from below the water table. These permitting studies will further assess the risks of adverse effects due to the pit / quarry operation at each proposed pit / quarry site as well as establish the rehabilitation plans for each site.

Any water takings of greater than 50,000 L/day will be permitted by the Ministry of the Environment, Conservation and Parks through the Permit to Take Water program. The Permit to Take Water program will require site-specific studies and assessments of the water takings and any potential effects and mitigation measures to be implemented.

All water takings from Project aggregate pits and quarries should be recorded at least daily and water that is pumped out of aggregate pits and quarries should be discharged back to the local environment and allowed to infiltrate and / or run off to a waterbody capable of incorporating the discharge. This discharge will be permitted by the Ministry of the Environment, Conservation and Parks under an Environmental Compliance Approval for sewage works. The discharge should also be treated to remove sediments and monitored to help confirm no deleterious substances are discharged to the environment. Wherever possible, if the water taking from a pit / quarry is likely to reduce water levels in an aquifer, the water discharge from the pit / quarry should be directed back to the environment in a way that allows it to recharge the affected aquifer and limits the groundwater level reductions.

Groundwater monitoring at aggregate pits and quarries that extend below the water table should be carried out in accordance with the monitoring plans in **Section 9** and any permit requirements.

Predicted Residual Effects

With the application of the above mitigation and enhancement measures it is expected that the residual effects from changes to groundwater quantity due to pit or quarry dewatering will be minimized; however, measurable changes to groundwater levels are still considered possible so this residual effect is carried forward for further assessment.

7.3.1.4 Changes to Groundwater Quantity Due to Road Construction in Peatland Areas

Potential Effects

The construction of roads across peatland areas has the potential to interrupt groundwater flows through the peatland which could cause changes to the availability of groundwater to peatlands upgradient and downgradient of the Community Access Road. Changes to groundwater availability can affect the growth and health of peat and other vegetation in peatland areas.

Mitigation and Enhancement Measures

The construction of roads across peatland areas should allow for the flow of groundwater through the peat to be maintained as close to pre-construction rates as practical. This can be done by building culverts beneath the Community Access Road to permit water flow

and equalize water levels across the road and constructing the roadbed with permeable materials that allow water to seep through.

To help confirm that groundwater flows beneath the road are maintained, a groundwater monitoring program should be implemented to measure groundwater levels on each side of the road in areas where the road crosses peatland. This monitoring program should be maintained for several years following construction to help confirm that long-term settlement and sedimentation do not significantly restrict groundwater flows over time.

Predicted Residual Effects

Based on the mitigation measures described above it is expected that the residual effects on groundwater quantity due to road construction in peatland areas will be minimized; however, measurable changes to groundwater levels are still considered possible so this residual effect is carried forward for further assessment.

7.3.2 Groundwater Quality During Construction

The potential effects of the Project on groundwater quality during the Construction Phase are presented below along with the associated mitigation and enhancement measures and the predicted residual effects.

7.3.2.1 Changes to Groundwater Quality Due to Accidental Spills and Leaks

Potential Effects

Equipment used in the construction of the Project will have the potential for malfunctions to cause leaks of fuels, oils, lubricants, coolants, and other potential contaminants. Storage and transfer of fuels and other chemicals in the effects assessment Construction Disturbance Area during the Construction Phase also pose a risk of accidental spills. These accidental spills and leaks may contact the ground and migrate to the water table causing contamination of the groundwater. Both Marten Falls First Nation and Fort Albany First Nation have highlighted the potential for groundwater contamination as a result of spills / pollution as a concern (Firelight Research Inc., 2024; Marten Falls First Nation, 2023).

Mitigation and Enhancement Measures

A Project-wide Spill Prevention and Emergency Response Plan should be implemented, detailing how spills and leaks will be prevented, detected, controlled, and remediated in accordance with the Environmental Protection Act (Government of Ontario, 1990c). All employees working with equipment at risk of spills or leaks will be trained on the Spill Prevention and Emergency Response Plan. All machinery and equipment used on the Project will be regularly inspected to maintain proper function and avoid any fluid leaks. High-risk activities such as fuelling will be done only in designated areas where secondary containment and adequate spill response supplies are available. If fuelling has to be

conducted outside of designated areas, temporary secondary containment should be used and adequate spill response supplies should be present. Fuels and other chemicals used for the Project should be stored and handled according to applicable regulations and guidelines such as the *Technical Standards and Safety Act* (Government of Ontario, 2000) and the *Transportation of Dangerous Goods Act* (Government of Canada, 1992).

Predicted Residual Effects

Based on the mitigation measures described above it is expected that the residual effects on groundwater quality due to accidental spills and leaks will be minimized and no residual effects are carried forward.

7.3.2.2 Changes to Groundwater Quality Due to Construction Waste and Wastewater Discharges

Potential Effects

Runoff from waste and wastewater from construction activities has the potential to infiltrate the ground and affect groundwater quality. Potential sources of construction waste and wastewater include equipment maintenance, concrete plants, laydown areas, and construction camps.

Mitigation and Enhancement Measures

A Waste Management Plan will be implemented for the Project to detail how Project wastes will be handled, stored, and disposed of. All staff working on the Project will be trained in and aware of the Project's Waste Management Plan. Wastes generated by Project activities will be kept in designated containment areas according to applicable legislation (e.g., *Ontario Regulation 347*) until removed for final disposal. Any waste storage should be protected from precipitation contact that could cause contaminated runoff.

Wastewater will be treated to meet provincial water quality guidelines such as *Provincial Water Quality Objectives* set by the Ontario Ministry of Environment and Energy (now Environment, Conservation and Parks) (1994) and monitored to help confirm that it continues to meet the guidelines. Discharges should be permitted where required under Environmental Compliance Approvals issued by the Ontario Ministry of the Environment, Conservation and Parks.

Predicted Residual Effects

With the application of the above mitigation measures it is expected that the residual effects from changes to groundwater quality due to construction wastes and wastewater discharges will be minimized; however, measurable changes to groundwater quality are still considered possible so this residual effect is carried forward for further assessment.

7.3.2.3 Changes to Groundwater Quality Due to Blasting Residues

Potential Effects

Explosives used for blasting of rock during road construction or quarrying may leave residues from incomplete reactions or water contact which can be washed away and infiltrated into groundwater causing degraded groundwater quality. The typical contaminants of concern for blasting residuals are nitrogen compounds and petroleum hydrocarbons (New Hampshire Department of Environmental Services, 2019).

Mitigation and Enhancement Measures

All blasting carried out for the Project should be carried out according to applicable regulations such as the *Explosives Act* (Government of Canada, 1985) and the *Transportation of Dangerous Goods Act* (Government of Canada, 1992) and according to the Project's Blasting and Communication Management Plan. The Blasting and Communication Management Plan should include guidelines for explosives handling, storage, and loading to minimize the exposure of explosives to the environment and minimize explosives residue after a blast. Regular monitoring of water quality in quarry sumps and downstream of blasting areas should be conducted and compared to action levels of contaminants of concern set based on regulatory guidelines (e.g., *Provincial Water Quality Objectives* set by the Ontario Ministry of Environment and Energy (now Environment, Conservation and Parks) (1994) and the sensitivity of downstream receptors. Post-blast inspections will also be carried out regularly to determine if there are any issues with the blast designs being used or any evidence of undetonated explosives remaining.

Predicted Residual Effects

With the application of the above mitigation measures it is expected that the residual effects from changes to groundwater quality due to blasting residues will be minimized; however, measurable changes to groundwater quality are still considered possible so this residual effect is carried forward for further assessment.

7.3.2.4 Changes to Groundwater Quality Due to Exposure of Acid-Generating or Metal Leaching Materials

Potential Effects

Some rocks and aggregate materials may generate acidic compounds when exposed to the atmosphere through breaking up of larger deposits and / or excavating deposits from below the water table. The acidic compounds released have the potential to affect water quality and infiltrate into the groundwater. Water quality effects may include reduced pH levels and increased solubility and transport of some metals. The exposure and weathering of rocks and aggregates may also result in leaching of metals; however, the

initial geochemical characterization (**Attachment B**) indicates that the potential for leaching of metal from non-potentially acid generating materials is low.

Mitigation and Enhancement Measures

A monitoring program will be developed to complete further geochemical testing prior to construction in areas where road construction will expose bedrock or soils below the ground surface and where aggregate materials will be sourced from. The monitoring program should collect representative samples of bedrock and / or soils from the at-risk areas and analyze them for acid-generating potential.

If any areas of concern, such as those assessed to have moderate or high acid rock drainage potential (see **Attachment B** for further details), are identified and confirmed by the geochemical monitoring program, then excavation should be avoided at those areas, if possible. If excavation of an area of concern cannot be avoided then a site specific mitigation plan will be developed and implemented to contain and control the potential acid rock drainage material.

Predicted Residual Effects

Based on the mitigation measures described above it is expected that the residual effects on groundwater quality due to exposure of acid-generating or associated metal leaching materials will be minimized and no residual effects are carried forward.

7.3.3 Groundwater Quantity During Operation and Maintenance

7.3.3.1 Changes to Groundwater Quantity Due to Short-Term Water Takings

Potential Effects

During the Project Operation and Maintenance Phase, short-term water takings from groundwater sources may be required for the repair of below ground structures such as footings or culverts. These water takings may cause a lowering of the local groundwater levels which could reduce the groundwater quantity available for natural receptors such as vegetation and groundwater-fed waterbodies.

Mitigation and Enhancement Measures

Any water takings of greater than 50,000 L/day will be registered with or permitted by the Ministry of the Environment, Conservation and Parks through the Environmental Activity and Sector Registry or Permit to Take Water programs. These programs will require site-specific studies and assessments of the water takings and any potential effects and mitigation measures. The Ministry of the Environment, Conservation and Parks should be consulted to establish the permits required and the preferred permitting processes to be used by the Project.

Short-term water takings for below-ground construction purposes will be designed to remove the minimum practical water volumes to allow construction to proceed safely. The water removed from the construction area will be treated as required and returned to the local watershed and allowed to infiltrate the ground to replenish most of the groundwater volumes removed for construction. Where required, this discharge will be permitted by the Ministry of the Environment, Conservation and Parks under an Environmental Compliance Approval for sewage works. Sheet piling and other methods of reducing groundwater inflow to construction excavations will be employed where practical so that pumping of groundwater is minimized. Groundwater monitoring should be conducted where permit requirements or site-specific hydrogeological studies indicate.

Predicted Residual Effects

Based on the mitigation measures described above it is expected that the residual effects on groundwater quantity due to short-term water takings will be minimized and no residual effects are carried forward.

7.3.3.2 Changes to Groundwater Quantity Due to Reduced or Increased Recharge

Potential Effects

Construction of the Project will result in changes to ground cover and topography. These changes could result in groundwater recharge rates being increased or decreased, which could affect local groundwater levels. Clearing of the effects assessment Construction Disturbance Area and construction of the road surface and temporary access roads, laydown areas, temporary construction camps, and pits and quarries will remove much of the vegetative cover and result in gravelled surfaces placed in much of the effects assessment Construction Disturbance Area. These gravelled surfaces may result in different infiltration rates for precipitation relative to the pre-construction conditions. In places where the Project results in lower infiltration rates and higher runoff, rates the runoff may be directed to, and collected, in areas where it is allowed to infiltrate.

Areas that were changed during the Construction Phase but not maintained for use are expected to gradually return to similar to existing conditions through active or passive restoration processes. In remaining areas, these changes to groundcover will persist during road operation for the road right-of-way and any access roads, laydown areas, or pits and quarries maintained or re-activated for use during the Operation and Maintenance Phase. This may cause locally higher or lower rates, which may affect local groundwater levels. Due to the reduced area of disturbance (less than 4% of the Regional Study Area) persisting through the Operation and Maintenance Phase relative to the Construction Disturbance Area, the overall recharge rates in the Regional Study Area are expected to be within the range of seasonal variation and not measurable.

Mitigation and Enhancement Measures

Drainage of the Community Access Road and the temporary access roads, laydown areas, construction camps, and pits or quarries should allow for infiltration of the water to the local ground surface to maintain groundwater recharge rates similar to the surrounding undisturbed areas. The mitigation measures established during Project construction will be maintained during the Operation and Maintenance Phase according to the Best Management Practices employed. Where treatment of runoff is required, infiltration should only be allowed after the treatment to avoid contamination of the groundwater. Remediation of construction sites should seek to restore the ground cover, topography, and vegetation cover of the site to match pre-disturbance conditions.

Predicted Residual Effects

Based on the mitigation measures described above, it is expected that the residual effects on groundwater quantity due to reduced or increased recharge will be minimized, and no residual effects are carried forward.

7.3.3.3 Changes to Groundwater Quantity Due to Pit or Quarry Dewatering

Potential Effects

If aggregates are extracted from below the water table at pits or quarries, the local groundwater levels would be lowered either by active dewatering or dredging. Active dewatering of aggregate pits or quarries would likely take place using a sump to collect water in the bottom of the pit or quarry and pumping the water out of the sump to discharge outside the pit / quarry area. Dredging would lower groundwater levels to a lesser degree than dewatering. When aggregate material is dredged from below the water table groundwater flows into the pit to fill the volume resulting from the aggregate removal.

Mitigation and Enhancement Measures

Any aggregate pits or quarries to be maintained or developed as part of Project operation and maintenance will be permitted under the *Ontario Aggregate Resources Act* (Government of Ontario, 1990a). As part of the permitting, site specific technical studies will be carried out, including hydrogeological studies for aggregate pits and quarries that will extract from below the water table. These permitting studies will further assess the risks of adverse effects due to the pit / quarry operation at each proposed pit / quarry site as well as establish the rehabilitation plans for each site.

Any water takings of greater than 50,000 L/day will require a permit by the Ministry of the Environment, Conservation and Parks through the Permit to Take Water program. The Permit to Take Water program will require site-specific studies and assessments of the water takings and any potential effects and mitigation measures to be implemented.

All water takings from Project aggregate pits and quarries should be recorded at least daily and water that is pumped out of aggregate pits and quarries should be discharged back to the local environment and allowed to infiltrate and / or run off to a waterbody capable of incorporating the discharge. This discharge will require a permit by the Ministry of the Environment, Conservation and Parks under an Environmental Compliance Approval for sewage works. The discharge should also be treated to remove sediments and monitored to help confirm no deleterious substances are discharged to the environment. Wherever possible, if the water taking from a pit / quarry is likely to reduce water levels in an aquifer, the water discharge from the pit / quarry should be directed back to the environment in a way that allows it to recharge the affected aquifer and limits the groundwater level reductions.

Groundwater monitoring at aggregate pits and quarries that extend below the water table should be carried out in accordance with the monitoring plans in **Section 9** and any permit requirements.

Predicted Residual Effects

With the application of the above mitigation and enhancement measures it is expected that the residual effects from changes to groundwater quantity due to pit or quarry dewatering will be minimized; however, measurable changes to groundwater levels are still considered possible so this residual effect is carried forward for further assessment.

7.3.4 Groundwater Quality During Operation and Maintenance

7.3.4.1 Changes to Groundwater Quality Due to Accidental Spills and Leaks

Potential Effects

Equipment and vehicles used during the Operation and Maintenance Phase of the Project will have the potential for malfunctions or accidents to cause leaks of fuels, oils, lubricants, coolants, and other potential contaminants. Storage and transfer of fuels and other chemicals in the effects assessment Construction Disturbance Area during the Operation and Maintenance Phase and maintenance also pose a risk of accidental spills. These accidental spills and leaks may contact the ground and migrate to the water table causing contamination of the groundwater.

Mitigation and Enhancement Measures

A Spill Prevention and Emergency Response Plan should be implemented for the Operation and Maintenance Phase detailing how spills and leaks will be prevented, detected, controlled, and cleaned up in accordance with the Environmental Protection Act (Government of Ontario, 1990c). All staff working with equipment at risk of spills or leaks should be trained on the spill prevention and response plan. All machinery and equipment

used on the Project will be regularly inspected to maintain proper function and avoid any fluid leaks. High risk activities such as fuelling will be done only in designated areas where secondary containment and adequate spill containment measures are available. If fuelling has to be conducted outside of designated areas, temporary secondary containment will be used, and adequate spill containment supplies should be present. Fuels and other chemicals used for the Project should be stored and handled according to applicable regulations and guidelines such as the *Technical Standards and Safety Act* (Government of Ontario, 2000) and the *Transportation of Dangerous Goods Act* (Government of Canada, 1992).

The Community Access Road will be maintained in accordance with the Ontario Ministry of Transportation's *Maintenance Manual* (2003) and other provincial standards for an all-season road and the levels of traffic using it. Maintaining the road for safe, all-season use will reduce the risk of accidents and associated spills.

Predicted Residual Effects

Based on the mitigation measures described above it is expected that the residual effects on groundwater quality due to accidental spills and leaks will be minimized and no residual effects are carried forward.

7.3.4.2 Changes to Groundwater Quality Due to Blasting Residues

Potential Effects

Explosives used for blasting of rock during quarrying may leave residues from incomplete reactions or water contact which can be washed away and infiltrated into groundwater causing degraded groundwater quality. The typical contaminants of concern for blasting residuals are nitrogen compounds and petroleum hydrocarbons (New Hampshire Department of Environmental Services, 2019).

Mitigation and Enhancement Measures

All blasting carried out for the Project will be carried out according to applicable regulations such as the *Explosives Act* (Government of Canada, 1985) and the *Transportation of Dangerous Goods Act* (Government of Canada, 1992) and according to the Project's Blasting and Communication Management Plan. The Blasting and Communication Management Plan will include guidelines for explosives handling, storage, and loading to minimize the exposure of explosives to the environment and minimize explosives residue after a blast. Regular monitoring of water quality in quarry sumps should be conducted and compared to action levels of contaminants of concern set based on regulatory guidelines (e.g., *Provincial Water Quality Objectives* set by the Ontario Ministry of Environment and Energy (now Environment, Conservation and Parks) (1994) and the sensitivity of downstream receptors. Post-blast inspections will also be carried out regularly to

determine if there are any issues with the blast designs being used or any evidence of undetonated explosives remaining.

Predicted Residual Effects

With the application of the above mitigation measures it is expected that the residual effects from changes to groundwater quality due to blasting residues will be minimized; however, measurable changes to groundwater quality are still considered possible so this residual effect is carried forward for further assessment.

7.3.4.3 Changes to Groundwater Quality Due to Exposure of Acid-Generating or Metal Leaching Materials

Potential Effects

Some rocks and aggregate materials may generate acidic compounds when exposed to the atmosphere through breaking up of larger deposits and / or excavating deposits from below the water table. The acidic compounds released have the potential to affect water quality and infiltrate into the groundwater. Water quality effects may include reduced pH levels and increased solubility and transport of some metals. The exposure and weathering of rocks and aggregates may also result in leaching of metals; however, the initial geochemical characterization (**Attachment B**) indicates that the potential for leaching of metal from non-potentially acid generating materials is low.

Mitigation and Enhancement Measures

A monitoring program will be developed to complete further geochemical testing where aggregate materials will be sourced from. The monitoring program should collect representative samples of bedrock and / or soils from the at-risk areas and analyze them for acid-generating potential.

If any areas of concern, such as those assessed to have moderate or high acid rock drainage potential (see **Attachment B** for further details), are identified and confirmed by the geochemical monitoring program, then excavation should be avoided at those areas, if possible. If excavation of an area of concern cannot be avoided then a site specific mitigation plan will be developed and implemented to contain and control the potential acid rock drainage material.

Predicted Residual Effects

Based on the mitigation measures described above, it is expected that the residual effects on groundwater quality due to exposure of acid-generating or associated metal leaching materials will be minimized, and no residual effects are carried forward.

7.3.4.4 Changes to Groundwater Quality Due to Road Maintenance

Potential Effects

Maintenance of the Community Access Road may involve the use of chemicals such as calcium chloride and magnesium chloride for dust control. These chemicals may be washed off the road by precipitation and snowmelt and may infiltrate into the groundwater, causing changes to the groundwater quality such as increased chloride levels.

Mitigation and Enhancement Measures

Road maintenance will be carried out according to best management practices, such as those outlined by *Best Practices for the Use and Storage of Chloride-Based Dust Suppressant* (Environment Canada, 2007). These best practices include methods for increasing the effectiveness of the chemicals applied to the Community Access Road to reduce overall usage amounts, proper handling, and storage of the chemicals to limit environmental exposure outside of use, and monitoring usage and performance to adapt to local conditions. Alternative chemicals or methods for dust control that pose lower risks of runoff and infiltration to groundwater should also be considered for implementation.

Predicted Residual Effects

With the application of the above mitigation measures, it is expected that the residual effects from changes to groundwater quality due to road maintenance will be minimized; however, measurable changes to groundwater quality are still considered possible so this residual effect is carried forward for further assessment.

7.3.5 Summary of Potential Effects, Mitigation and Enhancement Measures, and Identification of Residual Effects

Table 7-3 summarizes the potential effects due to Project–environment interactions the Construction and Operation and Maintenance Phases of the Project, mitigation and enhancement measures, and residual effects identified in the sections above.

Table 7-3: Summary of Potential Effects, Mitigation and Enhancement Measures, and Predicted Residual Effects on Groundwater

Valued Component	Project Activities	Project Phase	Description of Potential Effect	Mitigation and Enhancement Measures	Predicted Residual Effect
Groundwater	■ Temporary access roads and trails ■ Temporary construction camps ■ Pits and quarries ■ Temporary concrete batch plants ■ Drilling, blasting, and / or aggregate production ■ Road construction (stripping, subgrade excavation, embankment fill placement, grading, and ditching) ■ Bridge and culvert installation (approach embankments, foundations, substructures, superstructures, traffic protection, and erosion controls)	Construction	Changes to groundwater quantity due to short-term water takings	■ Permit or register water takings of more than 50,000 L/day with the Ministry of the Environment, Conservation and Parks Permit to Take Water or Environmental Activity and Sector Registry programs. ■ Design construction dewatering to minimize the amount of groundwater that has to be extracted. ■ Groundwater removed from construction areas should be discharged locally and allowed to infiltrate the ground, subject to Environmental Compliance Approval by the Ministry of the Environment, Conservation and Parks. ■ Conduct site-specific hydrogeological studies for any groundwater sourced water supplies used for Project construction. ■ Where possible, treated wastewater from groundwater sources should be returned to the local environment and allowed to infiltrate the ground to reduce the net taking of groundwater, subject to Environmental Compliance Approval by the Ministry of the Environment, Conservation and Parks. ■ Efficient water processes, fixtures and systems to be used where practical to reduce water taking requirements. ■ Groundwater monitoring to be conducted where required by permits or site-specific hydrogeological studies.	No predicted residual effect

Valued Component	Project Activities	Project Phase	Description of Potential Effect	Mitigation and Enhancement Measures	Predicted Residual Effect
	■ Operation, usage, and maintenance of the right-of-way and permanent access roads	Operation and Maintenance		■ Permit or register water takings of more than 50,000 L/day with the Ministry of the Environment, Conservation and Parks Permit to Take Water or Environmental Activity and Sector Registry programs. ■ Design construction dewatering to minimize the amount of groundwater that has to be extracted. ■ Where possible, treated wastewater from groundwater sources should be returned to the local environment and allowed to infiltrate the ground to reduce the net taking of groundwater, subject to Environmental Compliance Approval by the Ministry of the Environment, Conservation and Parks. ■ Efficient water processes, fixtures and systems to be used where practical to reduce water taking requirements. ■ Groundwater monitoring to be conducted where required by permits or site-specific hydrogeological studies.	
Groundwater	■ Temporary construction staging areas ■ Temporary access roads and trails ■ Temporary construction camps ■ Right-of-way clearing and grubbing ■ Pits and quarries ■ Temporary concrete batch plants ■ Drilling, blasting, and / or aggregate production ■ Road construction (stripping, subgrade excavation, embankment fill placement, grading, and ditching) ■ Bridge and culvert installation (approach embankments, foundations, substructures, superstructures, traffic protection, and erosion controls) ■ Construction site restoration ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act* ■ Decommissioning of temporary camps, roads, trails, and staging areas	Construction	Changes to groundwater quantity due to reduced or increased recharge	■ Design Project drainage to allow for local infiltration of water. ■ Follow drainage best management practices such as those outlines in *Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects* (Ministry of Transportation, 2015) and *Environmental Guidelines for Access Roads and Water Crossings* (Ministry of Natural Resources, 1990). ■ Avoid infiltration of contaminated water or infiltration of water at locations that could be negatively impacted by raised groundwater levels. ■ Restore temporary construction infrastructure construction and sites to match pre-disturbance ground cover, topography, and vegetation conditions.	No predicted residual effect

Valued Component	Project Activities	Project Phase	Description of Potential Effect	Mitigation and Enhancement Measures	Predicted Residual Effect
	■ Operation, usage, and maintenance of the right-of-way and permanent access roads	Operation and Maintenance		■ Design Project drainage to allow for local infiltration of water. ■ Follow drainage best management practices such as those outlines in *Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects* (Ministry of Transportation, 2015) and *Environmental Guidelines for Access Roads and Water Crossings* (Ministry of Natural Resources, 1990). ■ Avoid infiltration of contaminated water or infiltration of water at locations that could be negatively impacted by raised groundwater levels. ■ Restore temporary construction infrastructure and sites to match pre-disturbance ground cover, topography, and vegetation conditions.	
Groundwater	■ Pits and quarries ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act*	Construction	Changes to groundwater quantity due to pit or quarry dewatering	■ All aggregate pits and quarries will be permitted by the Ministry of Natural Resources under the *Ontario Aggregate Resources Act* (Government of Ontario, 1990a) including technical studies to assess any extraction proposed below the water table. ■ Any aggregate pit or quarry dewatering in excess of 50,000 L/day will be permitted by a Permit to Take Water from the Ministry of the Environment, Conservation and Parks. A technical water taking assessment of potential effects and mitigation measures will be required for the permit application. ■ Industry best management practices for water taking from pits and quarries should be employed such as recording water takings volumes and times, discharging water back to the environment in a way that allows for replenishment of groundwater, on-site water re-use, and monitoring of discharge water quality. Discharge of water will be subject to Environmental Compliance Approval by the Ministry of the Environment, Conservation and Parks. ■ Groundwater monitoring programs to be established in accordance with permit requirements and Project monitoring plans.	Some residual effects may be possible even after application of the mitigation measures. The large volumes of groundwater taking typically associated with dewatering of aggregate pits and quarries may still result in measurable changes to groundwater levels.

Valued Component	Project Activities	Project Phase	Description of Potential Effect	Mitigation and Enhancement Measures	Predicted Residual Effect
	■ Pits and quarries ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act*	Operation and Maintenance		■ All aggregate pits and quarries will be permitted by the Ministry of Natural Resources under the *Ontario Aggregate Resources Act* (Government of Ontario, 1990a) including technical studies to assess any extraction proposed below the water table. ■ Any aggregate pit or quarry dewatering in excess of 50,000 L/day will be permitted by a Permit to Take Water from the Ministry of the Environment, Conservation and Parks. A technical water taking assessment of potential effects and mitigation measures will be required for the permit application. ■ Industry best management practices for water taking from pits and quarries should be employed such as recording water takings volumes and times, discharging water back to the environment in a way that allows for replenishment of groundwater, on-site water re-use, and monitoring of discharge water quality. Discharge of water will be subject to Environmental Compliance Approval by the Ministry of the Environment, Conservation and Parks. ■ Groundwater monitoring programs to be established in accordance with permit requirements and Project monitoring plans.	
Groundwater	■ Temporary access roads and trails ■ Road construction (stripping, subgrade excavation, embankment fill placement, grading, and ditching) ■ Bridge and culvert installation (approach embankments, foundations, substructures, superstructures, traffic protection, and erosion controls) ■ Decommissioning of temporary camps, roads, trails, and staging areas	Construction	Changes to groundwater quantity due to road construction in peatland areas	■ The Community Access Road foundation design and construction should allow for groundwater flow through the peat to be maintained near to natural rates. ■ Road design should include equalization culverts and permeable base materials in peat land areas. ■ A groundwater monitoring program should be implemented in areas where the road is constructed on top of peatlands to identify if groundwater flow beneath the road is significantly restricted.	Some residual effects may be possible even after application of the mitigation measures. Settlement and sedimentation of road base materials and compression of the underlying peat may cause restrictions to groundwater flows over time.

Valued Component	Project Activities	Project Phase	Description of Potential Effect	Mitigation and Enhancement Measures	Predicted Residual Effect
Groundwater	■ Temporary construction staging areas ■ Temporary access roads and trails ■ Temporary construction camps ■ Right-of-way clearing and grubbing ■ Pits and quarries ■ Temporary concrete batch plants ■ Drilling, blasting, and / or aggregate production ■ Road construction (stripping, subgrade excavation, embankment fill placement, grading, and ditching) ■ Bridge and culvert installation (approach embankments, foundations, substructures, superstructures, traffic protection, and erosion controls) ■ Construction site restoration ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act* ■ Decommissioning of temporary camps, roads, trails, and staging areas	Construction	Changes to groundwater quality due to accidental spills and leaks	■ A Spill Prevention and Emergency Response Plan should be developed and implemented for the Project. ■ Project staff will be trained on the Spill Prevention and Emergency Response Plan. ■ Machinery and equipment will be regularly inspected and have appropriate spill containment supplies available at all worksites. ■ Fuelling should be limited to designated areas where secondary containment and adequate spill containment measures are available. ■ Fuels and hazardous materials should be stored and handled according to applicable regulations and best management practices such as the *Technical Standards and Safety Act* (Government of Ontario, 2000) and the *Transportation of Dangerous Goods Act* (Government of Canada, 1992).	No predicted residual effect

Valued Component	Project Activities	Project Phase	Description of Potential Effect	Mitigation and Enhancement Measures	Predicted Residual Effect
	■ Operation, usage, and maintenance of the right-of-way and permanent access roads	Operation and Maintenance		■ A Spill Prevention and Emergency Response Plan should be developed and implemented for the Project operations and maintenance. ■ Project staff will be trained on the Spill Prevention and Emergency Response Plan. ■ Machinery and equipment will be regularly inspected and have appropriate spill containment supplies available at all worksites. ■ Fuelling should be limited to designated areas where secondary containment and adequate spill containment measures are available. ■ Fuels and hazardous materials should be stored and handled according to applicable regulations and best management practices such as the *Technical Standards and Safety Act* (Government of Ontario, 2000) and the *Transportation of Dangerous Goods Act* (Government of Canada, 1992). ■ The Community Access Road will be maintained in accordance with provincial standards to reduce the risk of accidents and associated spills.	
Groundwater	■ Temporary construction staging areas ■ Temporary construction camps ■ Pits and quarries ■ Temporary concrete batch plants ■ Drilling, blasting, and / or aggregate production ■ Road construction (stripping, subgrade excavation, embankment fill placement, grading, and ditching) ■ Bridge and culvert installation (approach embankments, foundations, substructures, superstructures, traffic protection, and erosion controls) ■ Construction site restoration ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act* ■ Decommissioning of temporary camps, roads, trails, and staging areas	Construction	Changes to groundwater quality due to construction wastes and wastewater discharges	■ A Waste Management Plan will be developed for the Project and include details for how wastes should be stored, handled, and disposed of. ■ All Project staff will be trained in the Waste Management Plan. ■ Project wastes should be stored in designated containment areas according to applicable legislation (e.g., *Ontario Regulation 347*) until removed for final disposal. ■ Any wastewater generated by the Project should be disposed of at a licensed disposal site or treated to meet water quality guidelines such as the Ministry of the Environment, Conservation and Parks *Provincial Water Quality Objectives* before release. ■ Any releases of wastewater should be permitted by an Environmental Compliance Approval from the Ministry of the Environment, Conservation and Parks.	Some residual effects may be possible even after application of the mitigation measures. The release of treated wastewater may still result in measurable changes to groundwater quality.

Valued Component	Project Activities	Project Phase	Description of Potential Effect	Mitigation and Enhancement Measures	Predicted Residual Effect
Groundwater	■ Temporary access roads and trails ■ Pits and quarries ■ Drilling, blasting, and / or aggregate production ■ Road construction (stripping, subgrade excavation, embankment fill placement, grading, and ditching) ■ Bridge and culvert installation (approach embankments, foundations, substructures, superstructures, traffic protection, and erosion controls) ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act*	Construction	Changes to groundwater quality due to blasting residues	■ Project blasting should be carried out according to applicable regulations such as the *Explosives Act* (Government of Canada, 1985) and the *Transportation of Dangerous Goods Act* (Government of Canada, 1992). ■ A Blasting and Communication Management Plan will be developed for the Project and include guidelines for explosives handling, storage, and loading to minimize explosives exposure to the environment and minimize explosives residue after blasting. ■ Regular monitoring of water quality in quarry sumps and downstream of blasting areas should be conducted and compared to action levels of contaminants of concern set based on regulatory guidelines. ■ Post-blast inspections will be regularly carried out to identify issues with blast design and detonations.	Some residual effects may be possible even after application of the mitigation measures. The use of blasting explosives may still result in measurable changes to groundwater quality.
	■ Pits and quarries ■ Drilling, blasting, and / or aggregate production ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act*	Operation and Maintenance		■ Project blasting should be carried out according to applicable regulations such as the *Explosives Act* (Government of Canada, 1985) and the *Transportation of Dangerous Goods Act* (Government of Canada, 1992). ■ A Blasting and Communication Management Plan will be developed for the Project and include guidelines for explosives handling, storage, and loading to minimize explosives exposure to the environment and minimize explosives residue after blasting. ■ Regular monitoring of water quality in quarry sumps should be conducted and compared to action levels of contaminants of concern set based on regulatory guidelines. ■ Post-blast inspections will be regularly carried out to identify issues with blast design and detonations.	

Valued Component	Project Activities	Project Phase	Description of Potential Effect	Mitigation and Enhancement Measures	Predicted Residual Effect
Groundwater	■ Temporary construction staging areas ■ Temporary access roads and trails ■ Temporary construction camps ■ Pits and quarries ■ Drilling, blasting, and / or aggregate production ■ Road construction (stripping, subgrade excavation, embankment fill placement, grading, and ditching) ■ Bridge and culvert installation (approach embankments, foundations, substructures, superstructures, traffic protection, and erosion controls) ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act*	Construction	Changes to groundwater quality due to exposure of acid-generating or metal leaching materials	■ A geochemical monitoring program will be developed to test bedrock and soils in areas where they will be exposed by excavation. ■ Any materials identified as at risk for acid generation or metal leaching will not be excavated or will be subject to site-specific mitigation and management plans to contain and control potential acid rock drainage if excavation is unavoidable.	No predicted residual effect
	■ Pits and quarries ■ Drilling, blasting, and / or aggregate production ■ Pits and quarries will be rehabilitated (progressive and final rehabilitation) and surrendered in accordance with the *Ontario Aggregate Resources Act*	Operation and Maintenance		■ A geochemical monitoring program will be developed to test bedrock and soils in areas where they will be exposed by excavation. ■ Any materials identified as at risk for acid generation or metal leaching will not be excavated or will be subject to site-specific mitigation and management plans to contain and control potential acid rock drainage if excavation is unavoidable.	
Groundwater	■ Operation, usage, and maintenance of the right-of-way and permanent access roads	Operation and Maintenance	Changes to groundwater quality due to road maintenance	■ Road maintenance should be carried out according to best management practices such as those outlined by *Best Practices for the Use and Storage of Chloride-Based Dust Suppressant* (Environment Canada, 2007)) to reduce the use of chemicals for dust control and minimize runoff of chemicals to the environment. ■ Alternative chemicals or methods of dust control that pose less risk of runoff and infiltration should be considered for use.	Some residual effects may be possible even after application of the mitigation measures. The use of chemicals for road maintenance may still result in measurable changes to groundwater quality.

Notes:
Temporary construction staging areas, access roads, construction camps, and pits and quarries activities include construction and use of this equipment or infrastructure.
Maintenance of the route includes general maintenance activities (e.g., grading, erosion control, quarrying, and pits and quarries), seasonal maintenance activities (e.g., snow clearing and bridge and culvert maintenance), and special maintenance activities (e.g., slope failures and road settlement / break-up).
L/day = litre per day.

7.4 Characterization of Predicted Residual Effects

Assuming effective implementation of all mitigation and enhancement measures presented in **Table 7-3**, residual effects as a result of the Project are predicted for groundwater and are included in the characterization of predicted residual effects and cumulative effects assessment. Predicted residual effects are characterized according to the effect characteristics of context, direction, magnitude, geographic extent, duration, frequency, reversibility, likelihood, and uncertainty (**Section 4.4.2**). A description of the predicted residual effects of the Project on groundwater, a determination of significance and prediction confidence is presented below and summarized in **Table 7-5**.

7.4.1 Changes to Groundwater Quantity Due to Pit or Quarry Dewatering

Dewatering pits or quarries that extend below the water table involves removing the groundwater which seeps into the excavation. To prevent water accumulation in the pit or quarry excavation the water seepage (as well as any captured precipitation) is usually directed to a sump located at the lowest part of the excavation and the collected water is pumped out of the sump to be discharged away from the excavation. The lowered water levels in the excavation cause surrounding groundwater at higher levels to flow towards the excavation. The result is an area of lowered ground water levels surrounding the excavation. This area is called the zone of influence or drawdown cone due to the typical shape of the groundwater surface sloping downward from the surrounding groundwater level to the excavation dewatering level.

The zone of influence's extent and shape are dependant on the depth of dewatering and the hydrogeological properties of the soils and / or bedrock that the groundwater flows through. The locations and depths of the aggregate pits and quarries to be used for the Project are not yet determined. To estimate the potential zone of influence that may result from aggregate pit or quarry dewatering, hypothetical pit and quarry excavations were modelled and assessed for dewatering rates and zone of influence size based on analytical equations (Marinelli & Niccoli, 2000) and conservative assumptions based on groundwater observations from the Regional Study Area. The specific locations and dimensions of the aggregate pits and quarries are unknown at this time so these estimates are based on generic conditions, including assumptions of flat topography, consistent geology, and no nearby surface waterbodies. Actual conditions and potential impacts will vary depending on the specific site settings of each pit or quarry.

The estimated radius of influence was calculated for two quarry scenarios and three pit scenarios to provide a range of estimated values. Details of the calculations and inputs used are included in **Attachment I – Pit / Quarry Inflow Analyses**. The two quarry scenarios consisted of a 300 m diameter quarry that was dewatered to a depth of 5 or

10 m below the static groundwater level. The pit scenarios consisted of a 200 m diameter pit that was dewatered to 1, 3, or 5 m below the static groundwater level. The 1 m drawdown scenario also included a 2 m deep pond in the pit as a simulated pit extracting with a dredging method and little to no active dewatering. Based on the average hydraulic conductivities estimated from the single well response tests of the monitoring wells (**Section 5.4**) the horizontal hydraulic conductivities assumed for the dewatering estimates of the quarry / pit unit were 1 x 10^{-5} metres per second (m/s) for quarries (from monitoring wells installed in bedrock) and 5 x 10^{-5} m/s for pits (from monitoring wells installed in sands and gravels). The hydraulic conductivities of the unit below the quarry / pit were assumed to be a factor of five lower and a factor of ten lower for horizontal and vertical hydraulic conductivities, respectively. The results of the dewatering estimates are summarized in **Table 7-4** below.

Table 7-4: Aggregate Quarry and Pit Dewatering Estimates

Scenario	Estimated Radius of Influence (m from edge of quarry / pit)	Estimated Dewatering Rates (m^3/day)
Bedrock quarry dewatered to 10 m depth	721	1,055
Bedrock quarry dewatered to 5 m depth	455	497
Sand and gravel pit dewatered to 5 m depth	691	768
Sand and gravel pit dewatered to 3 m depth	465	426
Sand and gravel pit with 2 m deep pond, dewatered to 1 m depth	397	179

Notes: m = metre; m^3/day = cubic metre per day.

These estimates indicate that for the soil and rock types encountered in the Regional Study Area, the radius of influence for an aggregate pit or quarry could extend for hundreds of metres away from the excavation. In most cases, this can be considered a conservative estimate as changes in topography, the actual pit or quarry dimensions and shape, and the presence of surface waterbodies in the area will tend to limit the extent of the radius of influence. The estimated dewatering rates suggest that any sizable aggregate pit or quarry established below the water table will likely require dewatering rates (greater than 50 cubic metres per day [m^3/day]) that would require a Permit to Take Water and discharge of the pumped water would require an Environmental Compliance Approval for sewage works from the Ontario Ministry of the Environment, Conservation and Parks. These permits as well as the applications for aggregate permits from the Ministry of

Natural Resources under the *Ontario Aggregate Resources Act* will require site-specific technical studies to be carried out for each aggregate pit or quarry site including further assessment of potential impacts from groundwater takings and discharges.

Based on the estimates above and the nature of dewatering large aggregate pit and quarry excavations it is likely that measurable changes to groundwater levels will occur in the radius of influence around Project aggregate pits and quarries. This residual effect would occur in an ecological context of potential reduced groundwater availability to surface water and vegetation receptors. The residual effects would negative in direction due to reduced groundwater availability, though where the pit or quarry discharge is located may see locally increased recharge and groundwater availability. The magnitude of the residual effects would be classified as high since there is potential for groundwater levels near the excavations to see changes of more than 50% of the natural seasonal variability. The residual effect would be limited to the Local Study Area and would be medium-term in duration with groundwater levels expected to be reversible and recover soon after dewatering is stopped. The frequency of the residual effect would be continuous while it occurs and probable to occur where pit or quarry dewatering is carried out.

7.4.2 Changes to Groundwater Quantity Due to Road Construction in Peatland Areas

Road construction using “floating” techniques to cross areas of peatland will be designed with pervious road base structure to allow for flow of groundwater beneath and through the road base. However, there is potential for settlement of the road base structure and underlying peat material or sediment accumulation in the road base material to restrict flow of groundwater. If the groundwater flow is restricted to a significant degree then the road may cause a damming effect with elevated groundwater levels on the upgradient side of the road and lowered groundwater levels on the downgradient side. Changes to groundwater levels may impact the health of peat. The mitigation measures listed in **Section 7.3.1.4** and **Table 7-3** are expected to allow for groundwater flow across the road in peatlands and provide a monitoring program to identify areas where groundwater flow may be becoming restricted. Due to the variability of peat structure, road construction, and groundwater flow rates, the development of groundwater flow restrictions may develop over several years following the road construction. Significant restrictions to groundwater flow could result in measurable changes to groundwater levels near the road.

Any residual effects would occur in an ecological context with changes to groundwater levels and flows potentially impacting peat and vegetation health. The residual effect would be considered a negative change since both increases and decreases in groundwater level may negatively impact peat that had previously developed in different groundwater levels. The residual effect would occur within the Construction Disturbance Area and may also extend into the Local Study Area in some cases. Implementation of mitigation measures would be expected to limit the residual effects on magnitude to medium. The

residual effect would be long-term duration, and it would be considered reversible, where equalization culverts can be installed to restore water flow beneath the road. The residual effect would occur continuously during the Construction Phase and continue into the Operations and Maintenance Phase and it is considered possible to occur.

7.4.3 Changes to Groundwater Quality Due to Construction Waste and Wastewater Discharges

Wastewater discharges may occur during the Construction Phase from sources including septic systems with leaching beds at temporary construction camps, discharges from construction activities, runoff from material and waste storage, and used wash water. These wastewaters have the potential to infiltrate the ground and reach the groundwater, where they may impact groundwater quality. The mitigation measures listed in **Section 7.3.2.2** and **Table 7-3** are expected to limit the potential wastewater discharges to the environment and provide treatment controls for others. However, since groundwater in the Study Areas is largely unimpacted by wastewater discharges, as indicated by the low levels of typical wastewater indicators such as chloride and nitrates, the changes in groundwater quality potentially caused by Project wastewater discharges would likely be measurable.

Any residual effects would occur in an ecological context with changes to groundwater quality potentially impacting downgradient surface water and vegetation. The residual effect would be considered a negative change that would occur mostly within the Construction Disturbance Area, but may extend into the Local Study Area in some cases. Implementation of mitigation measures would be expected to limit the residual effects on magnitude to medium. The residual effect would be medium-term duration; however, it would also be considered reversible once the discharge activity is stopped. Depending on the discharge, the residual effect may occur frequently or continuously during the Construction Phase and is considered probable to occur.

7.4.4 Changes to Groundwater Quality Due to Blasting Residues

Explosives will be used during Project construction and operations to break up rock in quarries, and possibly where road cuts or foundation excavations into rock are required. These explosives may leave residues due to spills or incomplete combustion, which may result in impacts on water quality that could infiltrate into groundwater. The mitigation measures listed in **Section 7.3.2.3** and **Table 7-3** are expected to limit the potential blasting residue exposure to the environment and provide treatment and monitoring controls. However, since groundwater in the Study Areas is largely unimpacted by blasting residues, as indicated by the low levels of typical blasting residue indicators such as ammonia, nitrates, and petroleum hydrocarbons, the changes in groundwater quality potentially caused by blasting residues would likely be measurable.

Any residual effects would occur in an ecological context with changes to groundwater quality potentially impacting downgradient surface water and vegetation. The residual effect would be considered a negative change that would occur mostly within the Construction Disturbance Area, but may extend into the Local Study Area in some cases. Implementation of mitigation measures would be expected to limit the residual effects on magnitude to medium. The residual effect would be medium-term duration; however, it would also be considered reversible once blasting activity is stopped. The residual effect would be expected to occur frequently during the Construction Phase and is considered certain to occur based on the current construction plans.

7.4.5 Changes to Groundwater Quality Due to Road Maintenance

Road maintenance during Project operations may use chemicals for dust control. These chemicals may infiltrate the groundwater and impact groundwater quality. The mitigation measures listed in **Section 7.3.4.4** and **Table 7-3** are expected to limit the application and mobilization of these chemicals. However, since groundwater in the Study Areas is largely unimpacted by road maintenance chemicals, as indicated by the low levels of typical indicators such as chloride, and since the use of these chemicals may be long-term over large parts of the Community Access Road, the changes in groundwater quality potentially caused by road maintenance chemicals would likely be measurable.

Any residual effects would occur in an ecological context with changes to groundwater quality potentially impacting downgradient surface water and vegetation. The residual effect would be considered negative in direction that would occur mostly within the Construction Disturbance Area but may extend into the Local Study Area in some cases. Implementation of mitigation measures would be expected to limit the residual effects on magnitude to medium. The high magnitude threshold would be reached based on the increase in measurable parameters of greater than 50% of existing condition values, but the applicable water quality criteria would not be expected to be exceeded. The residual effect would be long-term duration, and therefore it would be considered irreversible over the Project lifespan. The residual effect would be expected to occur continuously during the Operation and Maintenance Phase and is considered certain to occur based on the current maintenance plans.

7.5 Prediction Confidence and Uncertainty

Scientific inference is associated with uncertainty, and prediction confidence (i.e., the level of confidence in assessment results) depends on the level of uncertainty and the way this uncertainty is addressed. Primary factors affecting confidence in the predictions made in the groundwater effect assessment include:

- Availability and accuracy of existing conditions data;

- Level of understanding of existing groundwater conditions, hydrogeological environment, and natural variation in groundwater quantity and quality;
- Understanding of Project related effects on complex ecosystems that contain interactions across different scales of time and space (e.g., exactly how the Project would influence groundwater Valued Component);
- Assessment methods (qualitative and quantitative methods) to assess the effects directly or indirectly on groundwater due to Project activities;
- Level of certainty associated with the effectiveness of proposed mitigations, where applicable; and
- Level of understanding of existing groundwater conditions and range of natural variation.

Uncertainty was managed by:

- Reviewing data, studies, maps and other relevant information related to groundwater existing conditions in the Local Study Area and Regional Study Area;
- Where appropriate, uncertainty may be addressed by additional mitigations as required, or through monitoring programs designed to verify the effects predictions and / or the effectiveness of mitigation;
- Conducting field studies within the Local Study Area;
- Completing quality assurance and quality control of existing conditions data;
- Using available data to support inferences of groundwater conditions where they were not directly observed and to inform potential changes to groundwater from Project effects;
- Applying conservative assumptions regarding the Project activities that may affect groundwater to increase confidence that the effects were not underestimated;
- Comparing existing conditions and assessment results to relevant published scientific literature; and
- Planning implementation of known effective mitigation and monitoring measures and using available adaptive management measures to address unforeseen circumstances should they arise.

Overall, uncertainty levels were considered to be moderate (given in **Table 7-5**) for a majority of predicted groundwater related residual effects because some existing conditions data were available, the Project-related effects are mostly understood, and the

level of certainty associated with the effectiveness of proposed mitigation strategies ranges from moderate to high certainty. The effects during Construction and Operation and Maintenance Phases are well understood and are based on previous experience with similar types of developments. There is a moderate degree of confidence associated with the predicted changes to the groundwater quantity and quality due to Project–environment interactions, noting that due to the large scale of the Project, the groundwater environment was assessed from a largely qualitative standpoint. Mitigation measures, best management practices, and further monitoring and studies are recommended to reduce effects on the groundwater Valued Component.

7.6 Assessment of Significance

The assessment of significance of residual effects of the Project is informed by the interaction between the significance factors, previously discussed in **Section 4.4.2**, with magnitude, duration, reversibility, and geographic extent being the most important factors. Consideration is also given to context, which includes ecological context (i.e., the sensitivity and resilience of the Valued Component), and social context (i.e., concerns of Indigenous communities, interested agencies, groups and individuals raised during consultation and engagement and through review comments on the Environmental Assessment reports). Implementation of proven mitigation measures is expected to aid in the avoidance or reduction of the magnitude, geographic extent, reversibility, and / or duration of residual effects on groundwater.

The magnitude of the predicted residual effects on groundwater are medium to high in magnitude, range from medium-term to long-term in duration, are reversible and irreversible, and are confined to the Local Study Area in geographic extent.

Residual effects on the groundwater Valued Component were considered not significant as none of the residual effects were assessed as high in magnitude, long-term or permanent duration, irreversible, and at any geographic extent and they do not represent a substantial management concern. The residual effects were predicted to be in accordance with federal and provincial guidelines.

Overall, the predicted residual effects on groundwater were assessed as not significant because the predicted residual effects on groundwater were not anticipated to result in a change beyond a manageable level. The significance level of each potential residual effect, assessed based on the method discussed in **Section 4.4.2**, and is summarized in **Table 7-5**.

7.7 Summary

Table 7-5 summarizes the characterization of predicted residual effects and the determination of significance for the groundwater Valued Component.

Table 7-5: Characterization of Predicted Residual Effects and Determination of Significance for the Groundwater Valued Component

Valued Component	Predicted Residual Effect	Context	Direction	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Significance (Significant, Not Significant)	Uncertainty	Direct / Indirect
Groundwater	Changes to groundwater quantity due to pit or quarry dewatering	Ecological	Negative	High	Local	Medium term	Continuous	Reversible	Probable	Not significant	Moderate	Direct
	Changes to groundwater quantity due to road construction in peatland areas	Ecological	Negative	Medium	Local	Long term	Continuous	Reversible	Possible	Not significant	High	Indirect
	Changes to groundwater quality due to construction wastes and wastewater discharges	Ecological	Negative	Medium	Local	Medium term	Continuous	Reversible	Probable	Not significant	Moderate	Direct
	Changes to groundwater quality due to blasting residues	Ecological	Negative	Medium	Local	Medium term	Frequent	Reversible	Certain	Not significant	Moderate	Direct
	Changes to groundwater quality due to road maintenance	Ecological	Negative	Medium	Local	Long term	Continuous	Irreversible	Certain	Not significant	Moderate	Direct

8 Cumulative Effects Assessment

The *Canadian Environmental Assessment Act, 2012* (Government of Canada, 2019) requires that each Environmental Assessment of a project consider any cumulative environmental effects that are likely to result from the project in combination with the environmental effects of other physical activities that have been or will be carried out.

This section presents the assessment of potential cumulative effects completed as part of the Project. The effects of past and present activities on the effects assessment Study Areas and Valued Components identified for the Project were assessed, and results are described in the following sections.

8.1 Cumulative Effects Scoping

8.1.1 Valued Components with Residual Effects

The cumulative effects assessment builds on the results of the residual effects assessment described in **Section 0** and provides the incremental changes that are predicted to have a likely residual adverse effect on a Valued Component. Where no residual effects were identified in **Section 0**, or residual effects were of negligible magnitude, unlikely or impossible to occur, or positive in direction, the effect was not carried forward into the cumulative effects assessment. The results that have been carried forward for assessment are described in **Table 8-1**.

Table 8-1: Valued Components and Residual Effects

Valued Component	Residual Effect
Groundwater	Changes to groundwater quantity due to pit or quarry dewatering
	Changes to groundwater quantity due to road construction in peatland areas
	Changes to groundwater quality due to construction wastes and wastewater discharges
	Changes to groundwater quality due to blasting residues
	Changes to groundwater quality due to road maintenance

8.1.2 Spatial and Temporal Boundaries

The spatial boundary for the cumulative effects assessment corresponds to the geographic extent that the likely residual adverse effects of the Project are predicted to occur. The Study Area used in the cumulative effects assessment is the same as the groundwater effects assessment Regional Study Area used for the residual effects assessment, which

is 2.5 km buffer on either side of the Project centreline and associated construction areas (**Table 8-2**).

Temporal boundaries for the cumulative effects assessment correspond to the duration that the likely residual adverse effects of the Project are predicted to occur. There are currently no plans to decommission the Community Access Road, as there is no expected / known end date for its need. Therefore, future suspension, decommissioning, and eventual abandonment was not considered in this report. It will be considered if and when a decommissioning or abandonment application is made for the Community Access Road.

The Project is planned to occur in two phases:

- **Construction Phase**—The time from the start of construction, including site preparation activities, until the Community Access Road is in operation. Decommissioning of construction works is included in the Construction Phase. The Construction Phase is anticipated to take approximately three to ten years to complete; and
- **Operation and Maintenance Phase**—The Operation and Maintenance Phase begins once construction activities are complete and continues for the life of the Project. The Operation and Maintenance Phase of the Project is considered to be permanent based on the expected timeline for when major refurbishment of road components (e.g., bridges) is anticipated.

In determining the temporal boundaries for the cumulative effects assessment, in particular the long duration of the Operation and Maintenance Phase, consideration was given to the long-term effects on the well-being of present and future generations.

Table 8-2: Spatial and Temporal Boundaries

Valued Component	Spatial Boundary	Temporal Boundary
Groundwater	2.5 km from centreline of the Preferred Route and associated construction areas	■ Construction ■ Operation and Maintenance

Notes: km = kilometre.

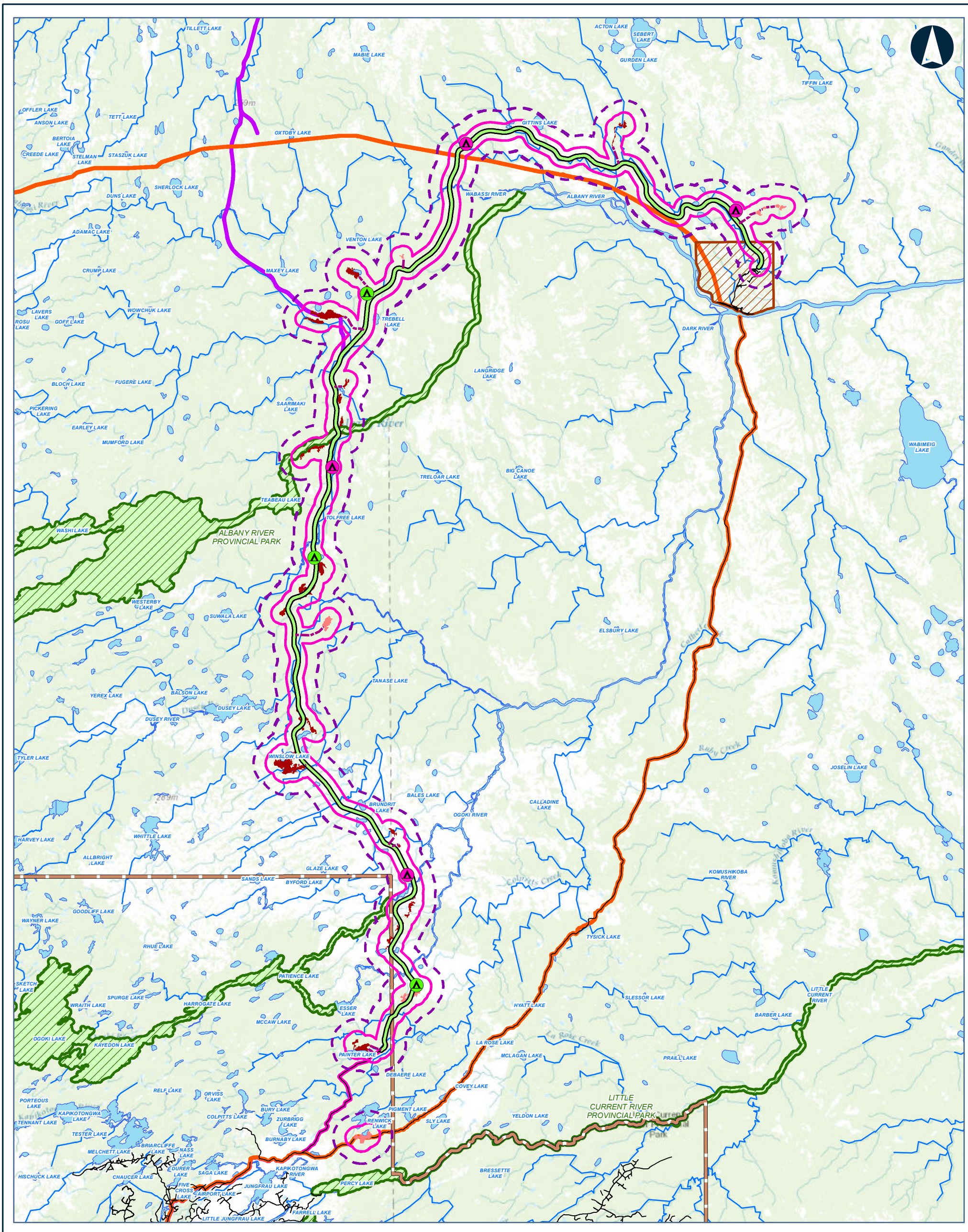
8.1.3 Physical Activities Inclusion List

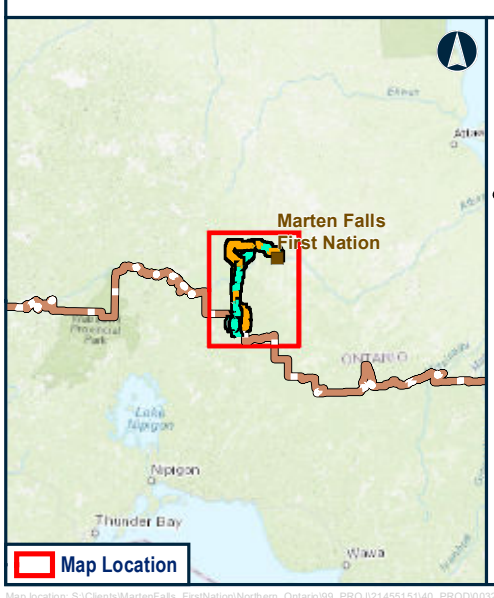
To determine the spatial boundaries of potential cumulative effects, three related projects within the groundwater effects assessment Regional Study Area were considered for the cumulative effects assessment (**Table 8-3**; **Figure 8-1**).

Table 8-3: Project and Physical Activity Inclusion List for Groundwater

Project	Identified in *Tailored Impact Statement Guidelines* (Y / N)	Location	Status	Distance (km) and Direction from the Project	Developer / Company	Project Start Date	Project Duration	Project Completion Date	Assumed Temporal Overlap with Community Access Road Activities (Y / N)	Project Description	Groundwater Temporal Overlap with Project (Y / N)	Groundwater Spatial Overlap with Project (Y / N)	Included in Cumulative Effects Assessment (Y / N)
Northern Road Link	Yes	Between Marten Falls First Nation Community Access Road and Webequie Supply Road, northwestern Ontario	Impact Assessment ongoing	0 (adjacent or overlapping)	Webequie First Nation Marten Falls First Nation	Impact Assessment initiated in August 2023 Construction start date unknown	Unknown	Unknown	Yes – construction and operation will overlap with Community Access Road construction (expected for Northern Road Link to begin construction during construction of northern portion of Community Access Road.	■ Marten Falls First Nation and Webequie First Nation are proposing to build, operate and maintain an all-season multi-use road and associated infrastructure between the Community Access Road that has been proposed by Marten Falls First Nation (the Project) and the supply road that has been proposed by Webequie First Nation. ■ *Terms of Reference* for the preparation of an Environmental Assessment were approved March 3, 2023.	Yes	Local Study Area – Yes Regional Study Area – Yes	Yes
Anaconda and Painter Lake Road Upgrades	Yes	James Bay Lowlands	Unknown	0 (adjacent or overlapping)	In discussions: Ministry of Transportation, Ontario and Aroland First Nation	Not Started	2-5 years	Unknown	Yes –operation expected to overlap with Community Access Road construction and operation	■ Upgrades to existing road will be required for heavy vehicles accessing the Community Access Road route during construction and operations. ■ Currently discussions on proponency and scope of work are underway. ■ Potential scope of work is expected to include roadway widening, culvert and bridge replacements / rehabilitations to accommodate higher weight vehicles, and road base improvements. ■ This project will be completed prior to the start of the construction of the Community Access Road and therefore the upgrades to these roads is not expected to overlap with the construction of the Community Access Road.	Yes	Local Study Area – Yes Regional Study Area – Yes	Yes
Rapid Lynx Broadband	Yes	Matawa First Nation communities	Phase 1: 70% complete, with remaining sections targeted for September 2024 completion; section near the Project is complete Phase 2: targeted completion September	Phase 1 – 0 (adjacent or overlapping) Phase 2 – 57.69	Rapid Lynx	February 2020	Unknown	Unknown	Yes –construction of Phase 2 and operations of Phase 1 and 2 expected to overlap with Community Access Road construction and operations	■ Approximately 810 km of fibre-optic cables, providing reliable high-speed internet service to five Matawa First Nation communities: Eabametoong, Marten Falls, Neskantaga, Nibinamik and Webequie with an interconnection at Aroland.	Yes	Local Study Area – Yes Regional Study Area – Yes	Yes

Notes: km = kilometre; Y = yes; N = no; % = percent.





Legend

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)

- 50 PERSONS
- 200 PERSONS
- PREFERRED ROUTE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- ROAD
- WATERBODY
- WATERCOURSE
- FAR NORTH BOUNDARY
- FIRST NATION COMMUNITY
- PROVINCIAL PARK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

PHYSICAL ACTIVITIY PROJECT INCLUSION

- ANACONDA AND PAINTER LAKE ROAD UPGRADES
- NORTHERN ROAD LINK
- RAPID LYNX BROADBAND PROJECT

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Physical Activities Inclusions in the Groundwater Effects Assessment Regional Study Area

0 5 10 20
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 8-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0008_8-1.mxd
Date Saved: 2/12/2026 5:59:32 PM User Name: gld_rduval

8.1.4 Summary of Outcome

The predicted residual effects identified in **Table 8-1** are all applicable to the groundwater Valued Component. The three projects identified within **Table 8-3** have the potential for residual effects on the spatial and temporal boundaries of the groundwater Valued Component (**Table 8-2**); therefore, all three projects and the groundwater Valued Component have been considered for the cumulative effects assessment (**Section 8.2**). **Table 8-4** summarizes the outcome of the cumulative effects scoping.

Table 8-4: Summary of Outcome

Past, Existing, and Future Physical Activities / Projects	Valued Component Carried Forward	Results of Scoping
Northern Road Link	Groundwater	Both the Marten Falls First Nation Community Access Road Project and Northern Road Link project have the potential for residual effects on groundwater Valued Component through physical alteration of the landscape affecting groundwater flows and recharge, interaction with groundwater resources due to groundwater takings and dewatering with associated discharges, and through the potential for release of substances to the groundwater environment due to construction and operation and maintenance activities. The residual effects from both projects may overlap temporally during the Construction and Operation and Maintenance Phases. Spatially, residual effects from the Northern Road link project may overlap with the residual effects from the Marten Falls First Nation Community Access Road Project within the Local and Regional Study Areas.
Anaconda and Painter Lake road upgrades	Groundwater	Both the Marten Falls First Nation Community Access Road Project and Anaconda and Painter Lake road upgrades project have the potential for residual effects on groundwater Valued Component through physical alteration of the landscape affecting groundwater flows and recharge, interaction with groundwater resources due to groundwater takings and dewatering with associated discharges, and through the potential for release of substances to the groundwater environment due to construction and operation and maintenance activities. The residual effects from both projects may overlap temporally during the Construction and Operation and Maintenance Phases. Spatially, residual effects from the Anaconda and Painter Lake road project may overlap with the residual effects from the Marten Falls First Nation Community Access Road Project within the Local and Regional Study Areas.
Rapid Lynx Broadband	Groundwater	Both the Marten Falls First Nation Community Access Road Project and Rapid Lynx Broadband project have the potential for residual effects on groundwater Valued Component through physical alteration of the landscape affecting groundwater flows and recharge. The residual effects from both projects may overlap temporally during the Construction and Operation and Maintenance Phases. Spatially, residual effects from the Rapid Lynx Broadband project would overlap with the residual effects from the Marten Falls First Nation Community Access Road Project within the Local and Regional Study Areas.

8.2 Cumulative Effects Assessment

This section presents the assessment of cumulative effects due to interactions of the Project and the past, existing, and future physical activities / projects that were identified in **Section 8.1**. The assessments are based on the residual effects predicted for the Project as presented in **Section 7.4** and a qualitative comparison of the predicted effects of the past, existing, and future physical activities / projects based on available information. Mitigation measures are proposed where appropriate, and a characterization of the predicted cumulative effects remaining is outlined. A summary of the mitigation measures and cumulative effects characterizations is provided in **Table 8-5**.

8.2.1 Changes to Groundwater Quantity Due to Pit or Quarry Dewatering

Potential Cumulative Effect

This residual effect is characterized in **Section 7.4.1** for the Project. It is expected that the Northern Road Link would also require development of aggregate pits and quarries to complete its construction. At this time, it is unknown if the Anaconda and Painter Lake road upgrades would require development of new aggregate pits and quarries or if it would rely on existing sources. It is assumed that the Northern Road Link would require a similar volume of aggregates per segment of road as the Project and the Anaconda and Painter Lake road upgrades would require a lower volume of aggregates per segment of road upgrades due to the existing road structure. During the Operation and Maintenance Phase, the required volumes of aggregates would be expected to be similar per road segment for all three road projects. Therefore, it is expected that the sizes and numbers of aggregate pits and quarries used for the Northern Road Link and Anaconda and Painter Lake road upgrades would be similar to or slightly less than those required for the Project and that, based on the similar aggregate requirements, there would not be any additional aggregate pits or quarries required where the projects overlap that would result in greater impacts than those considered under the residual effects assessment. This means that there would not be any additional cumulative changes to groundwater quantity due to pit or quarry dewatering in the areas of spatial or temporal overlap between the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades.

There is no aggregate pit or quarry dewatering expected as part of the Rapid Lynx Broadband project and therefore no changes to groundwater quantity due to pit or quarry dewatering cumulative effects are assessed for this project.

Mitigation Measures

No additional mitigation measures are proposed for changes to groundwater quantity due to aggregate pit or quarry dewatering cumulative effects. Based on the assessment above, the predicted cumulative effects are not greater than the predicted residual effects for the Project. It is assumed that the Northern Road Link and Anaconda and Painter Lake road upgrades will have mitigation plans comparable to the Project in place during their construction and operation phases.

As a best practice, it is suggested that the monitoring programs of the Project and any past, existing, and future physical activities / projects share relevant monitoring data for areas where predicted effects may overlap.

Characterization of Predicted Cumulative Effect

The characterization of the predicted cumulative effect due to changes to groundwater quantity due to pit or quarry dewatering is the same as the characterization of the predicted residual effect described in **Section 7.4.1** and **Table 7-5**. The similarity in characterization is due to the limited spatial overlap of the Local Study Area and the predicted similar aggregate requirements and residual effects of the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades.

8.2.2 Changes to Groundwater Quantity Due to Road Construction in Peatland Areas

Potential Cumulative Effect

This residual effect is characterized in **Section 7.4.2** for the Project. It is expected that the Northern Road Link would also require construction of roads across peatland areas. It is understood that the Northern Road Link will employ a similar method of road construction in peatland areas as the Project. The method of road construction used for the Anaconda and Painter Lake road is not known in detail, and neither are the proposed road upgrade methods; however, it is assumed that the upgraded road will generally follow the existing roadway and that most road construction methods to cross peatlands would need to allow groundwater flow beneath the road to avoid washouts. Therefore, it is expected that the road crossings in peatlands used for the Project, the Northern Road Link, and the Anaconda and Painter Lake road upgrades could have similar potential to result in residual effects. The road projects would not be expected to cross the same peatland area in more than one location, with the possible exception of the junction between the Project and the Northern Road Link. This means that there would not be any additional cumulative changes to groundwater quantity due to road construction in peatland areas in the areas of spatial or temporal overlap between the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades.

There is no road construction expected as part of the Rapid Lynx Broadband project; however, it is understood that the communication cable installed for the Rapid Lynx Broadband project was buried below ground level. It is possible that the installation of the cable caused disturbance to peat structure and groundwater flows locally but no long-term barrier to groundwater flows would be expected to result from the cable installation. Therefore, the potential changes to groundwater flows in peatland resulting from the Rapid Lynx Broadband project, which has completed installation in the Regional Study Area, would not be expected to overlap temporally with Project construction, which would begin in a few years and no cumulative effects are expected.

Mitigation Measures

No additional mitigation measures are proposed for changes to groundwater quantity due to road construction in peatland areas cumulative effects. Based on the assessment above, the predicted cumulative effects are not significantly greater than the predicted residual effects for the Project. It is assumed that the Northern Road Link and Anaconda and Painter Lake road upgrades will have mitigation plans comparable to the Project in place during their construction and operations phases.

As a best practice, it is suggested that the monitoring programs of the Project and any past, existing, and future physical activities / projects share relevant monitoring data for areas where predicted effects overlap.

Characterization of Predicted Cumulative Effect

The characterization of the predicted cumulative effect due to changes to groundwater quantity due to road construction in peatland areas is the same as the characterization of the predicted residual effect described in **Section 7.4.2** and **Table 7-5**. The similarity in characterization is due to the limited spatial overlap of the Local Study Area and the predicted similar road construction requirements and residual effects of the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades. The limited spatial and temporal overlaps of the Project and the Rapid Lynx Broadband project also suggest cumulative effects between these projects would be limited and remain at the same characterization levels described for the residual effect.

There may be potential for additional cumulative effects beyond the predicted residual effects levels in the area where the Project and the Northern Road Link would meet if they both cross the same peatland area. The resulting cumulative effects would not be expected to change the characteristics assessed for the residual effects and it is expected that any cumulative effects would be monitored and mitigated by the existing monitoring and mitigation plans for residual effects.

8.2.3 Changes to Groundwater Quality Due to Construction Waste and Wastewater Discharges

Potential Cumulative Effect

This residual effect is characterized in **Section 7.4.3** for the Project. It is expected that the Northern Road Link and Anaconda and Painter Lake road upgrades would also generate construction waste and wastewater discharges during their construction phases. It is assumed that the Northern Road Link would generate similar amounts of wastes and wastewater per segment of road as the Project. The Anaconda and Painter Lake road upgrades could generate lower amounts of waste and wastewater per segment of road upgrades due to the existing road connections, which may also provide more opportunities to ship waste and wastewater offsite. During operations and maintenance, the amounts of waste and wastewater generated would be expected to be similar per road segment for all three road projects. Therefore, it is expected that the potential amounts of waste and wastewater discharges for the Northern Road Link and Anaconda and Painter Lake road upgrades would be similar to or slightly less than those required for the Project and that, based on the similar designs and operations, there would not be any additional waste or wastewater discharges where the projects overlap. This means that there would not be any additional cumulative changes to groundwater quality due to construction waste and wastewater discharges in the areas of spatial or temporal overlap between the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades.

There is no construction waste of wastewater discharges expected as part of the Rapid Lynx Broadband project, and therefore no changes to groundwater quality due to construction waste and wastewater discharges cumulative effects are assessed for this project.

Mitigation Measures

No additional mitigation measures are proposed for changes to groundwater quality due to construction waste and wastewater discharges cumulative effects. Based on the assessment above, the predicted cumulative effects are not greater than the predicted residual effects for the Project. It is assumed that the Northern Road Link and Anaconda and Painter Lake road upgrades will have mitigation plans comparable to the Project in place during their construction and operations phases.

As a best practice, it is suggested that the monitoring programs of the Project and any past, existing, and future physical activities / projects share relevant monitoring data for areas where predicted effects overlap.

Characterization of Predicted Cumulative Effect

The characterization of the predicted cumulative effect due to changes to groundwater quality due to construction waste and wastewater discharges is the same as the characterization of the predicted residual effect described in **Section 7.4.3** and **Table 7-5**. The similarity in characterization is due to the limited spatial overlap of the Local Study Area and the predicted similar construction waste and wastewater requirements and residual effects of the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades.

8.2.4 Changes to Groundwater Quality Due to Blasting Residues

Potential Cumulative Effect

This residual effect is characterized in **Section 7.4.4** for the Project. It is expected that the Northern Road Link and Anaconda and Painter Lake road upgrades would also require blasting of bedrock during their construction and operation phases. It is assumed that the Northern Road Link would require a similar amount of blasting per segment of road as the Project. The Anaconda and Painter Lake road upgrades may require lower amounts of blasting per segment of road upgrades due to the existing road structure. During maintenance and operations, the amounts of blasting required for aggregate extraction would be expected to be similar per road segment for the Project and the Northern Road Link. Aggregate extraction blasting for the Anaconda and Painter Lake road upgrades could be a lower amount than the Project due to the existing road structure and could mainly occur in existing quarries. Therefore, it is expected that the potential amounts of blasting and generation of blasting residues for the Northern Road Link and Anaconda and Painter Lake road upgrades would be similar to or less than those required for the Project and that, based on the similar designs and operations, there would only be a limited potential for additional blasting residue effects in the area where the Northern Road Link and the Project would meet. If construction activities occur during the same time here it is possible that there would be an increased concentration of blasting due to three road segments converging on the intersection point. This means that there would be a slight chance of additional cumulative effects on groundwater quality due to blasting residues in the area of spatial and temporal overlap between the Project and the Northern Road Link if both are constructed at the same time. Other spatial and temporal overlaps between the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades would not be expected to result in any additional cumulative effects greater than the residual effects of the respective projects.

There is no blasting and therefore no blasting residues expected as part of the Rapid Lynx Broadband project based on available information and therefore no changes to groundwater quality due to blasting residues cumulative effects are assessed for this project.

Mitigation Measures

No additional mitigation measures are proposed for changes to groundwater quality due to blasting residues cumulative effects. Based on the assessment above, the predicted cumulative effects are not significantly greater than the predicted residual effects for the Project. The proposed mitigation measures for blasting residues include best practices to limit production and discharge on blasting residues to the environment as well as monitoring of downstream water quality for impacts. Monitoring of the water quality downstream from blasting activities would allow for the detection of both residual and cumulative effects such as increased blasting residues. It is assumed that the Northern Road Link and Anaconda and Painter Lake road upgrades will have mitigation plans comparable to the Project in place during their construction and operations phases.

As a best practice, it is suggested that the monitoring programs of the Project and any past, existing, and future physical activities / projects share relevant monitoring data for areas where predicted effects overlap.

Characterization of Predicted Cumulative Effect

The characterization of the predicted cumulative effect due to changes to groundwater quality due to blasting residues is the same as the characterization of the predicted residual effect described in **Section 7.4.4** and **Table 7-5**. The similarity in characterization is due to the limited spatial overlap of the Local Study Area and the predicted similar blasting requirements and residual effects of the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades.

There may be potential for additional cumulative effects beyond the predicted residual effects levels in the area where the Project and the Northern Road Link would meet if they were both under construction at the same time. The resulting cumulative effects would not be expected to change the characteristics assessed for the residual effects and it is expected that any cumulative effects would be monitored and mitigated by the existing monitoring and mitigation plans for residual effects.

8.2.5 Changes to Groundwater Quality Due to Road Maintenance

Potential Cumulative Effect

This residual effect is characterized in **Section 7.4.5** for the Project. It is expected that the Northern Road Link and Anaconda and Painter Lake road upgrades would also require road maintenance during their operation phases. It is assumed that the Northern Road Link and the Anaconda and Painter Lake road upgrades would require a similar intensities of maintenance activities per segment of road as the Project. Therefore, it is expected that the road maintenance for the Northern Road Link and Anaconda and Painter Lake road upgrades would be similar to that required for the Project and that, based on the similar designs and operations, there would only be a limited potential for additional road maintenance effects in the area where the Northern Road Link and the Project would meet. It is possible that there would be an increased concentration of road maintenance chemicals used in this area due to the three road segments converging on the intersection point. This means that there would be potential of additional cumulative effects on groundwater quality due to road maintenance activities in the area of spatial overlap between the Project and the Northern Road Link. Other spatial overlaps between the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades would not be expected to result in any additional cumulative effects greater than the residual effects of the respective projects.

There is no road maintenance or similar activities expected as part of the Rapid Lynx Broadband project based on available information and therefore no changes to groundwater quality due to road maintenance cumulative effects are assessed for this project.

Mitigation Measures

No additional mitigation measures are proposed for changes to groundwater quality due to road maintenance cumulative effects. Based on the assessment above, the predicted cumulative effects are not significantly greater than the predicted residual effects for the Project. The proposed mitigation measures for road maintenance include best practices for applying and storing chemicals used for dust control. It is assumed that the Northern Road Link and Anaconda and Painter Lake road upgrades will have mitigation plans comparable to the Project in place during their Operation and Maintenance Phases.

As a best practice, it is suggested that the monitoring programs of the Project and any past, existing, and future physical activities / projects share relevant monitoring data for areas where predicted effects overlap.

Characterization of Predicted Cumulative Effect

The characterization of the predicted cumulative effect due to changes to groundwater quality due to road maintenance is the same as the characterization of the predicted residual effect described in **Section 7.4.5** and **Table 7-5**. The similarity in characterization is due to the limited spatial overlap of the Local Study Area and the predicted similar road maintenance requirements and residual effects of the Project and the Northern Road Link and Anaconda and Painter Lake road upgrades.

There may be potential for additional cumulative effects beyond the predicted residual effects levels in the area where the Project and the Northern Road Link would meet. The resulting cumulative effects would not be expected to change the characteristics assessed for the residual effects and it is expected that any cumulative effects would be monitored and mitigated by the existing monitoring and mitigation plans for residual effects.

8.2.6 Prediction Confidence and Uncertainty

The prediction confidence and uncertainty factors for the residual effects assessment are discussed in **Section 7.5**. The prediction confidence and uncertainty for the cumulative effects assessment also includes these factors as well as the following additional uncertainties.

- Limited information on other project activities and scopes;
- Limited schedule information for other projects;
- Preliminary or limited information on the location of other projects; and
- Lack of details on mitigations to be implemented for residual effects of other projects.

The uncertainties involved in the cumulative effects assessment were partially managed by:

- The other projects considered in the cumulative effects assessment involved common and well-known activities. Two of the other projects involved road construction similar to the Project, and the other project involved installing a communication cable underground;
- The environmental conditions where the other projects are located are similar to those encountered along the Project; and
- The other projects are being constructed in a similar regulatory regime as the Project, so construction and maintenance methods and mitigations for the other projects can be expected to meet similar standards.

Overall, the cumulative effects uncertainty levels were considered to be moderate because although there are increased uncertainty levels due to limited information on the details of the other projects, the commonalities of the projects allowed for the confidence and uncertainty levels of the residual effects assessment to be generally retained.

8.2.7 Summary

Table 8-5 summarizes the cumulative effects assessment.

Table 8-5: Characterization of Predicted Cumulative Effects and Identified Mitigation Measures for Groundwater

Cumulative Effect	Context	Direction	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Uncertainty
Changes to groundwater quantity due to pit or quarry dewatering	Ecological	Negative	High	Local	Medium term	Continuous	Reversible	Probable	Moderate
Changes to groundwater quantity due to road construction in peatland areas	Ecological	Negative	Medium	Local	Long term	Continuous	Reversible	Possible	High
Changes to groundwater quality due to construction wastes and wastewater discharges	Ecological	Negative	Medium	Local	Medium term	Continuous	Reversible	Probable	Moderate
Changes to groundwater quality due to blasting residues	Ecological	Negative	Medium	Local	Medium term	Frequent	Reversible	Certain	Moderate
Changes to groundwater quality due to road maintenance	Ecological	Negative	Medium	Local	Long term	Continuous	Irreversible	Certain	Moderate

9 Monitoring Programs and Commitments

A monitoring program verifies the accuracy of the effects assessment and evaluates the effectiveness of mitigation measures. Monitoring programs also include commitments related to mitigating residual and effects and addressing uncertainty. A Project-specific Environmental Monitoring Program will be developed and implemented that includes the monitoring commitments related to groundwater Valued Component presented in this section.

9.1 Pre-construction Monitoring Program

Prior to construction of the Project, the following monitoring programs are recommended. Specific details of the monitoring will be confirmed by and directed by a qualified person retained for environmental monitoring of the Project.

A groundwater monitoring program to establish baseline groundwater levels and quality. Groundwater levels and quality will be monitored as follows:

- Groundwater monitoring stations will be established at areas where large groundwater takings are expected or where potential for impacts on groundwater quality exists, such as pits, quarries, temporary construction camps, laydown yards, road constructed over peatland, and large structure foundations or road cuts / fills;
- The groundwater monitoring stations will be located between the anticipated work area and nearby receptors such as wetlands, waterbodies, and seeps/springs. Multiple groundwater monitoring stations may be required at larger sites to assess effects on various or large receptors and the groundwater monitors should provide depth coverage to at least the expected water taking depth;
- Groundwater levels will be measured at the monitoring stations at least monthly for three months prior to beginning groundwater taking. For pits and quarries which will be extracted below the water table under an *Ontario Aggregate Resources Act* permit, the groundwater monitoring program will be designed in accordance with the Aggregate Resources of Ontario: Technical Reports and Information Standards (Government of Ontario, 2023) in addition to the Project monitoring program;
- Groundwater quality will be sampled at the monitoring stations at least monthly for three months prior to beginning construction work. The groundwater quality samples should be analyzed for general water quality parameters at minimum (i.e., pH, temperature, conductivity, hardness, alkalinity, chloride, nitrate, nitrite, sulphate, phosphate, ammonia, total dissolved solids, dissolved organic carbon, calcium,

copper, iron, magnesium, manganese, potassium, sodium, and zinc). Sampling for metals parameters will include both dissolved and total concentrations to assess the influence of suspended solids on the concentrations. Additional parameters of concern will also be sampled for where identified, for example sampling for volatile organic compounds near areas where fuel or chemical storage is located; and,

- In addition to the above recommended pre-construction monitoring, at sites where construction activities will require permitting for dewatering and water management such as Permit to Take Water, Environmental Activity and Sector Registry, and / or Environmental Compliance Approvals, the groundwater monitoring will be enhanced on a site-by-site basis to support the required permitting studies.

A geochemical testing and monitoring program to assess the potential for acid rock drainage from any soils, or bedrock, which will be exposed during the Construction Phase. As part of this monitoring program:

- Acid base accounting analysis will be carried out and materials assessed for acid rock drainage potential based on the classification as outlined in MEND (2009).

Marten Falls First Nation has also noted interest in highlighting the importance of combining western science hydrology and Indigenous Knowledge (Marten Falls First Nation, 2023). The community noted that relevant Indigenous Knowledge provided by Marten Falls First Nation may be integrated into the groundwater monitoring program to provide a holistic approach to the Project's monitoring activities. To further this goal, Indigenous Environmental Monitors will be included in the monitoring program.

9.2 Construction Monitoring Program

During construction of the Project, the following monitoring programs are recommended.

A groundwater monitoring program to measure groundwater levels and quality and compare them to existing conditions. Groundwater levels and quality will be monitored as follows:

- Groundwater monitoring stations established for the pre-construction monitoring programs will be maintained and monitored through construction;
- Groundwater levels will be measured at the monitoring stations at least weekly during Construction Phase activities. During active groundwater takings, the nearby groundwater levels will be measured at least daily;
- Groundwater quality will be sampled at the monitoring stations at least monthly for the same parameters as the pre-construction monitoring; and

- In addition to the above recommended construction monitoring, at sites where construction activities require permits for dewatering and water management such as Permit to Take Water, Environmental Activity and Sector Registry, and / or Environmental Compliance Approvals, the groundwater monitoring will be enhanced and maintained on a site-by-site basis to support any permit requirements.

As construction proceeds, the monitoring program may need to be modified or updated based on changing conditions or work plans. The monitoring program will be overseen by and directed by a qualified person retained for environmental monitoring of the Project and will include Indigenous Environmental Monitors.

9.3 Operations Monitoring Program

During operation of the Project, the following monitoring programs are recommended.

- Where no impacts have been identified, the construction monitoring programs noted above can be ended at sites that have been fully decommissioned in accordance with the Project plans. Where impacts are expected to develop over longer time periods, such as settlement of roads built over peatlands, monitoring should continue long enough to confirm that conditions have stabilized. Any groundwater monitoring wells no longer used for monitoring should be decommissioned in accordance with *Ontario Regulation 903 Wells*;
- At sites where impacts on groundwater levels or quality have been identified, the groundwater monitoring programs should continue, as per the construction monitoring program, until a return to baseline equivalent conditions is observed or a site-specific remediation monitoring plan is implemented as determined by the qualified person retained for environmental monitoring of the Project; and
- For sites that will continue to be used during Project operations the groundwater monitoring programs detailed above should continue along with any activities that may affect groundwater. For example, if a pit or quarry site is used intermittently, each use of the pit or quarry should be considered like a construction period and the monitoring guidelines followed as above.

9.4 Future Commitments

Table 9-1 provides a summary of monitoring commitments for the Project related to groundwater and geochemistry.

Table 9-1: Summary of Commitments

Valued Component	Commitment	Phase	Section Reference
Groundwater	Geochemical testing and monitoring program	Detailed Design	**Section 9.1**
Groundwater	Groundwater monitoring program	Pre-construction	**Section 9.1**
Groundwater	Groundwater monitoring program	Construction	**Section 9.2**
Groundwater	Groundwater monitoring program	Operations	**Section 9.3**

The aggregate pits and quarries that are proposed through the Community Access Road Project will be subject to permitting requirements outlined within the *Ontario Aggregate Resources Act* and its regulations. For a permit to be issued, additional studies, mitigation plans, consultation and monitoring commitments may be required. In addition to permitting requirements under the *Ontario Aggregate Resources Act*, permitting and approvals under other pieces of legislation may also be required for pit and quarry development, including:

- Ontario *Planning Act*;
- Ontario *Water Resources Act*;
- Ontario *Environmental Protection Act*;
- Ontario *Endangered Species Act*; and
- Federal *Species at Risk Act.*

9.5 Future Permits and Approvals

To facilitate the construction of the Community Access Road, including construction activities and temporary infrastructure, permits and approvals from provincial, federal government and other jurisdictional agencies will need to be acquired. A preliminary list of permits and approvals anticipated to be applicable or potentially applicable to the Project for groundwater are detailed in **Table 9-2**. This list is based on a conceptual level of design, and the final determination of permits and approvals that will be required will occur as the design is further refined.

Table 9-2: Summary of Potential Permits and Approvals List

Permit / Approval	Issuing Authority	Purpose / Scope	Considerations / Next Steps
Environmental Compliance Approval	Ministry of the Environment, Conservation and Parks	Required for discharges to air, land, or water	Applicable if wastewater discharges to the environment are required. To be confirmed in detailed design.
Permit to Take Water	Ministry of the Environment, Conservation and Parks	Authorizes water withdrawals exceeding 50,000 L/day	Applicable if dewatering or water supply is required, to be determined in detailed design.
Environment Activity and Sector Registry	Ministry of the Environment, Conservation and Parks	Authorizes water withdrawals exceeding 50,000 L/day in certain cases instead of a Permit to Take Water	Applicable if certain dewatering activities are required, to be determined in detailed design.
Aggregate Resources Act	Ministry of Natural Resources	Authorizes the extraction of aggregate resources from Crown Land and most private lands	Applicable to most aggregate pits and quarries. To be determined in detailed design.

10 Summary and Recommendations

The potential effects summary and recommendations for the groundwater Valued Component is provided in **Table 10-1**. Through the permitting stage of the Project, a Project-specific Environmental Protection Plan and Environmental Monitoring Plan will be developed and implemented that includes an implementation plan for the mitigation and monitoring commitments related to the groundwater Valued Component that are presented in **Table 9-1**. The cumulative effects summary and recommendations for the groundwater Valued Component is provided in **Table 10-2**.

Table 10-1: Potential Effects Summary and Recommendations

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to Be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to Be Carried Forward to Construction / Operation
GW-01	Groundwater	Changes to groundwater quantity due to short-term water takings	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks	■ Permit or register water takings of more than 50,000 L/day with the Ministry of the Environment, Conservation and Parks Permit to Take Water or Environmental Activity and Sector Registry programs. ■ Permit groundwater discharges with an Environmental Compliance Approval from the Ministry of the Environment, Conservation and Parks. ■ Design construction dewatering to minimize the amount of groundwater that has to be extracted. ■ Conduct site-specific hydrogeological studies for any groundwater sourced water supplies used for Project construction. ■ Efficient water processes, fixtures and systems to be used where practical to reduce water taking requirements.	■ Groundwater removed from construction areas should be discharged locally and allowed to infiltrate the ground according to discharge permits. ■ Where possible, treated wastewater from groundwater sources should be returned to the local environment and allowed to infiltrate the ground according to discharge permits, to reduce the net taking of groundwater. ■ Groundwater monitoring to be conducted where required by permits or site-specific hydrogeological studies.
GW-02	Groundwater	Changes to groundwater quantity due to reduced or increased recharge	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks	■ Design Project drainage to allow for local infiltration of water. ■ Follow drainage best management practices such as those outlines in *Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects* (Ministry of Transportation, 2015) and *Environmental Guidelines for Access Roads and Water Crossings* (Ministry of Natural Resources, 1990).	■ Avoid infiltration of contaminated water or infiltration of water at locations that could be negatively impacted by raised groundwater levels. ■ Restore temporary construction infrastructure and sites to match pre-disturbance ground cover, topography, and vegetation conditions.
GW-03	Groundwater	Changes to groundwater quantity due to pit or quarry dewatering	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks ■ Ministry of Natural Resources ■ Ontario Parks	■ All aggregate pits and quarries will be permitted by the Ministry of Natural Resources under the *Ontario Aggregate Resources Act* including technical studies to assess any extraction proposed below the water table. ■ Any aggregate pit or quarry dewatering in excess of 50,000 L/day will be permitted by a Permit to Take Water from the Ministry of the Environment, Conservation and Parks. A technical water taking assessment of potential effects and mitigation measures will be required for the permit application. ■ Aggregate pit or quarry dewatering discharge should be permitted by an Environmental Compliance Approval from the Ministry of the Environment, Conservation and Parks. A technical assessment of potential effects and mitigation measures will be required for the permit application.	■ Industry best management practices for water taking from aggregate pits and quarries should be employed such as recording water takings volumes and times, discharging water back to the environment in a way that allows for replenishment of groundwater, on-site water re-use, and monitoring of discharge water quality. ■ Groundwater monitoring programs to be established in accordance with permit requirements and Project monitoring plans.
GW-04	Groundwater	Changes to groundwater quantity due to road construction in peatland areas	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks	■ Road design should include equalization culverts and permeable base materials in peat land areas.	■ The Community Access Road foundation design and construction should allow for groundwater flow through the peat to be maintained near to pre-construction rates. ■ A groundwater monitoring program should be implemented to identify if groundwater flow beneath the road in peatland areas is significantly restricted.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to Be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to Be Carried Forward to Construction / Operation
GW-05	Groundwater	Changes to groundwater quality due to accidental spills and leaks	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks ■ Transport Canada	■ Fuels and hazardous materials should be stored and handled according to applicable regulations and best management practices such as the *Technical Standards and Safety Act* and the *Transportation of Dangerous Goods Act*.	■ A Project-wide Spill Prevention and Emergency Response Plan should be developed and implemented. ■ All employees should be trained for spill prevention and response. ■ All machinery and equipment will be regularly inspected to maintain proper function and avoid any fluid leaks. ■ High-risk activities such as fuelling will be done only in designated areas where secondary containment and adequate spill containment measures are available. ■ The Community Access Road should be maintained to provincial standards to reduce the risk of accidents and associated spills.
GW-06	Groundwater	Changes to groundwater quality due to construction wastes and wastewater discharges	■ Construction	■ Ministry of the Environment, Conservation and Parks	■ Wastewater will be treated to meet provincial water quality guidelines such as *Provincial Water Quality Objectives* set by Ontario's Ministry of the Environment, Conservation and Parks (Ministry of Environment and Energy, 1994) and monitored to help confirm that it continues to meet the guidelines. ■ Discharges should be permitted where required under Environmental Compliance Approvals issued by Ministry of the Environment, Conservation and Parks.	■ A Waste Management Plan should be developed for the Project and include details for how wastes should be stored, handled, and disposed of. ■ All staff working on the Project will be trained in and aware of the Project's Waste Management Plan. ■ Wastes generated by Project activities will be kept in designated containment areas according to applicable legislation (e.g., *Ontario Regulation 347*) until removed for final disposal. Any waste storage should be protected from precipitation contact that could cause contaminated runoff.
GW-07	Groundwater	Changes to groundwater quality due to blasting residues	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks ■ Transport Canada	■ A Blasting and Communication Management Plan should be developed for the Project and include guidelines for explosives handling, storage, and loading to minimize explosives exposure to the environment and minimize explosives residue after blasting.	■ Project blasting should be carried out according to applicable regulations such as the *Explosives Act* and the *Transportation of Dangerous Goods Act.* ■ A monitoring program for water quality in quarry sumps and downstream of blasting areas should be conducted and compared to action levels of contaminants of concern set based on regulatory guidelines and the sensitivity of downstream receptors. ■ Post-blast inspections will be regularly carried out to identify issues with blast design and detonations.
GW-08	Groundwater	Changes to groundwater quality due to exposure of acid-generating or metal leaching materials	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks	■ A geochemical monitoring program will be developed to test bedrock and soils in areas where they will be exposed by excavation.	■ A geochemical monitoring program will be implemented to test bedrock and soils in areas where they will be exposed by excavation. ■ Any materials identified as at risk for acid generation or metal leaching will not be excavated or will be subject to site-specific mitigation and management plans to contain and control potential acid rock drainage if excavation is unavoidable.

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to Be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to Be Carried Forward to Construction / Operation
GW-09	Groundwater	Changes to groundwater quality due to road maintenance	■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks ■ Ministry of Transportation	■ N/A	■ Road maintenance will be carried out according to best management practices such as those outlined by *Best Practices for the Use and Storage of Chloride-Based Dust Suppressant* (Environment Canada, 2007) to reduce the use of chemicals for dust control and minimize runoff of chemicals to the environment. ■ Alternative chemicals or methods of dust control that pose less risk of runoff and infiltration should be considered for use.

Notes: L/day = litre per day; N/A = not applicable.

Table 10-2: Cumulative Effects Summary and Recommendations

ID	Valued Component	Environmental Concern and Potential Effect	Project Phase	Concerned Agencies	Mitigation, Protection, Monitoring, and Study Commitments to Be Carried Forward to Detailed Design	Mitigation, Protection, Monitoring, and Study Commitments to Be Carried Forward to Construction / Operation
GW-10	Groundwater	Changes to groundwater quantity due to pit or quarry dewatering	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks ■ Ministry of Natural Resources	■ No additional mitigation measures from those presented in **Table 10-1** are recommended.	■ Monitoring programs of the Project and other activities / projects should share relevant monitoring data where predicted effects may overlap.
GW-11	Groundwater	Changes to groundwater quantity due to road construction in peatland areas	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks	■ No additional mitigation measures from those presented in **Table 10-1** are recommended.	■ Monitoring programs of the Project and other activities / projects should share relevant monitoring data where predicted effects may overlap.
GW-12	Groundwater	Changes to groundwater quality due to construction wastes and wastewater discharges	■ Construction	■ Ministry of the Environment, Conservation and Parks	■ No additional mitigation measures from those presented in **Table 10-1** are recommended.	■ Monitoring programs of the Project and other activities / projects should share relevant monitoring data where predicted effects may overlap.
GW-12	Groundwater	Changes to groundwater quality due to blasting residues	■ Construction ■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks ■ Transport Canada	■ No additional mitigation measures from those presented in **Table 10-1** are recommended.	■ Monitoring programs of the Project and other activities / projects should share relevant monitoring data where predicted effects may overlap.
GW-13	Groundwater	Changes to groundwater quality due to road maintenance	■ Operation and Maintenance	■ Ministry of the Environment, Conservation and Parks ■ Ministry of Transportation	■ No additional mitigation measures from those presented in **Table 10-1** are recommended.	■ Monitoring programs of the Project and other activities / projects should share relevant monitoring data where predicted effects may overlap.

Notes: L/day = litre per day; N/A = not applicable.

11 References

AECOM. (2020). *Proposed Terms of Reference Marten Falls Community Access Road - Environmental Assessment.*

AECOM. (2020). *Proposed Terms of Reference Marten Falls Community Access Road – Environmental Assessment.* Markham, Ontario. Retrieved from https://www.martenfallsaccessroad.ca/wp-content/

AECOM. (2021). *All Season Community Access Road: Groundwater and Geochemistry Study Plan.*

Aroland First Nation. (2022). *Input on Groundwater Field Logistics Workplan*.

Attawapiskat First Nation. (2024). *Input on the Groundwater Field Logistics Workplan*.

Barnett, P. J. (2013). Surficial Geology of the Fort Hope Area Northeast, Northern Ontario, Preliminary Map P.3724. Ontario Geological Survey.

Canadian Environmental Assessment Agency. (2013). *Operational Policy Statement: Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012.* Retrieved from https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-under-canadian-environmental-assessment-act-2012.html

Canadian Environmental Assessment Agency. (2018). *Assessing cumulative environmental effects under the Canadian Environmental Assessment Act, 2012 : interim technical guidance*. Retrieved from https://publications.gc.ca/site/eng/9.850454/publication.html

Canadian Institutes of Health Research. (2022, August 19). *Gender-Based Analysis Plus.* Retrieved from Government of Canada: https://cihr-irsc.gc.ca/e/50968.html

CCME (Canadian Council of Ministers of the Environment). (1999). *Canadian Water Quality Guidelines, Water Quality (Freshwater) for the Protection of Aquatic Life.*

Chiefs of Ontario. (n.d.). *Traditional Knowledge*. Retrieved from Chiefs of Ontario: http://www.chiefs-of-ontario.org/priorities/environment/traditional-knowledge/.

Dillon. (2021). *Aboriginal and Treaty Rights and Interests Study Plan.*

Dillon. (2024a). *Marten Falls First Nation Community Access Road: Aboriginal and / or Treaty Rights and Interests Existing Conditions & Effects Assessment Report.*

Dillon. (2026a). *Marten Falls Community Access Road: Marten Falls First Nation Aboriginal and / or Treaty Rights and Interests Draft Existing Conditions & Effects AssessmentReport.*

Dillon. (2026b). *Marten Falls Community Access Road Project. Aroland First Nation Aboriginal and / or Treaty Rights and Interests Draft Report.*

Environment Canada. (2007). *Best Practices for the Use and Storage of Chloride-Based Dust Suppressants.*

Firelight Research Inc. (2024). *Fort Albany First Nation Indigenous Knowledge and Use Study Specific to the: Proposed Marten Falls Community Access Road.*

Garvin, T., & Northern Forestry Centre (Canada). (2001). *A Guide to Conducting a Traditional Knowledge and Land Use Study.* Northern Forestry Centre.

Golder Associates Ltd. (2013). *Cliffs Chromite Project Environmental Assessment, Geology and Hydrogeology Technical Supporting Document Part 2: Integrated Transportation System.* Draft V3.1.

Golder Associates Ltd. (2021). *All Season Community Access Road: Groundwater and Geochemistry Field Logistics Work Plan for Field Studies.*

Government of Canada. (1985). Explosives Act.

Government of Canada. (1992). Transportation of Dangerous Goods Act.

Government of Canada. (2019, August 28). *Impact Assessment Act (S.C. 2019, c. 28, s. 1)*. Retrieved from Justice Laws Website: https://laws.justice.gc.ca/eng/acts/I-2.75/index.html

Government of Ontario. (1990a). Aggregate Resources Act.

Government of Ontario. (1990b). Environmental Assessment Act.

Government of Ontario. (1990c). Environmental Protection Act.

Government of Ontario. (1990d). Ontario Water Resources Act.

Government of Ontario. (2000). Technical Standards and Safety Act.

Government of Ontario. (2006). *Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines.*

Government of Ontario. (2020, August). *Aggregate Resources of Ontario: Site Plan Standards.* Retrieved from https://files.ontario.ca/mnrf-aggregate-resources-of-ontario-site-plan-standards-2020-en-2021-03-18.pdf

Government of Ontario. (2023, August). *Aggregate Resources of Ontario: Technical Reports and Information Standards.* Retrieved from https://files.ontario.ca/mnrf-aggregate-resources-ontario-technical-reports-information-standards-2023-en-2023-09-08.pdf

Health Canada. (2024). Guidelines for Canadian Drinking Water Quality, Summary Tables. Retrieved 07 12, 2024, from https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html

Heginbottom, J. A., Dubreuil, M. A., & Harker, P. T. (1995). Canada Permafrost. *The National Atlas of Canada, 5th Ed.*

Impact Assessment Agency of Canada. (2020a, February 24). *Marten Falls Community Access Road Project Tailored Impact Statement Guidelines.* Retrieved from https://iaac-aeic.gc.ca/050/documents/p80184/133937E.pdf

Impact Assessment Agency of Canada. (2020b, February 24). *Cooperation Plan for the Marten Falls Community Access Road Project Impact Assessment.* Retrieved from https://www.iaac-aeic.gc.ca/050/documents/p80184/133931E.pdf

Impact Assessment Agency of Canada. (2021a, September 17). *Guidance: Gender-Based Analysis Plus in Impact Assessment.* Retrieved from Government of Canada: https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/gender-based-analysis.html

Impact Assessment Agency of Canada. (2021b, July). *Glossary of Terms*. Retrieved from Canada.ca: https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/glossary-of-terms.html

Impact Assessment Agency of Canada. (2022). *Impact Assessment Agency of Canada (IAAC). Input on Groundwater Field Logistics Workplan*.

KGS Group. (2019a). *MFFN Testhole Logs & Lab Testing Data - KGS Sept-October 2019.*

KGS Group. (2019b). *Environmental Assessment and Preliminary Design Services for Marten Falls Community Access Road 3-Day Helicopter Reconnaissance – Phase 1 – Final (letter to AECOM).*

KGS Group. (2020). *Environmental Assessment and Preliminary Design Services for Marten Falls Community Access Road, Geotechnical Report.* Draft Rev A.

Kim, P. J. (2019, July 25). Social Determinants of Health Inequities in Indigenous Canadians through a Life Course Approach to Colonialism and the Residential

School Systems. *Health Equity*(3.1), 378-381. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6657289/

Marinelli, F., & Niccoli, W. L. (2000). Simple Analytical Equations for Estimating Ground Water Inflow to a Mine Pit. *Ground Water, 38*(2), 311-314.

Marten Falls First Nation. (2021). *Feedback on Groundwater Field Logistics Workplan*.

Marten Falls First Nation. (2023). Marten Falls First Nation - Marten Falls First Nation Aboriginal and/or Treaty Rights and Interests: Preliminary Existing Conditions Report.

MEND. (2009). *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials.*

Ministry of Environment. (2016). *Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater, Version: 2.0.* Queen's Printer.

Ministry of Environment and Energy. (1994). *Water Management, Policies, Guidelines, Provincial Water Quality Objectives.*

Ministry of Natural Resources. (1990). Environmental Guidelines for Access Roads and Water Crossings. Retrieved 07 12, 2024, from https://www.ontario.ca/page/environmental-guidelines-access-roads-and-water-crossings

Ministry of Natural Resources. (2008, 09 09). Water Supply.

Ministry of the Environment. (2011). *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act.*

Ministry of the Environment, Conservation and Parks. (2015, 03 05). Source Protection Area Generalized. Retrieved 07 12, 2024, from https://geohub.lio.gov.on.ca/datasets/lio::source-protection-area-generalized/about

Ministry of the Environment, Conservation and Parks. (2021). *Comments on the Groundwater and Geochemistry Field Work Plan.*

Ministry of the Environment, Conservation and Parks. (2022a). *Comments on the Groundwater and Geochemistry Field Work Plan.*

Ministry of the Environment, Conservation and Parks. (2022b). *Feedback on the Groundwater Field Logistics Workplan.*

Ministry of the Environment, Conservation and Parks. (2023). *Comments on the Groundwater and Geochemistry Field Work Plan.*

Ministry of the Environment, Conservation and Parks. (2024a, 01 31). Well Records. Retrieved July 12, 2024, from https://data.ontario.ca/dataset/well-records

Ministry of the Environment, Conservation and Parks. (2024b, 01 9). Permit to Take Water. Retrieved 07 12, 2024, from https://data.ontario.ca/dataset/permit-to-take-water

Ministry of the Environment, Conservation and Parks. (2024c). Access Environment, online mapping application. Retrieved 07 12, 2024, from https://www.lioapplications.lrc.gov.on.ca/Access_Environment/index.html?viewer=Access_Environment.AE&locale=en-CA

Ministry of Transportation. (2003). *Maintenance Manual.*

Ministry of Transportation. (2015). *Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects.*

MNDMNRF. (2022). *Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF). Input on the Groundwater Field Logistics Plan*.

Neskantaga First Nation. (2021). *Input on Groundwater Field Logistics Workplan*.

New Hampshire Department of Environmental Services. (2019). *Rock Blasting and Water Quality Measures that can be Taken to Protect Water Quality and Mitigate Impacts.*

Shared Value Solutions. (2024). *Aroland First Nation Indigenous Knowledge and Land Use Study for the Marten Falls First Nation Community Access Road.*

Singer, S., & Cheng, C. (2002). *An Assessment of the Groundwater Resources of Northern Ontario.* Toronto: Environmental Monitoring and Reporting Branch, Ontario Ministry of the Environment.

Wang, K., & Chin, V. (1978). *Northern Ontario Water Resources Studies, Ground - Water Resources.* Toronto: Ministry of the Environment, Water Resources Branch.

Women and Gender Equality Canada. (2022, June). *Gender-based Analysis Plus.* Retrieved from Government of Canada: https://women-gender-equality.canada.ca/en/gender-based-analysis-plus/what-gender-based-analysis-plus.html

WSP. (2026a). *Surface Water Technical Support Document: Existing Conditions and Effects Assessment Report.*

WSP. (2026b). *Physiography, Terrain and Soils Technical Support Document: Existing Conditions & Effects Assessment.*

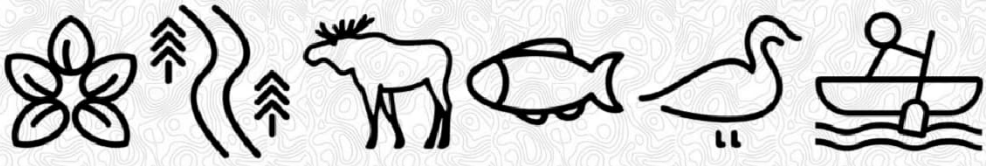
Attachment A – Study Plan, Workplan, and Regulator Comments

MARTEN FALLS FIRST NATION
ALL SEASON COMMUNITY ACCESS ROAD

FINAL

Groundwater and Geochemistry Study Plan

May 2021



Distribution List

# Hard Copies	PDF Required	Association / Company Name
	✓	Marten Falls First Nation
	✓	AECOM Canada Ltd.

Revision History

Rev #	Date	Revision Description
Draft	May 2020	Submitted “Study Plan –Groundwater DRAFT FOR DISCUSSION” to the Agency
Final	May 2021	Revised to address federal and provincial agency comments

Statement of Qualifications and Limitations: AECOM

The attached Report (the "Report") has been prepared by AECOM Canada Ltd. ("AECOM") for the benefit of the Client ("Client") in accordance with the agreement between AECOM and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");
- represents AECOM's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to AECOM which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

AECOM shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. AECOM accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

AECOM agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but AECOM makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by AECOM represent AECOM's professional judgement in light of its experience and the knowledge and information available to it at the time of preparation. Since AECOM has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, AECOM, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

Except (1) as agreed to in writing by AECOM and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

AECOM accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of AECOM to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

AECOM: 2015-04-13
© 2009-2015 AECOM Canada Ltd. All Rights Reserved.

Disclaimer: Golder Associates

The attached Report (the "Report") has been prepared by Golder Associates Ltd. ("Golder") for the benefit of AECOM Canada Ltd. ("Client") in accordance with the agreement between Golder and Client, including the scope of work detailed therein (the "Agreement").

Golder has prepared the Report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to the Report ("Standard of Care").

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");
- represents Golder's judgement in light of the Limitations and the Standard of Care applicable for the preparation of similar reports;
- may be based on information provided to Golder which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

Golder shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. Golder accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

The Report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the Report. To properly understand the suggestions, recommendations, and opinions expressed in the Report, reference must be to the foregoing and to the entirety of the Report. Golder cannot be responsible for use of portions of the Report without reference to the entire Report.

The findings and conclusions documented in the Report have been prepared for the specific site, design objective, development, and purpose described to Golder by the Client. The factual data, interpretations, and recommendations pertain to a specific project as described in the Report and are not applicable to any other project or site location. Any change of or variation in the site conditions, purpose, or development plans may alter the validity of the Report. The findings and conclusions of the Report are valid only as of the date of the Report. If new information is discovered in future work, Golder should be requested to re-evaluate the conclusions of the Report, and to provide amendments as required. Accordingly, Golder cannot be responsible for use of the Report, or portions thereof, unless Golder is requested to review and, if necessary, revise the Report.

The Report, all plans, data, drawings, and other documents as well as all electronic media prepared by Golder are considered its professional work product are not to be modified, amended, excerpted, or revised and shall remain the copyright property of Golder, who authorizes only the Client to make copies of the report, but only in such quantities as are reasonably necessary for the use of the Report by those parties for the specific purpose described in the Report and the Agreement. The Client may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express prior written permission of Golder.

Golder agrees that the Report represents its judgement in accordance with the Standard of Care as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Golder makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by Golder represent Golder's judgement in light of its experience and the knowledge and information available to it at the time of preparation in accordance with the Standard of Care. Since Golder has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, Golder, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

Except (1) as agreed to in writing by Golder and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

Golder accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of Golder to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

Authors

Report Prepared By:

Stephen Dickin, P.Geo.
Hydrogeologist
AECOM Canada Ltd.

Mehrnoush Javadi, Ph.D.
Hydrogeologist / Geochemist
AECOM Canada Ltd.

Report Reviewed By:

Matthew Bowman, B.Sc., P.Geo.
Hydrogeologist
Golder Associates Ltd.

John Piersol, M.Sc., P.Geo.
Associate, Hydrogeologist-
Golder Associates Ltd.

David Brown, P.Geo. ON, NL
Principal, Mine Water and Environment
Golder Associates Ltd.

Leah Deveaux, BES, MCIP,RPP
Senior Environmental Planner
AECOM Canada Ltd.

Table of Contents

page

1. Introduction 1

1.1 Federal and Provincial Terminology 1
1.2 Project Study Plans 2

2. Purpose and Objectives 5

2.1 Approach to Handling Confidential Information 6
2.1.1 Indigenous Knowledge 6

3. Study Plan Technical Discussions 7

4. IS / EA Report Consultation and Engagement Process 8

4.1 Interested Persons and Government Agencies 8
4.2 Indigenous Communities 8
4.3 Consideration of Identity and Gender-Based Analysis Plus in Engagement 10

5. Consideration of Indigenous Knowledge in the IS / EA Report 11

6. Assessment Boundaries 14

6.1 Temporal Boundaries: Project Phases 14
6.2 Spatial Boundaries: Study Areas 15
6.2.1 General Information 15
6.2.2 Groundwater and Geochemistry Study Areas 17

7. Baseline Study Design 20

7.1 Desktop Assessment 20
7.1.1 Groundwater 21
7.1.2 Geochemistry 22
7.2 Groundwater Field Study 23
7.2.1 Study Area Reconnaissance & Determination of Key Groundwater Monitoring Locations 23
7.2.1.1 Water Well Locations 24

7.2.2 Proposed Groundwater Monitoring Well Installation Regime at Key Monitoring Locations 25
7.2.3 Groundwater Monitoring Well Installation 26
7.2.3.1 Conventional Monitoring Wells 26
7.2.3.2 Drive-Point Piezometers 27
7.2.3.3 Stilling Wells 27
7.2.4 Well Surveying 28
7.2.5 Monitoring Well Development 28
7.2.6 Groundwater Quantity and Quality Monitoring Program 29
7.2.6.1 Water Level Measurements 29
7.2.6.2 Groundwater Quality Sampling 30
7.2.7 Hydraulic Conductivity Testing 33
7.3 Geochemistry Field Study 34
7.3.1 Soil and Rock ARD / ML Sampling 34

8. Data Management and Analysis 38
8.1 Data Management 38
8.2 Groundwater Quality 38
8.2.1 Quality Control (QC) Samples 38
8.2.2 Data Analysis and Reporting 38

9. Effects Assessment 42
9.1 Project-Environment Interactions 42
9.2 Valued Components and Indicators 43
9.3 Potential Effects 44
9.4 Methods for Predicting Future Conditions 46
9.5 Mitigation and Enhancement Measures 47
9.6 Residual Effects 47
9.6.1 Magnitude 48
9.7 Consideration of Sustainability Principles 49
9.8 Consideration of Identity and Gender-Based Analysis Plus in Effects Assessment 50
9.9 Follow-up Programs 50

10. Assumptions 51

11. Concordance with Federal and Provincial Guidance 52

12. References 68

List of Figures

Figure 6-1: Project Schedule 15
Figure 6-2: Groundwater Local and Regional Study Areas 18

List of Tables

Table 1-1: Equivalent Federal and Provincial Terms 1
Table 1-2: Project Study Plans and Valued Components 2
Table 4-1: Identified Neighbouring Indigenous Communities, including their Provincial Territorial Organizations and / or Tribal Council Affiliations 9
Table 6-1: Groundwater Study Areas 17
Table 7-1: Sampling Frequency based on Estimated Tonnage 35
Table 9-1: Project – Environment Interactions 42
Table 9-2: Groundwater Indicators 44
Table 9-3: Potential Discipline Interactions 45
Table 9-4: Groundwater Quantity Magnitude Definition 48
Table 9-5: Groundwater Quality Magnitude Definition 48
Table 11-1: Study Plan Federal Concordance – Conformance with Requirements 53
Table 11-2: Study Plan Provincial Concordance – Conformance with Requirements 63

Appendices

Appendix A. Preliminary List of Data Sources

Appendix B. Agency Comments on the Draft Study Plan

Acronyms

AECOM ..... AECOM Canada Ltd.
Agency, the ... Impact Assessment Agency of Canada
CALA ..... Canadian Association for Laboratory Accreditation
CAR ..... Community Access Road
CCME ..... Canadian Council of Ministries of the Environment
CDWQG ..... Canadian Drinking Water Quality Guidelines
EA ..... Environmental Assessment
EASR ..... Environmental Activity and Sector Registry
IA ..... Impact Assessment
IAA ..... *Impact Assessment Act*
ICA ..... Issue Contributing Area
IS ..... Impact Statement
K ..... Hydraulic Conductivity
km ..... kilometre
LSA ..... Local Study Area
MECP ..... Ontario Ministry of the Environment, Conservation and Parks
MFFN ..... Marten Falls First Nation
O.Reg.903 ..... R.R.O. 1990, Ontario Regulation 903 “Wells”, as amended
ODWQS ..... Ontario Drinking Water Quality Standards
OGS ..... Ontario Geological Survey
PDA ..... Project Development Area
PTTW ..... Permit To Take Water
PWQO ..... Provincial Water Quality Objectives
PZ ..... Piezometer
ROW ..... Right-of-way
RSA ..... Regional Study Area
SAR ..... Species at Risk
SGRA ..... Significant Groundwater Recharge Area
SWRT ..... Single Well Response Test
TISG ..... Tailored Impact Statement Guidelines
ToR ..... Terms of Reference
VC ..... Valued Component
WWIS ..... Water Well Information System

1. Introduction

The Proponent of the Community Access Road (CAR or the Project) is Marten Falls First Nation (MFFN), a remote First Nation community in northern Ontario located at the junction of the Albany and Ogoki rivers, approximately 430 kilometres (km) from Thunder Bay, Ontario. The MFFN community is proposing an all-season Community Access Road that will connect the MFFN community to Ontario's provincial highway network (Highway 643) to the south via the existing Painter Lake Road. MFFN, as the Proponent of the Project, has formed a MFFN CAR Project Team that includes MFFN CAR Community Member Advisors and MFFN CAR Project Consultants who act with input, guidance and direction from the MFFN Chief and Council.

This document outlines the study plan for the Groundwater and Geochemistry discipline to support a co-ordinated Impact Assessment (IA) required for Project review by the Impact Assessment Agency of Canada (the Agency) under the federal *Impact Assessment Act* (IAA) and Environmental Assessment (EA) required for Project review by the Ontario Ministry of the Environment, Conservation and Parks (MECP) under the Ontario *Environmental Assessment Act*.

1.1 Federal and Provincial Terminology

The study plans have been prepared using federal terminology, however, the respective provincial terminology has been provided in **Table 1-1** for reference. The terms can be used interchangeably.

Table 1-1: Equivalent Federal and Provincial Terms

Provincial Term	Federal Term
Criteria	Valued Component
Impact Management Measure	Mitigation Measure
Net Effects	Residual Effects
Record of Consultation	Record of Engagement

1.2 Project Study Plans

This Study Plan is one of a group of study plans created for the Project. **Table 1-2** includes the study plans for each environmental[1] discipline currently planned for the Project and the valued components (VCs) covered by the study plans where applicable.

Table 1-2: Project Study Plans and Valued Components

Environmental Discipline	Study Plan Name	Valued Component(s)
Aboriginal and Treaty Rights and Interests	■ Aboriginal and Treaty Rights and Interests Study Plan	■ Indigenous Current Use of Lands and Resources for Traditional Purposes ■ Cultural Continuity (ability to practice and transmit cultural traditions)
Atmospheric Environment	■ Atmospheric Environment and Greenhouse Gases Study Plan	■ Air Quality ■ Greenhouse Gas Emissions
Climate Change	■ Climate Adaptation and Resiliency Study Plan	■ Climate Change
Acoustic and Vibration Environment	■ Acoustic and Vibration Environment Study Plan	■ Noise ■ Vibration
Physiography, Geology, Terrain and Soils	■ Physiography, Terrain and Soils Study Plan	■ Physiography, Terrain and Soils
Surface Water	■ Surface Water Study Plan	■ Surface Water
Groundwater and Geochemistry	■ Groundwater and Geochemistry Study Plan	■ Groundwater
Vegetation	■ Vegetation Study Plan	■ Wetland and Riparian Ecosystems ■ Upland Ecosystems ■ Designated Areas (Areas of Natural and Scientific Interest, Environmentally Significant Areas, Significant Woodlands, Critical Landform / Vegetation Associations) ■ Traditional Use Plants and SAR Plant Populations (including species with special conservation status or rarity in the province)
	■ Peatlands Study Plan	■ Peatland Ecosystems (bogs and fens)
Wildlife	■ Wildlife Study Plan	■ Bats (including SAR-bats such as: Little Brown Myotis [*Myotis lucifugus*], Northern Myotis [*Myotis septentrionalis*] and Tricolored Bat [*Perimyotis subflavus*])

1. *The use of the term environment in this document is inclusive of the components of the environment that are included in the Ontario Environmental Assessment Act definition, which includes a general description of the social, cultural, built and natural environments.*

Environmental Discipline	Study Plan Name	Valued Component(s)
		■ Fur Bearers (proxy VC[2] American Marten [*Martes americana*], Beaver [*Castor canadensis*] and Wolverine [*Gulo gulo*]) ■ Amphibians and Reptiles ■ Pollinating Insects
	■ Ungulates (Moose and Caribou) Study Plan	■ Moose (*Alces alces*) ■ Caribou, boreal population (*Rangifer tarandus*)
	■ Bird Study Plan	■ Forest Birds (proxy VC of Red-eyed Vireo [*Vireo olivaceus*] for deciduous forest, Ovenbird [*Seirus aurocapilla*] for mixedwood forest, Dark-eyed Junco [*Junco hyemalis*] for coniferous forest and disturbed forest ■ Raptors (proxy VC of Osprey [*Pandion haliaetus*] for diurnal raptors and Boreal Owl [*Aegolius funereus*] for nocturnal raptors ■ Shorebirds (proxy VC of Wilson's Snipe [*Gallingo delicata*]) ■ Waterfowl (proxy VC of Mallard [*Anas platyrhynchos*]) ■ Bog / Fen Birds and Other Wetland Birds (proxy VC of Palm Warbler [*Setophaga palmarum*] for bogs, Common Yellowthroat [*Geothlypis trichas*] for fens; and Northern Waterthrush [*Parkesia noveboracensis*] for swamps . ■ SAR birds: Canada Warbler (*Cardellina canadensis*), Chimney Swift (*Chaetura pelagica*), Common Nighthawk (*Chordeiles minor*), Eastern Whip-poor-will (*Antrostomus vociferous*), Eastern Wood-Pewee (*Contopus virens*), Evening Grosbeak (*Coccothraustes vespertinus*), Olive-sided Flycatcher (*Contopus cooperi*), Bald Eagle (*Haliaeetus leucocephalus)*, Peregrine Falcon (*Falco peregrinus*), Short-eared Owl (*Asio flammeus)*, Bank Swallow (*Riparia riparia*), Barn Swallow (*Hirundo rustica*), Black Tern (*Childonias niger*), Rusty Blackbird (*Euphagus carolinus*), Yellow Rail (*Coturnicops noveboracensis*)
Fish and Fish Habitat	■ Fish and Fish Habitat Study Plan	■ Lake Sturgeon (*Acipenser fulvescens*) ■ Walleye (*Sander vitreus*) ■ Brook Trout (*Salvelinus fontinalis*) ■ Northern Pike (*Esox lucius*) ■ Lake Whitefish (*Coregonus clupeaformis*) ■ Chain Pickerel (*Esox niger*) ■ Yellow Perch (*Perca flavescens*) ■ Cisco (*Coregonus artedii*) ■ Burbot (*Lota lota*)

[2] *A proxy VC is used when looking at the effects of one species that represents many others.*

Environmental Discipline	Study Plan Name	Valued Component(s)
		■ Longnose Sucker (*Catostomus catostomus*) ■ White Sucker (*Catostomus commersonii*) ■ Forage / Prey Species (including species such as Lake Chub [*Couesius plumbeus*]) ■ Lower Trophic Organisms (e.g., benthic invertebrates)
Social	■ Social Study Plan	■ Housing and Accommodation ■ Community Service and Infrastructure ■ Transportation ■ Community Well-being ■ Populations and Demographics
Economy	■ Economic Study Plan	■ Regional Economy ■ Labour Force and Employment ■ Government Finances
Land and Resource Use	■ Land and Resource Use Study Plan	■ Land Use Compatibility ■ Parks and Protected Areas ■ Extractive Industry ■ Forestry Industry ■ Energy and Linear Infrastructure ■ Recreation and Tourism
Human Health and Community Safety	■ Human Health and Community Safety Study Plan	■ Public Safety ■ Public Health ■ Diet ■ Environmental Factors Influencing Health
Visual Aesthetics	■ Visual Aesthetics Study Plan	■ Visual Contrast / Character ■ Visibility ■ Visual Sensitivity
Archaeological and Cultural Heritage	■ Cultural Heritage Study Plan	■ Archaeological Sites and Resources ■ Built Heritage Resources and Cultural Heritage Landscapes

It should be noted that while there is not a consultation study plan, the Project has developed the *Consultation and Engagement Plan to Support the Environmental Assessment / Impact Statement* (AECOM 2020) (referred to as the Impact Statement [IS] / EA Consultation Plan).

2. Purpose and Objectives

The key objectives of conducting an IA / EA are to describe the existing environment, gather sufficient information to predict Project-related effects (positive and negative, direct and indirect) of the Project and alternatives on the environment, determine measures needed to avoid or minimize adverse Project effects, and enhance beneficial Project effects where feasible, and to undertake consultation and engagement. The purpose of this Study Plan is to explain:

- A baseline[3] study methodology that will result in a comprehensive description of the existing environment potentially impacted by the Project;
- How efficient and transparent data management and analysis will be undertaken;
- Effects assessment scoping inputs specific to Groundwater and Geochemistry that will allow for potential effects of the Project on the existing environment to be appropriately assessed in the IS / EA Report; and
- How the study plan aligns with federal and provincial requirements and guidance, including the Agency's Tailored Impact Statement Guidelines (TISG), dated February 24, 2020 (the Agency 2020c), for this Project and applicable provincial agency comments on the Draft Terms of Reference (ToR)[4].

As required by the IAA and referenced in TISG Section 7.3, work plans will also be developed for disciplines as required. It is anticipated the work plans will include further details on how to action the study plans; for example they would contain such information as location of sampling sites, scheduling, and sequencing.

For the purposes of establishing appropriate context, the study plan begins with background and relevant information on:

- Study-plan related discussions with the Agency, the MECP and applicable agencies to date (**Section 3**);
- The approach to Project consultation and engagement (**Section 4**);
- How Indigenous Knowledge will be collected and used in the IA / EA (**Section 5**); and
- The spatial and temporal boundaries that will be used for the IA / EA (**Section 6**).

3. *Baseline refers to the current conditions of the environment potentially impacted by the Project. Baseline conditions serve as a reference against which changes due the Project are measured.*
4. *If necessary, the Study Plan will be updated to reflect the approved ToR if approval is obtained.*

2.1 Approach to Handling Confidential Information

2.1.1 Indigenous Knowledge

Permission from the Indigenous community will be sought before including Indigenous Knowledge in the IS / EA Report, regardless of the source of the Indigenous Knowledge. Sensitive and / or confidential information will be specifically collected through the Indigenous Knowledge Program to inform the IS / EA Report, and its use and publication will be governed by Indigenous community-specific Indigenous Knowledge Sharing Agreements. Sensitive and / or confidential information collected through Indigenous Knowledge Sharing Agreements will be protected from public or third-party disclosure and will be established between the Proponent and Indigenous communities participating in the Indigenous Knowledge Program prior to the sharing and use of any sensitive information. Instances where Indigenous Knowledge sharing has taken place during consultation activities (e.g., meetings) will be recorded in the Record of Consultation and Engagement, including where Indigenous Knowledge was incorporated into Project decisions and into the IS / EA Report (i.e., specifics will not be included in the Record of Consultation and Engagement given the potential sensitivity and / or confidentiality of the information shared).

3. Study Plan Technical Discussions

To facilitate the development of satisfactory study plans and eventually a satisfactory IS / EA Report, MFFN previously submitted draft study plans in an effort to hold technical discussions with the Agency, the MECP and applicable agencies. However, no Groundwater and Geochemistry discipline specific technical study plan discussions have occurred to date.

4. IS / EA Report Consultation and Engagement Process

4.1 Interested Persons and Government Agencies

The Proponent will provide Project notices and advise of opportunities for consultation and engagement with interested persons[5] which includes, at a minimum, members of the public outlined in the *Public Participation Plan for the Marten Falls Community Access Road Project Impact Assessment* (The Agency, 2020) (referred to as the Public Participation Plan). This will include the opportunity to provide input on the existing environment, VCs, effects assessment methods, effects assessment results, and mitigation and follow-up program measures as applicable. A variety of activities will be offered so that members of the public are informed of the IS / EA Report as it progresses and are aware of the opportunities and means to provide their input. The study plans have recognized public and agency input received on the Project to date. Government agencies and interested persons will have the opportunity to comment on components of the study plans throughout the IS / EA Report consultation and engagement process. The Project's approach to handling confidential and sensitive information is outlined in **Section 2.1**.

4.2 Indigenous Communities

The Proponent will provide Project notices and opportunities for consultation and engagement with Indigenous communities identified in **Table 4-1**, which is inclusive of all Indigenous communities identified in the *Indigenous Partnership and Engagement Plan for the Marten Falls Community Access Road Project Impact Assessment* (The Agency 2020a) (referred to as the Indigenous Engagement and Partnership Plan).

Indigenous communities will be provided the opportunity to be involved at critical decision-making points throughout the IS / EA Report so that the Proponent can consider and incorporate, where appropriate Indigenous Knowledge and Indigenous land and resource use information into the Project as it pertains to the existing environment, VCs, effects assessment methods, effects assessment results, and mitigation and follow-up program measures. A variety of activities will be offered so that Indigenous communities are

5. *Interested persons, as defined in the IS / EA Consultation Plan, are individuals and groups (e.g., associations, non-governmental organizations, industry and academia) who could have an interest in the Project, including but not limited to communities in the region, those with commercial interests (e.g., forestry, trappers, outfitters, other mineral tenure holders in the area) and recreational users or those with recreational interest (e.g., campers, hunters and environmental groups).*

informed of the IS / EA Report as it progresses and are aware of the opportunities, means and timelines to provide their input. The study plans have recognized Indigenous community input received on the Project to date. Indigenous communities will have the opportunity to comment on components of the study plans throughout the IS / EA Report consultation and engagement process.

Table 4-1: Identified Neighbouring Indigenous Communities, including their Provincial Territorial Organizations and / or Tribal Council Affiliations

Tribal Council Affiliation	Indigenous Community or Organization
Matawa First Nations Management *(Nishnawbe Aski Nation)*	■ **Marten Falls First Nation** (Proponent and potentially affected Indigenous community) ■ Aroland First Nation ■ Constance Lake First Nation ■ Eabametoong First Nation ■ Ginoogaming First Nation ■ Neskantaga First Nation ■ Nibinamik First Nation ■ Webequie First Nation
Matawa First Nations Management and the Union of Ontario Indians / Nishnawbe Aski Nation	■ Long Lake #58 First Nation**
Mushkegowuk Council *(Nishnawbe Aski Nation)*	■ Attawapiskat First Nation ■ Fort Albany First Nation ■ Kashechewan First Nation
Shibogama First Nations Council *(Nishnawbe Aski Nation)*	■ Kasabonika Lake First Nation ■ Kingfisher Lake First Nation ■ Wapekeka First Nation ■ Wawakapewin First Nation ■ Wunnumin Lake First Nation
Independent First Nations Alliance *(Nishnawbe Aski Nation)*	■ Kitchenuhmaykoosib Inninuwug First Nation
Independent First Nations *(Nishnawbe Aski Nation)*	■ Mishkeegogamang First Nation ■ Weenusk First Nation
Nokiiwin Tribal Council	■ Animbiigoo Zaagi'igan Anishinaabek First Nation (AZA)*
Métis Nation of Ontario	■ Métis Nation of Ontario; Region 2*
Independent Métis Nation	■ Red Sky Independent Métis Nation*

*Notes: * Indigenous communities or organizations identified by MECP who should be consulted on the basis that they may be interested in the Community Access Road.*
*** The MECP indicated in a letter to MFFN that Long Lake #58 First Nation was moved from interest-based to rights-based.*

4.3 Consideration of Identity and Gender-Based Analysis Plus in Engagement

To fulfill requirements of the IAA, the Consultation and Engagement Program will consider a diverse range of perspectives from interested persons and interested Indigenous communities and their members identified in the Agency's Indigenous Engagement and Partnership Plan and the Public Participation Plan. This will include at a minimum providing ongoing opportunities for engagement to:

- **Neighbouring Indigenous communities, including relevant subpopulations:**
  - Women;
  - Youth; and
  - Elders.
- **Non-Indigenous communities including:**
  - Women;
  - Youth; and
  - Activity-based subgroups (e.g., recreationalists, snowmobilers, tourism establishment operators).

The Proponent will also consult and engage with other subpopulations identified by communities during consultation and engagement. The information from these activities and any additional identity groups identified by communities through consultation and engagement will be considered by applicable environmental disciplines for the purposes of data collection and considering disproportionate effects.

During consultation and engagement, these aforementioned groups will be consulted and engaged with on targeted input**.**

When feedback is received from interested persons and Indigenous communities, issues, comments and questions will be tracked, which is consistent with the process described in the IS / EA Consultation Plan. Specific to Gender-Based Analysis Plus objectives, this will include efforts to engage with diverse populations. It is expected this will include activities specific to subgroups and tabulation of consultation and engagement participation with respect to identity factors. This will provide summary statistics to demonstrate the diversity achieved in consultation and engagement.

5. Consideration of Indigenous Knowledge in the IS / EA Report

The following provides a general description of how Indigenous Knowledge will be considered in the IA / EA process. The extent to which Indigenous Knowledge is considered by each specific VC will vary depending on the nature of the VC, the potential for Project effects on the VC and whether Indigenous knowledge that relates to a VC is provided / obtained. As such, not all aspects of the general approach described below may apply to all VCs / study plans.

There are two concurrent and complementary avenues for Indigenous communities and groups to be engaged with and provide input on the Project: the Indigenous Knowledge Program and the Consultation and Engagement Program. Both programs serve to support the collection of Indigenous perspectives, values, and input on the Project, including Aboriginal and Treaty Rights and how they may be impacted by the Project, to be integrated throughout the IA / EA process. However, the Indigenous Knowledge Program specifically aims to solicit and incorporate information that is considered sensitive and may have confidentiality requirements, including Indigenous Knowledge and information on Indigenous land and resource use. Indigenous Knowledge Sharing Agreements will be established between the Proponent and Indigenous communities participating in the Indigenous Knowledge Program prior to the sharing and use of any sensitive information.

All Indigenous communities and groups identified by the MECP and the Agency through the Indigenous Engagement and Partnership Plan have the opportunity to participate in the Indigenous Knowledge Program. The Indigenous Knowledge Program provides interested Indigenous communities an opportunity to: share existing Indigenous Knowledge and information on Indigenous land and resource use and cultural values that may be relevant to the Project, and / or complete Project-specific studies to collect and share Indigenous Knowledge and information on Indigenous land and resource use and cultural values. The Indigenous Knowledge program includes opportunities for Indigenous communities and groups to meet with the Proponent to discuss the program, ask questions, and share concerns and interests. In support of this, the Proponent has created an Indigenous Knowledge Program Guidance Document (the Guidance Document) that provides:

- An overview of the Indigenous Knowledge Program and information on how Indigenous Knowledge and Indigenous land and resource use can be collected and / or shared;

- Information on how Indigenous Knowledge and information on Indigenous land and resource use and cultural values and practices may be used in the planning and design processes; and
- A suite of guidance materials that were developed based on the information requirements of both the federal and provincial assessment processes, including: question guides to support the collection of information on historical and current community context; Indigenous Knowledge that may be relevant to the various technical disciplines; information on Indigenous land and resource use, cultural values and practices and associated spatial data; and perspective on potential Project-related effects and associated mitigation and / or enhancement measures.

The Guidance Document will also support participating Indigenous communities in providing Project-specific information in a manner that facilitates meaningful incorporation into the IS / EA Report.

The IS / EA Consultation Plan outlines the process for obtaining information and feedback about the Project from Indigenous communities (i.e., the Consultation and Engagement Program). All Indigenous communities identified by the MECP and the Agency have the opportunity to participate in the Consultation and Engagement Program through community-specific meetings, Public Information Centres, web conferences, and other formats. All Indigenous communities identified by the MECP and the Agency will be provided information related to the Project and invited to participate at various points throughout the IA / EA process.

There are also opportunities for technical teams to engage with Indigenous communities to solicit perspectives and information relevant to the Project, including information related to collection of existing information and the development of the IS / EA Report. The Proponent also invites feedback and inputs throughout the Project via the Project website and ongoing communications with the Proponent.

The Indigenous Knowledge and Consultation and Engagement programs are designed to be complementary and provide multiple opportunities for communities to offer feedback and information, including perspectives on Aboriginal and Treaty Rights and interests and how these may be impacted by the proposed Project. Relevant information collected through both the Indigenous Knowledge and Consultation and Engagement programs, including potential effect pathways on Aboriginal and Treaty Rights and interests, will be shared with each of the relevant disciplines throughout the IA / EA to: guide and inform VCs; support characterization of the existing environment; identify the potential effects of the Project on VCs; help identify mitigation measures and potential monitoring programs; and ultimately guide Project planning. The nature of how the Indigenous Knowledge becomes integrated into the IS / EA Report will be dictated by the specific information provided by each Indigenous community and the parameters set out in

the Indigenous Knowledge Sharing Agreements. A description of how Indigenous Knowledge was considered in the IA / EA and in each of the technical discipline areas will be included in the IS / EA Report.

It is also important to note that information collected through the various activities (e.g., field studies and programs, effects assessments) of each discipline area (e.g., wildlife, vegetation, cultural heritage) will be shared with the Indigenous Knowledge Program leads. This will support the establishment of the existing environment and the effects assessment for the Aboriginal and Treaty Rights and Interests environmental discipline, as well as the identification of potential mitigation measures and monitoring programs, given the interrelated nature of Indigenous peoples and other environmental disciplines.

The Proponent will strive to respectfully collaborate with Indigenous communities on how Indigenous Knowledge and information on Indigenous land and resource use and cultural values will become part of the IS / EA Report, and how potential effects to Aboriginal and Treaty Rights and Interests will be assessed. It is expected that measures to support this may include but are not limited to: engaging Indigenous communities to solicit information on Indigenous Knowledge and Indigenous land and resource use and cultural values to inform baseline conditions, providing Indigenous communities with draft sections of the IS / EA Report to illustrate how Indigenous Knowledge and information on Indigenous land and resource use and cultural values has been integrated and to confirm it has been presented appropriately, and completing collaborative working sessions with Indigenous communities for the effects assessment on Aboriginal and Treaty Rights and Interests. Further information on how potential effects on Indigenous rights will be assessed is provided in the Aboriginal and Treaty Rights and Interests Study Plan.

6. Assessment Boundaries

6.1 Temporal Boundaries: Project Phases

Project phases, which are temporal boundaries, are developed to establish the timeframes within which potential effects of the Project will be considered in the IS / EA Report. The Project is planned to occur in two phases, which are briefly described below and shown in **Figure 6-1**.

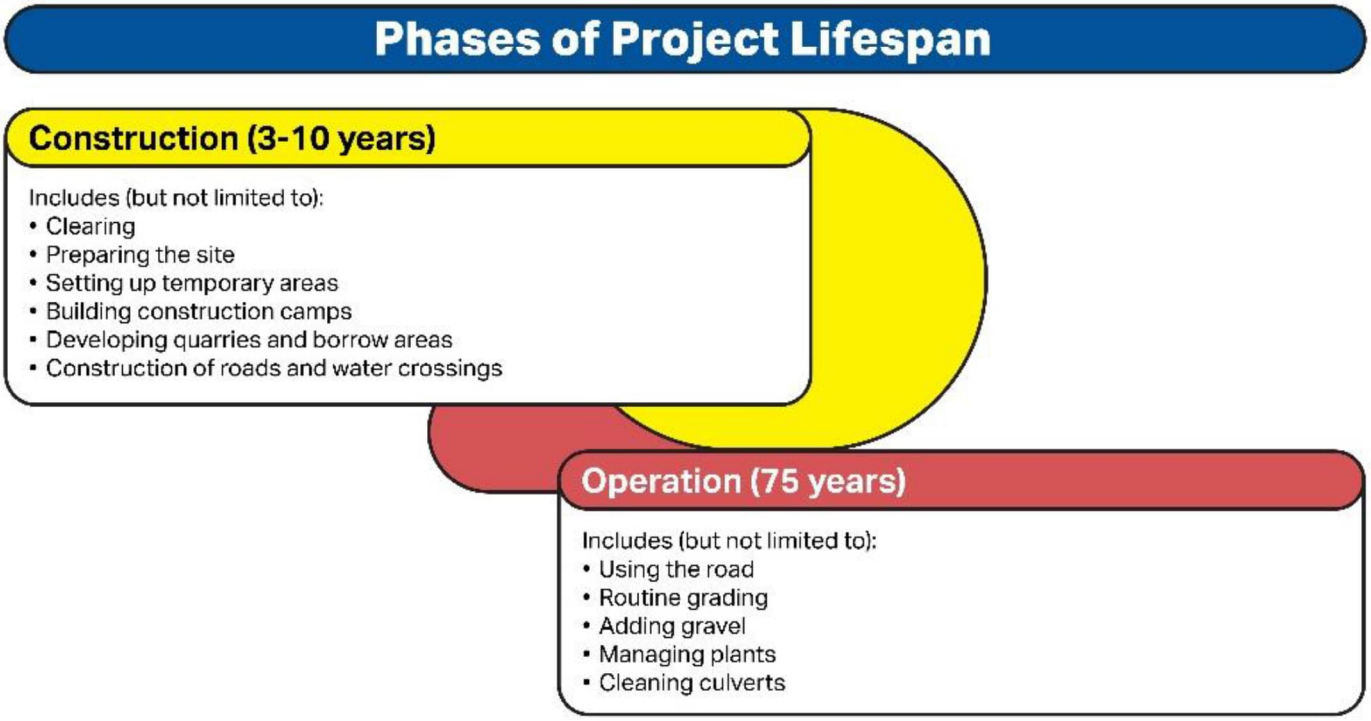
- **Construction Phase:**
  The time from start of construction, including site preparation activities, to the start of operations and maintenance of the CAR. Decommissioning of construction works is included in the construction phase. The construction phase is anticipated to take approximately 3 to 10 years to complete.
- **Operations and Maintenance Phase:**
  The operations and maintenance phase starts once construction activities are complete and lasts for the life of the Project. The operations and maintenance phase of the Project is considered to be 75 years based on the expected timeline for when major refurbishment of road components (e.g., bridges), is anticipated.

There are currently no plans to decommission the CAR as there is no expected / known end date for its need. Therefore, future suspension, decommissioning and eventual abandonment of the CAR will not be considered in the IS / EA Report. It will be considered if and when a decommissioning or abandonment application is made for the road.

In determining the temporal boundaries, in particular the long operations and maintenance phase, consideration was given to the long-term effects on the well-being of present and future generations (Sustainability Principle #2[6]). The final temporal boundaries to be used in the IS / EA Report will be based on regulatory agency guidance, professional judgement and input received through the Project consultation process.

6. *Sustainability Principles #2 is one of four sustainability principles included in Section 25 of the Project's TISG as further elaborated on Section 9.7.*

Figure 6-1: Project Schedule



6.2 Spatial Boundaries: Study Areas

6.2.1 General Information

Study areas identify the geographic extents within which potential effects of the Project are likely to occur and will be considered in the IS / EA Report. The existing conditions and potential effects are documented for three study areas selected for the Project:

- **Project Development Area (PDA):** area of direct disturbance;
- **Local Study Area (LSA):** the area where most of the direct effects of the Project are likely to occur; and
- **Regional Study Area (RSA):** the area where indirect effects of the Project are likely to occur.

The PDA encompasses the 100 metre wide CAR right-of-way (ROW), temporary construction access roads, work areas, worker camps, and pits, quarries, and associated access roads. The preliminary LSA currently

being considered within the scope of the ongoing provincial regulatory review process generally includes the area within 2.5 km of the centreline of Alternative 1 and Alternative 4. The preliminary study area generally allows for the documentation of existing conditions and prediction of potential environmental effects for the Project. A 5 km wide study area also allows for route refinements during development of Project design (e.g., adjustment of the alignment to avoid sensitive features).

The specific location of Project components, including the roadway, quarries, pits and temporary infrastructure, are not yet known and will be included in the IS / EA Report. While most of the Project components are expected to be located within the preliminary 5 km wide study area, benefits (e.g., reduced environmental disturbance, avoidance of sensitive features, technical considerations, concerns received through consultation) for locating Project components on lands outside of the 5 km wide study area may become known during the IA / EA process. If the need to locate Project components outside the 5 km wide study area is determined to be required or of benefit to the Project, the study area would be adjusted.

The study area for each environmental discipline may vary from the above-described general study area based on the potential for the Project to directly or indirectly affect each environmental discipline; therefore, discipline-specific LSAs and RSAs have been defined for the Project. In defining the final LSAs and RSAs, each environmental discipline will consider:

- Location and other characteristics of the environmental discipline relative to the Project;
- The anticipated extent of the potential Project effects;
- Federal, provincial, regional, and local government administrative boundaries;
- Indigenous groups listed in **Table 4-1**;
- Community knowledge and Indigenous Knowledge;
- Current or traditional land and resource use by Indigenous communities;
- Exercise of Aboriginal and Treaty Rights of Indigenous peoples, including cultural and spiritual practices; and
- Physical, ecological, technical, social, health, economic and cultural considerations.

The study areas included in this document are preliminary, covering the extent to which readily available information suggests the Project may have noticeable effects on the environment. The size, nature and location of past, present and reasonably foreseeable projects will be taken into consideration in the development of the cumulative effects assessment study area(s). The appropriate study area(s) to assess cumulative effects are dependent on the VCs predicted to have direct residual adverse effects as a result of the Project, and therefore, cannot be defined until the IS / EA Report has sufficiently advanced.

As further detailed in **Section 4**, the Proponent will continue to provide opportunities for neighbouring Indigenous communities and interested persons to provide input and inform the effects assessment, including the LSAs and RSAs.

6.2.2 Groundwater and Geochemistry Study Areas

The LSA and RSA boundaries for Groundwater and Geochemistry are detailed in **Table 6-1** and shown on **Figure 6-2**.

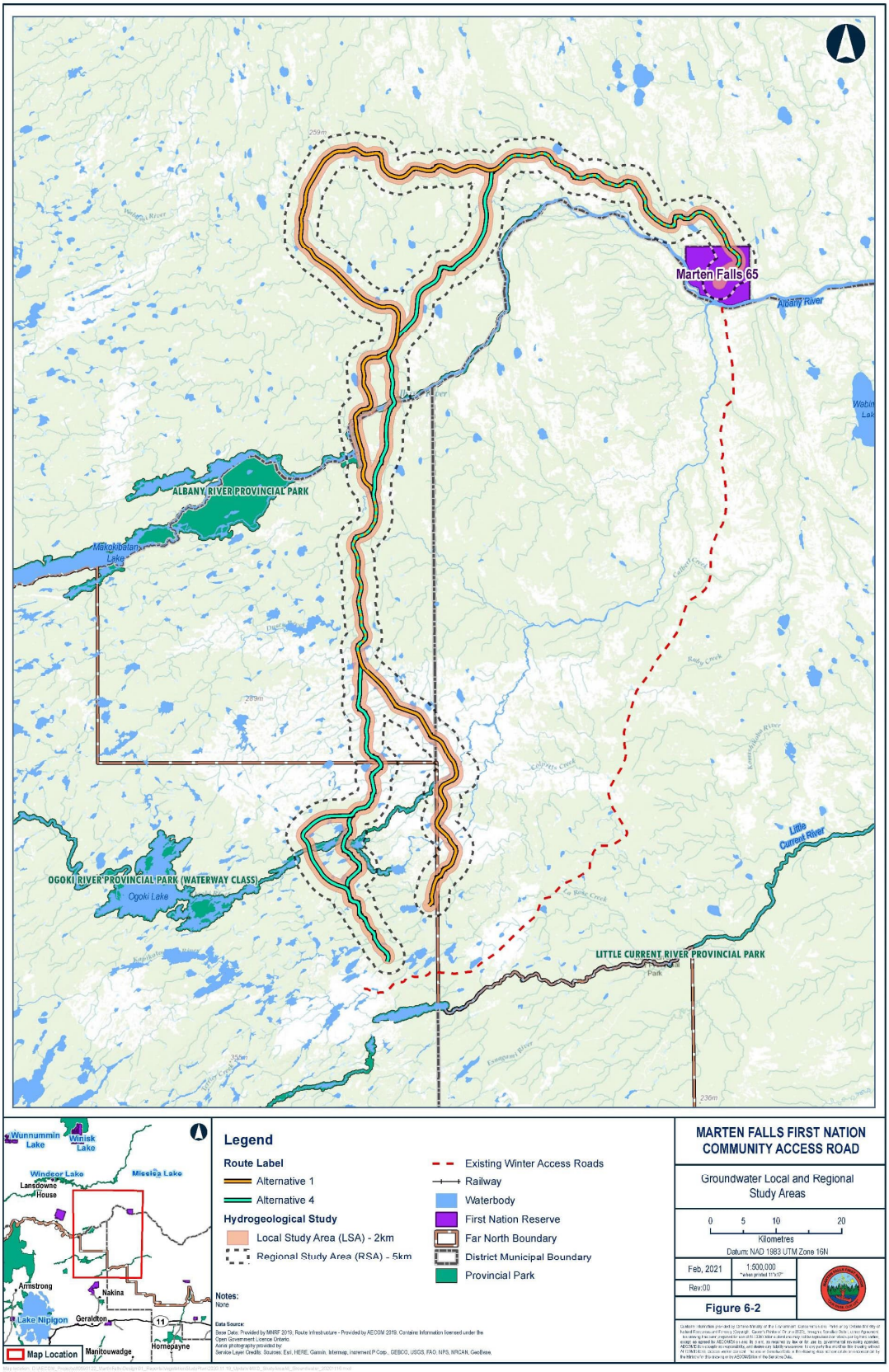
Table 6-1: Groundwater Study Areas

Study Area	Geographic Extent	Rationale
Local Study Area	■ PDA plus 1.0 km from the Project centreline of Alternative 1 and Alternative 4 and associated construction areas	■ Potential effects (s) to groundwater are considered to be localized and limited to areas disturbed by project construction and immediately adjacent lands. Disturbed areas include the alignment and associated quarries, camps, and access roads.
Regional Study Area	■ PDA plus 2.5 km from the Project centreline of Alternative 1 and Alternative 4 and associated construction areas	

Temporary or permanent changes to the water table as a result of construction are expected to be minimal as groundwater aquifers are inferred to be recharged by surficial water bodies (i.e., wetlands and rivers.). However, select Project disturbance areas (e.g., quarries) may induce larger temporary changes to water quantity. The LSA was based off Golder's draft hydrogeology desktop report (Golder 2020) and is considered reasonable due to the following:

- The extent of the drawdown cones from disturbed areas (dewatering wells and dewatered excavation footprints) is anticipated to be less than 1 km based on near surface geology (primarily granitic bedrock, silt rich till or poorly draining soils).
- Impacts from diverting water and flooding extents are anticipated to be less than 1 km, assuming best construction practices are followed (e.g., culverts).
- The extent of the drawdown cones from existing community water wells is unknown but anticipated to less than 1 km based on typical residential water demands.

Figure 6-2: Groundwater Local and Regional Study Areas



- Impacts to groundwater quality are not expected to migrate long distances based on the low hydraulic conductivity of granitic bedrock and silty clay till (Golder 2020). The relatively low topography of the Project area suggests a low hydraulic gradient and very slow groundwater migration (e.g., several to tens of metres per year). Furthermore, solutes dissolved in groundwater undergo a number of different process during transport that remove or slow contaminant migration. These processes include, but are not limited to, sorption, chemical or oxidation-reduction induced precipitation, abiotic as well as biodegradation, and decay of radioactive compounds. These natural processes, in addition to mixing and dilution along the groundwater flow path, will decrease the concentration of contaminants migrating off-site and reduce the size of the affected areas, if any.

A LSA of 1.0 km from the centre line of the disturbed areas is considered a conservative approach for monitoring groundwater quality and quantity during the Project. If impacts are detected, additional subsurface investigations will be conducted to delineate, monitor and further access the extent water quality or quantity impacts within the LSA. Additional monitoring will be conducted within the community of Marten Falls First Nation (e.g., water wells).

7. Baseline Study Design

Baseline conditions are used as a reference point for identifying environmental changes, and for qualitative and quantitative assessments of effects to groundwater regimes. This section outlines the proposed groundwater baseline study designed in support of the IA / EA for the Project. The groundwater baseline study focuses on areas where the Project has potential to affect groundwater quantity or quality, specifically in areas near sensitive receptors (wetlands, streams) and existing groundwater users (e.g., domestic water wells).

The groundwater field study tasks presented will allow for determination of baseline groundwater levels, hydraulic gradients, groundwater flow directions, groundwater flow velocities and groundwater quality. These data are required to adequately monitor and assess potential Project effects adjacent to and downgradient of the proposed CAR and associated development activities.

In addition to the groundwater baseline study, the TISG for the Project also requires the completion of a baseline geochemical characterization of the subsurface materials proposed for use in construction (e.g., eskers and quarries). Therefore, this section includes a description the proposed desktop analysis, field data collection and laboratory testing to conduct the required geochemical characterization studies in tandem with the concurrent groundwater assessment, recognizing that the field sampling locations for geochemistry will largely align with the corresponding monitoring locations for groundwater (referenced in **Section 7.2.2**), as well as where key geological features (e.g., eskers, bogs) and substantial construction works (e.g., quarries, lay down areas, and camps.) are expected to occur. The geochemical characterization of construction material will be used to determine acid rock drainage and/or metal leaching (ARD / ML) potential of identified subsurface materials, noting that the laboratory characterization of metal leaching potential will be evaluated in conjunction with the quality of groundwater in contact with subsurface materials. It is understood that the ARD / ML potential of the subsurface materials may have effects on VCs, specifically groundwater quality and possibly surface water quality. To that end, the results from the geochemical characterization studies will be used to advance the effects assessments for groundwater and potentially surface water.

7.1 Desktop Assessment

A desktop review of existing information sources will be completed to identify information gaps that will need to be addressed through further study. A preliminary list of applicable information sources has been included in **Appendix A** The desktop assessment will be focused on lands within the RSA.

7.1.1 Groundwater

The groundwater desktop review will focus on published information obtained from all local or interested First Nation communities (including Marten Falls), if any, the Ontario Ministry of the Environment, Conservation and Parks (MECP), Ministry of Transportation Ontario (MTO) Foundation Library (GEOCRES), and Ministry of Natural Resources and Forestry (MNRF), Ontario Geological Survey (OGS), the Geological Survey of Canada (GSC) and the Ontario Ministry of the Environment, Conservation and Parks (MECP) Water Well Information System (WWIS) to develop a conceptual understanding of local hydrogeological conditions.

The desktop assessment will include the following tasks:

- A review of previous studies pertaining to the Project or conducted within the RSA that may provide additional hydrogeological, geological, hydrological or biological data relevant to the Project. If any data are referenced, justification for utilizing these data (i.e., spatial and temporal relevance with respect to the Project RSA), detailed descriptions, and specific data sources will be provided in the baseline report. Note that site-specific data will also be collected, as described below. The Project will not be solely relying on surrogate data from reference sites.
- Review the desktop geological characterization proposed in the Physiography, Terrain and Soils Study Plan. The geological characterization will provide surficial, bedrock and structural geological maps from within the RSA using publicly available data from online geological mapping or provincial databases, such as the OGS and the GSC. Known or mapped structural geology information important with respect to groundwater flow, such as major faults, fracture density and orientation, will be documented.
- Conducting a review of the MECP WWIS database to identify the location of registered groundwater wells within the LSA and RSA. This review includes a review of water well logs to obtain additional hydrogeological information, such as well use, water levels, geology and well yield.
- Conducting community consultation and engagement to determine the location of current and historical drinking water sources (water wells, surface water points of diversion, and springs). See **section 7.2.1.1** for more detail.
- A review of the existing environments within the RSA to identify areas with sensitive hydrogeological receptors (e.g., peatlands, wetland, streams).

- A review of the Ontario government data-catalog to obtain additional relevant baseline groundwater information from the Ministry of the Environment, Conservation and Parks with respect to the Project.
- Preparation of a hydrogeology baseline report summarizing the findings and data gaps noted during the desktop review. The report will include detailed information on registered water well locations and depths (including borehole logs, if available) and a figure showing domestic and public water well locations within the RSA.

7.1.2 Geochemistry

The geochemistry desktop review will focus on published information obtained from all local or interested First Nation communities (including Marten Falls), the Ontario Ministry of the Environment, Conservation and Parks (MECP), Ministry of Transportation Ontario (MTO) Foundation Library (GEOCRES), and Ministry of Natural Resources and Forestry (MNRF), Ontario Geological Survey (OGS), the Geological Survey of Canada (GSC) and the preliminary and detailed (if available) terrain mapping developed through the Physiography, Terrain and Soils Study Plan, to develop a conceptual understanding of how the local geology may influence geochemical conditions.

The desktop assessment will include the following tasks:

- A review of previous studies pertaining to the Project or conducted within the RSA that may provide additional geochemical data relevant to the Project. If any data are referenced, justification for utilizing these data (i.e., spatial and temporal relevance with respect to the Project RSA), detailed descriptions, and specific data sources will be provided in the baseline report. Note that site-specific data will also be collected, as described below. The Project will not be solely relying on surrogate data from reference sites.
- Review the desktop geological characterization proposed in the Physiography, Terrain and Soils Study Plan. The geological characterization will provide surficial, bedrock and structural geological maps from within the RSA using publicly available data from online geological mapping or provincial databases, such as the OGS and the GSC.
- Review of the preliminary, and if available, detailed terrain mapping as described in the Physiography, Terrain and Soils Study Plan to support the location and spatial extent of potential pit and quarry materials, landform features, soils and thickness of overburden materials.

- Preparation of a geochemical characterization report, summarizing the findings and data gaps noted during the desktop review. The report will include a description of the overburden and bedrock lithological units, including a summary table of geologic descriptions, mineralization (if applicable) supported by geological maps and cross-sections at appropriate scale (normally 1:50 000). The summary table will also include an initial ARD/ML potential rating based on the desktop review of overburden and bedrock geology.

7.2 Groundwater Field Study

No baseline field investigations specific to groundwater (hydrogeology) in support of this Project have been completed to date. This section describes the methods and specific procedures that will be followed through the implementation of this study plan.

7.2.1 Study Area Reconnaissance & Determination of Key Groundwater Monitoring Locations

The groundwater baseline study will include installation of hydrogeological stations within the LSA. The study will focus on areas that have the greatest potential to negatively affect water quantity and quality of hydrology and hydrogeology systems. Stations will be installed in bedrock and/or overburden in areas of hydrogeological interest, including:

- Areas within close proximity (i.e., within the LSA) to water crossings or sensitive terrestrial or aquatic ecological receiving environments, such as ponds, lakes, creeks, streams, rivers and wetlands;
- Developed First Nation communities within the LSA, where structures, infrastructure and/or local wells or drinking water sources exist;
- Areas within one kilometre (i.e., within the LSA) of other existing groundwater users (e.g., registered and unregistered water supply wells) or potential groundwater users, including uses identified through indigenous consultation where applicable and practical; and
- Areas where significant construction or geotechnical works will be required, including areas subjected to excavation, dewatering, water discharge, groundwater extraction, blasting, backfilling, temporary or permanent damming of water, or diversion of water is likely to occur (e.g., along the CAR, borrow source areas, temporary access roads and temporary construction camps).

Due to the remote nature and large scale of the Project, helicopter surveys of proposed project areas will be conducted to identify the locations of sensitive receptors that require groundwater assessment. A helicopter survey will be conducted in collaboration with hydrologists and aquatic and terrestrial biologists to identify all areas with sensitive environmental receptors. Geologists, geochemists and geotechnical engineers will also be engaged to identify potential borrow source areas and areas where substantial geotechnical work is expected.

Helicopter survey results will determine the number of locations that require detailed groundwater studies. The need for detailed investigation of groundwater and surface water interaction will also be determined through discussions with biologists and hydrologists. These discussions will focus on identifying waterbodies where groundwater inputs may be occurring and supporting stream flows during the dry season, and therefore may require additional investigation. Results will be used to determine the relative environmental effects associated with each CAR alternative, which will assist the MFFN CAR Project Team in selecting the most feasible route.

Considering the extent of the wetland areas and the number of water crossings associated with the Project, it is not feasible to assess every area. For planning purposes, we have assumed that 20 locations will require additional field characterization. Focused study will be conducted on a range of water crossings (small to large), wetlands and borrow source areas. The most culturally and ecologically sensitive locations will be selected. The number of locations where baseline groundwater monitoring may be required will be refined during the next phase of work, when more detailed environmental assessments are ground-truthed (i.e., helicopter access and ground-truthing field work).

7.2.1.1 Water Well Locations

Community consultation and engagement activities will include discussions with local residents regarding the location of current and historical drinking water sources (e.g., water wells, surface water points of diversion, and springs). Afterwards, a groundwater professional will conduct water well surveys at the residences/locations where these drinking water sources were identified within the RSA to verify their location, condition and cultural importance. The water well survey will include information requests from the owner / operator of water well / spring, such as current water level, screened hydrostratigraphic unit, well yield, current and potential future well uses, current and historical water quantity and quality issues, if any, and to determine if consumption of water from the wells has Indigenous cultural or spiritual importance. The community consultation and water well survey will also include discussions regarding areas of groundwater upwelling (i.e., spring water) with Indigenous cultural importance and/or where community members currently use/consume spring water.

7.2.2 Proposed Groundwater Monitoring Well Installation Regime at Key Monitoring Locations

Installation and monitoring of groundwater monitoring wells will be completed in the LSA at least two years in advance of construction activities to determine seasonal baseline conditions. Specific details regarding monitoring well installation, testing and monitoring are discussed on a task by task basis in the subsequent sections of this report.

Groundwater monitoring stations will be installed in areas of different geology along the CAR to allow for groundwater quality and quantity monitoring in the geologic units within the LSA. Groundwater monitoring stations will also be installed where key geological features (e.g., eskers and bogs) and substantial construction works (e.g., quarries, lay down areas, and camps) will occur. At each groundwater monitoring location, up to four monitoring wells will be installed. Typical stations will involve two wells at one location (nested shallow and deep) to facilitate water level monitoring, water quality sampling and determination of vertical gradients. Where detailed groundwater / surface water interaction studies are required, detailed monitoring stations will be installed. These waterbodies will be identified through discussions with biologists and hydrologists to identify streams of ecological importance where groundwater inputs are likely contributing to baseline flows during the dry season. Detailed monitoring stations will consist of four monitoring wells. Three shallow monitoring wells will be installed to allow for horizontal gradient calculation and groundwater flow direction determination. The shallow groundwater monitoring wells will be installed in a triangular pattern, with one well installed on the inferred upgradient side of the PDA and two wells installed in the inferred downgradient side of the PDA. To allow for vertical gradient calculation and flow determination, a single deep well will be installed adjacent to one of the downgradient shallow well locations. Additional downgradient monitoring wells may be required to adequately assess conditions in large or highly sensitive areas, such as large water crossings, wetlands, borrow source areas or ecologically or culturally sensitive areas, or areas where endangered species are identified. Additional monitoring wells or drive-point piezometers may also be required to allow for adequate baseline characterization of all hydrostratigraphic units that are encountered (e.g., peat, silt/clay, till, shallow fractured bedrock).

This Study Plan assumes that 15 typical and five (5) detailed groundwater monitoring stations will be required. The locations of monitoring wells within the LSA will be determined in collaboration with the Indigenous Knowledge and the Consultation and Engagement Programs, and communities with interests in the LSA will be provided an opportunity to comment.

7.2.3 Groundwater Monitoring Well Installation

7.2.3.1 Conventional Monitoring Wells

Groundwater monitoring wells are required to collect water quality and quantity data at key groundwater study area locations. Its presumed that the majority of the groundwater monitoring wells (also referred to as "monitoring wells") will be installed in dense soils (till) or bedrock and therefore a drill rig will be required. The MFFN CAR Project Team proposes using a drill rig that can be disassembled and transported to key groundwater study areas using a helicopter. Prior to conducting this work, brush/tree clearing for drill rig and helicopter landing pads, surveying/marking of the PDA and target borehole locations will be required. The size of these pads will be determined by the size of the drill rig that is available to complete the works.

Monitoring wells will be constructed using 50 mm diameter PVC Schedule 40 well screens (10 slot) and solid riser pipes, respectively. Monitoring wells will be completed using a threaded PVC well point cap at the bottom end of the screen interval and a PVC slip-on cap will be used to cap the well at surface.

A filter pack consisting of clean, inert rounded to sub-rounded one to three mm diameter silica sand will be installed around and above each well screen interval. In general, the sand pack will extend to a minimum height of 0.6 m above the top of the well screen unless otherwise dictated by field or local site/geological conditions. The filter pack will be installed by free fall around the screen and the thickness confirmed by the drilling contractor through direct measurement upon completion of installation.

An approximately 1.0 m thick non-permeable seal will be installed within the borehole annulus atop the filter pack using bentonite in either pellet or granular form (free of chemical additives). The thickness of the bentonite seal will be confirmed by the drilling contractor through direct measurement. A small amount of potable water will be added to the borehole to initiate the bentonite hydration process. The annular space above the bentonite seal will then be backfilled to within 0.5 m of the local ground surface using either bentonite chips or a high solids bentonite grout prepared in accordance with O.Reg. 903 (as amended).

Each monitoring well will be completed using a monument-type steel protective casing. The remaining annular space will be filled to ground surface using either bentonite (pellets or granular), or where required, a cement mixture. Drill cuttings generated during borehole drilling will be raked out and mounded around the exterior of the protective casing to prevent pooling and to encourage runoff flow away from each monitoring well. To complete the installation, each monitoring well will be tagged in accordance with O.Reg. 903 (as amended), and a water well record will be prepared and submitted by the drilling contractor to MECP. Installation of drive-point piezometers may be suitable inexpensive alternatives for shallow wells in locations with soft soils or water crossings (discussed below in **Section 7.2.3.2**).

Monitoring wells will be used to monitor water quantity and quality before, during and following construction activities. When monitoring is no longer required, all installed monitoring wells are required to be abandoned in accordance with O.Reg. 903 (as amended). In accordance with the regulation, monitoring wells must be abandoned by an MECP licensed water well contractor.

7.2.3.2 Drive-Point Piezometers

In soft soils, installation of drive-point piezometers to monitor water levels and water quality may replace drilling and installation of conventional style monitoring wells. Drive-point piezometers can be installed in or near water crossings and wetlands to confirm groundwater quantity and quality. A helicopter will be required to transport materials and staff to site for installation; however, clearing of a drilling pad may not be required.

Drive-point piezometers will be constructed using a PVC or stainless-steel drive point (well screen) and several riser pipes. The number of the riser pipes required will depend on the depth to water table at each installation location. The piezometers will be capped but will not be protected by a monument-type steel casing.

When no longer required in the future, all installed monitoring wells are required to be abandoned in accordance with O.Reg. 903 (as amended).

7.2.3.3 Stilling Wells

Where groundwater monitoring locations are situated in standing water (e.g., stream, wetland) a stilling well will be installed adjacent to the groundwater monitoring well for surface water level monitoring. The difference in water levels between the groundwater and the surface water monitoring points are used to determine if the stream is a gaining or losing stream, with respect to groundwater and it essential for assessing groundwater-surface water interactions and groundwater recharge and discharge locations.

Stilling wells will be constructed of slotted PVC pipe with a solid slip-on end cap at the bottom. The stilling well will be secured to the monitoring well or drive-point piezometer within the water body or wetland. The top of the stilling well standpipe will be cut down to match the height of the monitoring well or drive-point piezometer so that groundwater and surface water level measurements will both be taken from the same reference point.

7.2.4 Well Surveying

Monitoring wells, including drive-point piezometers and stilling wells, will be surveyed to determine UTM co-ordinates, ground elevation and top of pipe elevation. Survey data are important for accurate determination of groundwater elevations, gradients and flow directions, which can be challenging to infer in areas with little topographic relief and a flat-water table. Point elevations will also be collected at nearby water bodies and wetlands to assist with groundwater flow determination.

7.2.5 Monitoring Well Development

Each monitoring well and drive-point piezometer will be developed following installation to remove sediment and drill fluids from the wellbore and geologic formation. Well development will be conducted concurrently with drilling and installation activities. Well development allows for collection of groundwater quantity and quality data that are representative of in situ conditions.

Appropriate well development methods will be determined on a location-by-location basis, based on the total depth of installation, local groundwater conditions/water column height and sediment content of the groundwater. It is assumed that the majority of the monitoring wells can be successfully developed using manual or automated inertial pumps and associated high density polyethylene (HDPE) tubing. The typical well development process to be employed for this Project will be as follows:

- A minimum of three (3) wellbore volumes of water will be removed from each monitoring well, using dedicated equipment (e.g., fitted inertial pumps and HDPE tubing);
- Where wells are screened in a low permeability media (e.g., silt and clay) it is expected that slow recharge and dry conditions will occur. At these locations, the monitoring well will be purged dry a minimum of one (1) time, following water level recovery to a minimum of 80% of the static levels;
- Where possible, repetitive groundwater field parameter measurements will be obtained during the development process (including pH, temperature, electrical conductivity, turbidity and visual appearance); and
- Where a dry condition is not reached, the monitoring well will be developed until a visual improvement is observed in the turbidity level of the purged water, or until field parameters stabilize.

7.2.6 Groundwater Quantity and Quality Monitoring Program

The groundwater level monitoring program will be completed in conjunction with the groundwater quality sampling program, discussed below. Due to the remote nature of the Project and large distances between key monitoring locations, a helicopter will be required to conduct these programs.

7.2.6.1 Water Level Measurements

Groundwater level measurements will be obtained at each monitoring well three times per year for a period of two (2) years following their installation to assess seasonal fluctuation of the groundwater table. It is the MFFN CAR Project Consultants' experience that accessing locations with thick snow cover during winter is difficult and potentially unsafe. Further, shallow groundwater may be frozen, inhibiting collection of water quantity and quality data. The initial groundwater level readings will be obtained at least one week following well installation and well development activities.

Groundwater level measurements will be obtained using an electronic water level indicator. The electronic water level indicator will be lowered into the riser pipe of each monitoring well until water is encountered, as indicated by the instrument signal. The groundwater level will be measured with respect to a fixed "top-of-casing" reference point and entered in a field log. Groundwater levels are anticipated to be within the 3 m of groundwater surface across the Project area.

Following completion of groundwater level measurement at each monitoring well, the electronic water level tape will be cleaned and decontaminated to eliminate the possibility of cross-contamination between monitoring well locations.

At select monitoring locations, all four monitoring wells will be instrumented with pressure transducers to allow for continuous monitoring of groundwater levels (at one-hour intervals), providing that the monitoring wells are deep enough to prevent freezing. Similarly, stilling wells will also be outfitted with pressure transducers to monitor changes in surface water levels. These data will be used to assess seasonal changes in groundwater levels and flow directions over all four seasons. In addition, one barometric pressure transducer (barologger) will be installed within 30 km of each station to allow for water level compensation of atmospheric pressure fluctuations. All pressure transducers will be downloaded and redeployed during each site visit.

It is assumed that a total of five stations will be instrumented. Instrumented stations will be in areas with the greatest potential to negatively affect water quantity and quality for groundwater users (i.e., near domestic water wells) and ecological habitats.

7.2.6.2 Groundwater Quality Sampling

Monitoring Wells and Drive-Point Piezometers

Groundwater quality sampling will be completed at all groundwater monitoring stations. Two samples will be collected at each location, including one sample form the upgradient well and one sample from a downgradient monitoring well. Samples will be collected three times per year (spring, summer and fall) over a period of two (2) years to assess seasonal variability in water quality and build a baseline groundwater quality database. The initial groundwater samples will be collected at least one week following well installation and well development activities.

Industry standard QA/QC protocols will be followed for bottle preparation, groundwater sample collection and transportation, as outlined within pertinent MECP guidance documents (MOE 1999). Groundwater samples will be collected using a peristaltic pump or bladder pump, HDPE tubing and a YSI and a flow-through cell following stabilization of field parameters (pH, temperature, dissolved oxygen, turbidity, oxidation-reduction potential and specific conductance) to confirm that the groundwater samples are representative in in situ conditions. Using a combination of peristaltic and bladder pumps will allow for proper collection of samples for analysis of volatile parameters. Depending on the depth of the well, the thickness of the water column and the rate of recharge, bailers may also be suitable for collection of water quality samples.

Each groundwater sample will be examined in the field for visual and olfactory evidence of effects, then immediately placed in laboratory-supplied sample bottles prepared in advance with the appropriate preservatives, sealed, labelled and stored on ice to maintain a sample temperature of 10°C or lower during transportation under chain of custody documentation to a CALA-accredited environmental analytical laboratory within the specified sample analyte holding times. Field filtration for certain parameters (e.g., dissolved metals) will be completed at the time of sample collection using a 0.45 µm filter.

Collected groundwater samples will be submitted under chain of custody documentation for the following suite of analytical parameters:

- General parameters (pH and conductivity)
- Total metals;
- Dissolved metals, including:
  - Hardness (as $CaCO_3$)
  - Aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, molybdenum,

  - nickel, phosphorus, potassium, selenium, silicon, silver, sodium, strontium, thallium, tin, titanium, uranium, vanadium and zinc
  - Mercury and methylmercury
- Alkalinity (total as $CaCO_3$);
- Ammonia;
- Biological Oxygen Demand;
- Chemical Oxygen Demand;
- Total suspended solids;
- Total dissolved solids;
- Dissolved organic carbon;
- Anions (chloride, bromide, fluoride and sulphate);
- Nutrients (nitrate, nitrite, phosphorus);
- Volatile organic compounds (VOCs);
- Poly-aromatic hydrocarbons (PAHs); and/or
- Radionuclide parameters.

The above suite of analytical parameters is considered sufficient to assess baseline concentrations of potential contaminants of concern associated with Project work, including placement of fill material (general parameters, anions, metals and radionuclides), blasting residual (nutrients), acid rock drainage and buffering capabilities (metals and alkalinity), metal leaching (metals and general parameters), hydrocarbons and solvents (VOCs and PAHs) and permeant infrastructure, such as bridges, piles and culverts (metals). Radionuclide parameters will only be collected once from each groundwater monitoring well (i.e., only collected on the first sampling event). Monitoring parameters may be added or removed from the parameter list over the program based on a review of data (e.g., to remove parameters that are consistently below detection limits).

Samples will be shipped to the analytical laboratory every second day during the monitoring program to minimize holding-time exceedances.

Existing Water Supply Wells and Spring Water Sources

Subject to owner consent and sampling accessibility, sampling groundwater from existing/in use water supply wells or spring water sources within the RSA will be conducted twice within a one-year period to assess seasonal variability in water quality and build a baseline water well quality database. These data will

be used to assess complaints regarding changes to domestic water quality during or post-construction activities, if any.

Spring water sources will be collected by submersing sample bottles into the spring water. Water supply well samples will be collected from the point of consumption (e.g., the household tap) following disinfection of the faucet nozzle and flushing for five minutes. Immediately prior to sample collection, field parameters (pH, temperature, dissolved oxygen, turbidity, oxidation-reduction potential and specific conductance) will be measured.

Water samples will be submitted under chain of custody documentation for the following suite of analytical parameters:

- General parameters (pH and conductivity);
- Total metals;
- Dissolved metals, including:
  - Hardness (as $CaCO_3$)
  - Aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, selenium, silicon, silver, sodium, strontium, thallium, tin, titanium, uranium, vanadium and zinc
  - Mercury and methylmercury
- Alkalinity (total as $CaCO_3$);
- Ammonia;
- Biological Oxygen Demand;
- Chemical Oxygen Demand;
- Total suspended solids
- Total dissolved solids
- Dissolved organic carbon;
- Anions (chloride, bromide, fluoride and sulphate);
- Nutrients (nitrate, nitrite, phosphorus);
- Volatile organic compounds (VOCs);
- Poly-aromatic hydrocarbons (PAHs);
- Radionuclide parameters; and
- Microbiological parameters (total coliforms and E.coli.)

Water samples will be shipped to the laboratory on the same day as sample collection to meet the 24-hour holding time requirement for microbiological parameters. Water quality sample results will be provided to the water owner/user within 30 days of receipt from the laboratory, with appropriate follow-up support by the consultant for results interpretation.

7.2.7 Hydraulic Conductivity Testing

Hydraulic conductivity testing will be conducted immediately after well development and recovery of water levels (in high permeability formations) or during the first groundwater monitoring event (in low permeability formations) when water levels and water quality samples are collected.

Single Well Response Testing (SWRT) will be completed at a minimum of two locations (the nested shallow and deep monitoring well pair) at each key monitoring location to provide an estimate of shallow and deep hydraulic conductivity (K) values of the screened geologic media. Additional testing may be required at select monitoring locations to determine hydraulic conductivity values in all encountered media (e.g., shallow bedrock, deep bedrock and overburden units). K-values are integral to the determination of potential dewatering volumes, estimation of the associated zone of drawdown influence, which will be included in future reporting (effects assessment) but is not included in the baseline report scope of work.

The SWRT method involves causing a rapid change in hydraulic head in a well and measuring the water level response within the well. SWRT methods may include one or a combination of rising head or falling head tests, depending on the position of the static groundwater level within the monitoring well being tested. In slow recharge wells, bail down tests may be used in place of rising head of falling head tests.

The SWRT process employed for this Project will be as follows:

- At the start of the test, a static water level will be initially measured within the monitoring well;
- An electronic pressure transducer (datalogger) will be installed in the well below the water level and configured to monitor water levels at one second intervals;
- Falling head tests will be carried out by inserting a solid slug into the well, and the reverse technique carried out (i.e., slug removal) for a corresponding rising head test;
- Immediately following the introduction of the slug into the well, manual groundwater level measurements will be collected to supplement the datalogger readings, and recovery of the water level will be timed; and

- Testing will be concluded when a minimum of 65% recovery of the static water level is achieved in each well (>90% preferred).

SWRT will not be completed at monitoring wells that are observed to be dry or possess an insufficient water column height (i.e., <0.5 m).

7.3 Geochemistry Field Study

No baseline field investigations specific to the development of a geochemical characterization of construction material in support of this Project have been completed to date. This section describes the methods and specific procedures that will be followed to develop the proposed geochemical characterization through the implementation of this Study Plan. The proposed groundwater monitoring stations referenced in **Section 7.2.2** will be installed where key geological features (e.g., eskers and bogs), substantial construction works (e.g., quarries, lay down areas, and camps) and geotechnical drilling investigations will occur. Therefore, the geochemistry field study will be completed in conjunction with the proposed groundwater, field study and is captured as part of this Study Plan.

7.3.1 Soil and Rock ARD / ML Sampling

Soil material and bedrock samples will be collected from the proposed pit and quarry areas and other areas that will expose subsurface rock and soil during construction, such as road cuts and blasting areas, for geochemical characterization to identify the potential of subsurface material to produce ARD and / or ML that could affect water quality in surface water and / or groundwater. Typically, materials are predicted to be potentially acid generating (PAG) or not potentially acid generating (non-PAG) based on the relative amounts of constituent minerals that can form acid and those that can neutralize acid. Samples will be collected from overburden and bedrock geological units encountered in the monitoring well installations and geotechnical boreholes with increased focus on geological units associated with higher potential for sulphide mineralization and areas within close proximity to surface and groundwater receptors.

Soil and rock samples will be inspected in the field by a trained geologist to confirm regionally mapped units and provide further characterization of soil / rock types, weathering and mineralization.

The number of samples that will be submitted for geochemical testing is dependent on the volume, location and geological and geochemical composition of material that will be disturbed or moved during construction. The preliminary Project description will be used to estimate borrow source excavation and blasting volumes. The sampling frequency will be based on the assumed tonnage of overburden and bedrock material that will

be disturbed / relocated and guidance provided in MEND (Mine Environment Neutral Drainage Program). Guidance on sample frequency is provided by Price (2009), as shown in Table 7-1, and field information from the different geological units encountered during field investigations will be used to determine the number and distribution of the samples submitted for ARD / ML characterization.

Table 7-1: Sampling Frequency based on Estimated Tonnage

Tonnage of Unit (metric tonnes)	Minimum Number of Samples
< 10,000	3
< 100,000	8
< 1,000,000	26
< 10,000,000	80

Although geological units associated with higher potential of sulphide mineralization, if observed, will be sampled more intensively, all geological units that will be disturbed in the LSA will be sampled and characterized as part of the laboratory analytical program. Prior to sample submission, key information including location, dimensions, volume, geologic unit, visual description of mineralogy, and weathering will be recorded. Samples of bedrock and overburden will be collected and placed in labelled plastic bags and transported to a CALA (Canadian Association for Laboratory Accreditation) accredited laboratory for geochemical analysis.

Additional geochemical samples may be required in the future based on the ARD / ML characterization completed in the study and /or should the final Project design require substantially more soil / rock tonnage or materials from a different location than identified the preliminary Project design. If required, these additional samples would be collected as part of ongoing investigations to refine the road design and borrow sources. The geochemical characterization study will also identify if additional confirmatory sampling and laboratory characterization is required during rock excavation.

For the purposes of this study, 150 samples will be collected across 30 groundwater monitoring well locations. Each geologic unit encountered in the borehole will be sampled separately. It is assumed that three geological units will be present in the overburden and bedrock samples will be collected from the top of bedrock (at the overburden contact) and one from lower depth in the borehole. In addition to these 150 samples, and allowance has been made for 100 samples from the soil plots, potential bedrock outcrops, geotechnical core, and sulphidic rock based on geological information collected during field investigations.

If bedrock outcrops are sampled, fresh outcrop, and not exposed / weathered bedrock, samples will be collected. Additional boreholes may be required if there is insufficient core from the hydrogeological

boreholes to collect the adequate number ARD / ML core samples. The depth of the drill core samples will be shallower than the proposed depths of quarry / blasting operations, if known, to provide samples that are representative of blast / fill material. Additional bedrock sampling may be required based on initial ML / ARD results and on the homogeneity of the geology encountered throughout the entire length of each borehole.

Geochemistry analyses on samples will be completed for the following tests:

- Mineralogy (on samples representative of major geologic units): To determine the mineralogical composition of the rock samples.
- Near-Total Recoverable Elemental Analysis (including total mercury): To determine concentrations of metals to allow for comparison to water quality data and interpretation of metal leaching analysis.
- Acid Base Accounting: To estimate net acid generation potential of the rock based on a comparison of the acid-generation potential and acid-neutralization potential.
- Shake Flask Extraction: To identify parameters potentially prone to leaching (including dissolved mercury) when materials are initially exposed on surface.

Analytical results will be assessed by a professional geochemist to indicate the ARD and ML potential of soil and bedrock associated with ground disturbance and material placement activities associated with the Project. The geochemical data review will include comparison of laboratory data to in situ groundwater data collected from the corresponding monitoring wells at the sample location, and if available, surface water quality samples to assess the potential for metal leaching. The metal leaching source terms/ water quality will be used to support the surface and groundwater quality assessments.

The ARD potential will be assessed based on guidance provided in MEND (Price, 2009) using the following classification:

- **Negligible –** Laboratory testing indicates that the geological unit disturbed by the Project is non-PAG (NPR >2)
- **Low –** Laboratory testing indicates the majority of the geological unit disturbed by the Project is non-PAG, with a limited volume of “Uncertain” material excavation (NPR value between 1 and 2) but the overall NPR of the material is non-PAG.
- **Moderate –** Laboratory testing indicates that the majority of the geological unit be disturbed by the Project is Uncertain (NPR between 1-2) with a limited volume of PAG material (NPR <1) but the overall NPR of the material is also Uncertain.

- **High –** Laboratory testing indicates that the majority of the volume of the geological unit disturbed by the Project is Uncertain and the overall blend is PAG (NPR between 1-2, or <1, respectively) or the majority of the material is PAG

Should results suggest moderate to high potential for ARD, the following phased characterization approach and impact management measures / mitigation plans will be considered and implemented based on the recommendations of a qualified professional geochemist:

- Conducting additional laboratory (e.g., static or kinetic) testing to confirm ARD and ML potential.
- Avoiding disturbing or using the suspect rock.

The need for an ARD / ML Management Plan will be determined following the assessment of field data and completion of the baseline report.

8. Data Management and Analysis

Data management including quality assurance / quality control (QA / QC) will be employed to minimize potential for data entry and analysis errors, prepare data sets for analysis and limit sensitive data distribution in accordance to established agreements.

8.1 Data Management

It is expected that a standard spreadsheet software package, such as MS-Excel, will be sufficient to manage data collected for this Project. Field sheets, Laboratory Certificates of Analysis and original electronic data files provided by the laboratory will be archived as reference materials for the Project.

8.2 Groundwater Quality

8.2.1 Quality Control (QC) Samples

Quality control (QC) procedures will adhere to recommendations of CCME (2016) for sample collection. For water quality, QC samples will be collected to include travel blanks, field blanks and duplicate samples. The total number of QC samples will represent a minimum of 10% of the total samples collected during the program. The QC samples will be submitted “blind” to the laboratory for analysis of the full suite of water quality parameters being analyzed for the program.

Water samples will be analyzed at a Canadian Association for Laboratory Accreditation (CALA) certified laboratory, where possible, and using the lowest feasible method detection limit (MDL).

8.2.2 Data Analysis and Reporting

Upon completion of the two-year groundwater monitoring program, water quality and quantity data will be analyzed and the findings will be presented in a hydrogeology baseline report. This report will be prepared in support of the Project IS / EA Report and will be focused on areas where the Project has the potential to affect groundwater quantity or quality, specifically along the selected CAR, quarries and pits, associated

access roads and laydown areas, and near groundwater users (e.g., the MFFN community). The hydrogeology baseline report will include:

- A conceptual site model of the hydrogeological environment, including a discussion of geomorphic, hydrostratigraphic, hydrologic, climatic and anthropogenic controls on groundwater flow along the CAR.
- Figures showing:
  - The Project location and key features (i.e., the selected CAR, quarries and pits, access roads, camp and laydown areas, the Marten Falls First Nation community and registered and unregistered water wells and springs);
  - The distances between the Project location and existing infrastructure (building and water wells);
  - Expected excavation/dewatering drawdown cone and inferred wellhead capture zones;
  - Project study areas, encompassing the spatial boundaries of the Project, including any associated project components and the anticipated boundaries of the Project effects that may potentially affect local communities, municipalities and Indigenous groups;
  - Bedrock and surficial geology, including major structural features (e.g., faults) and inferred hydrostratigraphic units;
  - Groundwater monitoring locations and interpreted groundwater flow directions;
  - Interpreted groundwater flow divides;
  - Permanent and intermittent water bodies (e.g., streams, wetlands); and
  - Areas of groundwater recharge and discharge.
- Tables summarizing data, such as:
  - Information on current water well or surface water point of diversion owners within the Project RSA will be presented, including: water levels, well bottom, inferred available drawdown, reported yield, screened hydrostratigraphic unit, distance to Project disturbance areas, estimated wellhead capture zones, cultural significance, type, (e.g., drinking water, irrigation, and agricultural) and uses (domestic, communal, municipal, commercial/industrial), if available;
  - Discussion on the likelihood and magnitude of potential impacts (permanent, seasonal, periodic or temporary) to identified drinking water sources and groundwater/surface water features.
  - Borehole co-ordinates and monitoring well details;

  - Summary of hydraulic conductivity testing results;
  - Assumed properties of hydrostratigraphic units;
  - Measured groundwater elevations;
  - Measured horizontal and vertical groundwater gradients; and
  - Groundwater quality results.

- Groundwater quality results will be compared to all applicable guidelines and standards for aquatic life and drinking water uses, including the Canadian Drinking Water Quality Guidelines (CDWQG), Ontario Groundwater Quality Standards (ODWQS) and the Ontario Soil, Groundwater and Sediment Standards (SGSS). Any samples collected from groundwater springs will also be compared against the above applicable criteria. Exceedances of any guideline or standard will be flagged in the report, which includes the most stringent guideline values;
- Water chemistry plots (i.e., time-series graphs of water quality);
- Registered and unregistered water wells installation logs and discussion on whether consumption of water from any of the wells has Indigenous cultural importance;
- Hydraulic conductivity analysis;
- Discussion on groundwater-surface water interactions at water crossing and wetland locations;
- Discussion on general water management (groundwater withdrawal and discharge and surface water diversion) during access corridor construction activities; and
- Water balance and zone of influence modelling methods, assumptions and results.

Predictive modelling, such as analytical equations, numerical groundwater models and / or water balance models, will be completed to estimate the effects of construction on groundwater quality and quality. Where practical, these modelling efforts will include input from the surface water component. The groundwater quantity modelling will include calculation of zones of influence / drawdown cones to assess potential interference with groundwater systems, ecological systems (surface water and wetlands) and drinking water sources. In addition, groundwater quality modelling will be conducted to assess potential contaminant migration and assess temporary / permanent changes to groundwater quality at potential receptors as a result of intrusive construction work (e.g., quarrying).

The geochemical characterization report, summarizing the results of the desktop review (**Section 7.1.2**) and soil and rock sampling (**Section 7.3**) will be prepared to support the assessment of effects on groundwater

and surface water quality, and will be included as an appendix to the hydrogeology baseline report. The geochemical characterization report will include:

- Figures showing:
  - The Project location and key features (i.e., the selected CAR, quarries and pits, access roads, camp and laydown areas, the Marten Falls First Nation community and registered and unregistered water wells and springs);
  - Bedrock and surficial geology;
  - Soil and bedrock ARD / ML sampling locations; and
  - Interpreted ARD characterization.
- Tables summarizing data, such as:
  - Soil and rock ARD / ML sample information, including location and geologic unit;
  - ARD/ML laboratory characterization data; and
  - Comparison metal leaching laboratory data with surface and groundwater quality data.
- Determination of ARD potential based on guidance provided in MEND (Price, 2009);
- Discussion of metal leaching source terms/water quality for inclusion in the groundwater and surface water quality assessment; and
- Discussion on the ARD/ML potential along the proposed routes and identification of soil / rock types requiring either additional characterization or special management.

9. Effects Assessment

The following sections provide discipline-specific input and considerations as they pertain to the methodology for effects assessment. The Project is in the early stage of the IS / EA Report preparation and it is expected that the effects assessment methodology will be refined iteratively based on regulatory agency guidance, professional judgment and input received through the Project consultation and engagement process.

9.1 Project-Environment Interactions

The Project activities that may result in changes to the environment are described within the identified temporal and spatial boundaries. This includes identification of both direct and indirect changes by comparing the existing setting to the conditions anticipated to occur as a result of the Project. For each environmental discipline, the likely Project-environment interactions will be identified based on professional judgment, activities listed in TISG Section 3.2 as well as projects of similar magnitude and / or location.

A preliminary analysis of Project-environment interactions for the Groundwater and Geochemistry discipline is provided in **Table 9-1** and will be confirmed during the IA / EA process to identify the Project-environment interactions that are likely to have a potential effect, and to identify measures to avoid or minimize potential negative effects and enhance benefits.

Table 9-1: Project – Environment Interactions

Project Phases	Project Activities	Groundwater
Construction Phase	*Mobilization of Equipment and Supplies*	
	Temporary Construction Staging Areas[1]	X
	Temporary Access Roads and Trails[1]	X
	Temporary Construction Camps[1]	X
	ROW Clearing and Grubbing	X
	Brush and Timber Disposal	
	Pits and Quarries[1]	X
	Drilling / Blasting / Aggregate Production	X
	Road Construction (stripping, subgrade excavation, embankment fill placement, grading, ditching)	X
	Bridge and Culvert Installation (approach embankments, foundations, substructures, superstructures, traffic protection, erosion controls)	X
	Construction Site Restoration	X

Project Phases	Project Activities	Groundwater
Construction Phase: Decommissioning	*Pits and Quarries*	**X**
	Temporary Camps, Roads / Trails and Staging Areas	**X**
Operations Phase	*Road Usage*	
	Maintenance[2]	**x**

Notes: 1. Includes construction and use of
2. Includes General Maintenance (e.g., grading, erosion control, quarrying, borrow pits), Seasonal Maintenance (e.g., snow clearing, bridge and culvert maintenance), and Special Maintenance (e.g., slope failures, road settlement / break-up.).

9.2 Valued Components and Indicators

VCs are the environmental, health, social, economic or additional elements or conditions of the natural and human environment that may be impacted by a proposed project and are of concern or value to the public, Indigenous peoples, federal authorities and interested parties (the Agency 2020b). Indicators represent the resource, feature, or issue related to the VC that, if changed, may demonstrate an effect on the environment. The indicators and rationale for selection and measurement of potential effects, to be used to assess and evaluate the alternative routes in the IS / EA Report are provided in **Table 9-2.** The table includes both quantitative and qualitative indicators. The final list of VCs and indicators to be used in the IS / EA Report will be based on regulatory agency guidance, professional judgement and input received through the Project consultation and engagement process.

The VCs of the Groundwater and Geochemistry discipline have been determined through consideration of the following factors listed in the TISG[7]:

- VC presence in the study area;
- the extent to which the VC is linked to the interests or exercise of Aboriginal and Treaty Rights of Indigenous peoples, and whether an Indigenous group has requested the VC;
- the extent to which the effects (real or perceived) of the Project and related activities have the potential to interact with the VC;
- the extent to which the VC may be under cumulative stress from other past, existing or future undertakings in combination with other human activities and natural processes;
- the extent to which the VC is linked to federal, provincial, territorial or municipal government priorities (e.g., legislation, programs, policies);

7. *The TISG also states that information from ongoing and completed regional assessments in the proposed area of the Project should be used to inform VCs for the Project. In February 2020 a regional assessment of the Ring of Fire region commenced; however, it is not sufficiently advanced at this time to inform the Project VCs. The VCs will be consulted and engaged on early in the IA/ EA process and finalized taking into consideration the input received. Therefore, only information relevant to the Project that arises from the regional assessment of the Ring of Fire within an appropriate timeline will inform the VCs for the Project.*

- the possibility that adverse or positive effects on the VC would be of particular concern to Indigenous groups, the public, or federal, provincial, territorial, municipal or Indigenous governments; and
- whether the potential effects of the Project on the VC can be measured and / or monitored or would be better ascertained through the analysis of a proxy VC.

Inputs received to date from Indigenous communities, agencies and interested persons through the Consultation and Engagement Program, including inputs received on the Draft ToR, have also been used to inform the selection of the VCs and indicators for the Groundwater and Geochemistry discipline.

Table 9-2: Groundwater Indicators

Valued Component	Indicators	Rationale for Selection
Groundwater	■ Groundwater Quality: Degradation of physical and chemical characteristics of groundwater.	■ Importance for the protection of aquatic and terrestrial life ■ Importance for potable water supplies ■ Indigenous cultural importance for consumption
	■ Groundwater Quantity: Change in groundwater levels.	■ Quantify effects to landowners, users and ecosystems.

Geochemistry is not considered a VC, but rather a supporting technical discipline to other VCs. This considers that the results of the geochemical characterization of construction material, specifically the ARD potential and metal leaching source terms, will be used to support the assessment of Project-related effects to the groundwater and surface water quality indicators, and, in turn, the determination of significant of effects to the groundwater and surface water VCs.

9.3 Potential Effects

A direct effect occurs through the direct interaction of an activity with an environmental discipline. The Project-environment interactions currently anticipated, based upon preliminary analysis, to result in direct effects to the Groundwater and Geochemistry discipline have been identified in **Table 9-1**. The potential direct effects resulting from the Project-environment interactions will be confirmed during the IA / EA process and will be based on input received through the Indigenous knowledge Program and Consultation and Engagement Program, regulatory agency guidance, and professional judgement.

An indirect effect occurs when a change to one environmental discipline resulting from a Project activity causes a change to another environmental discipline (e.g., changes in vegetation could indirectly affect wildlife). **Table 9-3** provides a preliminary identification of how changes to groundwater may result in indirect effects to other environmental disciplines.

Table 9-3: Potential Discipline Interactions

Discipline and Associated Valued Components	Aboriginal Treaty Rights and Interests	Atmospheric Environment	Acoustic and Vibration Environment	Physiography, Geology, Geochemistry, Terrain and Soils	Surface Water	Groundwater and Geochemistry	Vegetation	Wildlife	Fish and Fish Habitat	Social	Economy	Land and Resource Use	Human Health and Community Safety	Visual Aesthetics	Archaeological and Cultural Heritage
Groundwater and Geochemistry ■ Groundwater	X	-	-	X	X		X	X	X	-	-	X	X	-	-

Notes: X = Potential pathway for indirect effect as a result of the Project,
- = No pathway for indirect effect is anticipated as a result of the Project.

9.4 Methods for Predicting Future Conditions

With respect to quantitative models and predictions, the IS / EA Report will detail the model assumptions, parameters, the quality of the data and the degree of certainty of the predictions obtained.

Analytical calculations and analysis software packages (e.g., AQTESOLVE) will be utilized for the estimation of K-values and results will be presented in the baseline report. Hydraulic conductivity values and measured hydraulic gradients can be used to estimate groundwater travel times between Project areas and downgradient receptors, such as drinking water wells, wetlands, and streams in future Groundwater related assessments. Hydraulic conductivity values will be used to estimate the water quantity and quality impacts on water resources based on preliminary design plans. Assessments will include:

- withdrawal of groundwater or surface water;
- changes to the groundwater recharge/discharge areas;
- temporal and spatial changes in groundwater quantity, quality and flow (e.g., long-term changes in water levels), including how these changes may relate to domestic, communal or municipal water supply wells;
- the flow or volume of water available in the water bodies; and
- management of any groundwater or wastewater discharge.

Analytical equations and/or numerical groundwater models will use field derived aquifer properties to estimate CAR construction related zones of influence / drawdown cones to assess for potential interference with ecological systems or drinking water sources. In addition, a water balance model approach will be utilized to evaluate the impact of groundwater extraction on valued ecosystem components (receptors).

Calculations will be required to estimate the volume of rock / aggregate available from potential sources based on a survey of each specific area and assumption of aggregate thicknesses and quarry extents. These calculations can be completed using AutoCAD / GIS. To assess the magnitude of potential ARD / ML impacts on water quality downgradient of borrow source / quarry areas, borrow material placement areas and disturbed areas (i.e., blasting) may require geochemical modelling. These calculations will be completed using industry standard software (such as PHREEQC) during the effects assessment.

9.5 Mitigation and Enhancement Measures

Once potential effects have been identified, the effects assessment will explore technically and economically feasible mitigation measures to avoid or minimize the identified negative effects and enhancement measures to increase positive effects beyond those that are already inherent to the design. These measures will consist of industry-standard practices, federal and provincial standard specifications, regulator-mandated measures, best management practices, Indigenous and community recommendations and recommendations from industry and environmental professionals based on expertise, scientific publications, experience and judgement.

It is important that mitigation and enhancement measures are achievable, measurable and verifiable and monitored for compliance and effectiveness during all temporal phases as part of the Project follow-up monitoring plan. Required environmental monitoring will verify the potential environmental effects predicted in the IS / EA Report, evaluate the effectiveness of mitigation and enhancement measures, and identify the process the Proponent will follow if mitigation and enhancement measures are not effective.

9.6 Residual Effects

Residual effects are the effects remaining after the application of mitigation measures. The IS / EA Report will describe in detail the potential adverse and positive residual effects in relation to each temporal phase of the Project (e.g., construction, operation). Residual effects will be described using criteria to quantify or qualify adverse and positive effects, taking into account any important contextual factors. The residual effects will therefore be described in terms of the direction, magnitude, geographic extent, duration, frequency, likelihood, and whether effects are reversible or irreversible[8].

Ecological and socio-economic context may also be relevant when describing a residual effect. Context relates to the existing setting, its level of disturbance and resilience to adverse effects. Context can also relate to timing as it applies to assessing the worst-case scenario (e.g., effect during migratory or calving season for wildlife). Where appropriate, information regarding residual effects will be disaggregated by sex, gender, age and other community relevant identifying factors to identify disproportionate residual effects for diverse subgroups.

8. *TISG Section 13.1 identifies additional effects characteristics for certain disciplines (e.g., wetlands, birds, terrestrial wildlife, species at risk). These additional effects characteristics are described in the respective discipline-specific study plans.*

9.6.1 Magnitude

For magnitude, groundwater-specific definitions are required and are proposed below **Table 9-4** and **Table 9-5**. The magnitude of residual effects on groundwater quality will consider potential contaminants of concern, and how these are predicted to change relative to baseline conditions and applicable guidelines, objectives or other specified threshold values.

Table 9-4: Groundwater Quantity Magnitude Definition

Magnitude Level	Definition	Rationale
Negligible	■ Range of seasonal fluctuation in groundwater levels or the predicted water balance remains within the range of natural seasonal variability.	■ Monitoring wells show no discernable change to water levels, therefore no effect on ecological life or water well supply.
Low	■ Range of seasonal fluctuation in groundwater levels or the predicted water balance is marginally outside the range of natural seasonal variability (up to 20% higher/lower than existing condition values).	■ Temporary or permanent change to water levels is discernable but water supply remains protective of ecological life and enough for existing water well supply.
Medium	■ Range of seasonal fluctuation in groundwater levels or the predicted water balance is modestly outside the range of natural seasonal variability (between 20 and 50% higher/lower than existing condition values).	■ Temporary or permanent change to water levels is substantial but water supply remains protective of ecological life and sufficient for existing water well supply.
High	■ Range of seasonal fluctuation in groundwater levels or the predicted water balance is substantially outside the range of natural seasonal variability (up to over 50% higher/lower than existing condition values).	■ Temporary or permanent change to water quality is substantial and can potentially impair ecological use or existing water well supply.

Table 9-5: Groundwater Quality Magnitude Definition

Magnitude Level	Definition	Rationale
Negligible	■ There is little to no variation predicted in measurable parameters and is within the range of natural variation.	■ Monitoring wells show no discernable change to water quality, therefore no effect on ecological life or potable use.
Low	■ There is a small variation predicted in measurable parameters, that are outside the range of natural variation and below the applicable water quality criteria or within 20% of existing condition values.	■ Temporary effect or permanent change to water quality is discernable but remains protective of ecological life and potable water sources.

Magnitude Level	Definition	Rationale
Medium	■ There is a modest variation predicted in measurable parameters, that is significantly different from existing conditions and is below the applicable water quality criteria or is between 20% to 50% of existing condition values.	■ Temporary effect or permanent change to water quality is discernable but remains protective of ecological life and potable water sources.
High	■ There is a large variation predicted in measurable parameters, exceeds applicable water quality criteria, or is greater than 50% of existing condition values.	■ Temporary effect or permanent change to water quality is discernable and can potentially impair ecological or potable uses of water.

9.7 Consideration of Sustainability Principles

The following provides a generic description of how sustainability principles will be considered in the effects assessment. The extent to which sustainability principles apply to a specific VC will vary depending on the nature of the VC and the potential for Project effects on the VC.

The effects assessment approach for the Project has included the consideration of the sustainability principles outlined in the Project TISG and the Agency's guidance on sustainability. The sustainability principles that have been considered include:

1. Consider the interconnectedness and interdependence of human-ecological systems;
2. Consider the well-being of present and future generations;
3. Consider positive effects and reduce adverse effects of the Project; and
4. Apply the precautionary principle by considering uncertainty and risk of irreversible harm.

The interconnectedness and interdependence of human-ecological systems will be considered through the assessment of potential indirect effects of each alternative. An indirect effect occurs when a change to one environmental discipline resulting from a Project activity causes a change to another environmental discipline (e.g., changes in vegetation could indirectly affect wildlife). A preliminary assessment of indirect effects has been included in **Section 9.3**.

The well-being of present and future generations will be considered in the effects assessment through the application of the long-term operations phase temporal boundary of 75 years (**Section 6.1**) and through the effects characteristics description of duration and reversibility for each residual effect predicted.

The consideration of positive effects and reducing adverse effects of the Project is fundamental to the effects assessment methodology through the identification of mitigation measures to reduce potential adverse effects and the identification of the preferred alternative through the evaluation of advantages (e.g., positive effects) and disadvantages (e.g., adverse effects).

The effects assessment will apply the precautionary principle by clearly describing and documenting all uncertainties and assumptions underpinning the analysis and identifying information sources. The effects assessment will consider risk of irreversible harm through the effects characteristics description of reversibility for each residual effect predicted and will describe any uncertainty associated with the assessment of residual effects.

The scope of the sustainability assessment will be defined by issues of importance identified by Indigenous communities and interested persons through consultation and engagement activities, while also ensuring to be inclusive of the diversity of views expressed. The selection of VCs that will be the focus of the sustainability assessment will be aligned with the issues of importance identified by Indigenous communities and interested persons, as well as residual effects identified through the effects assessment process. The sustainability assessment will describe how the planning and design of the Project, in all phases including follow-up monitoring, considered the sustainability principles.

9.8 Consideration of Identity and Gender-Based Analysis Plus in Effects Assessment

The Proponent recognizes that communities and sub-populations within those communities may be impacted differently by the Project with respect to VCs and indicators. As such, the Project aims to collect baseline information for the purpose of assessing differential effects and establishing relevant mitigation measures, as further elaborated on in **Section 4.3**. Gender-Based Analysis Plus will not be limited to community feedback, when offered or discussed in secondary texts, additional sub-population information as is applicable to the relevant assessment will be incorporated.

9.9 Follow-up Programs

A follow-up program verifies the accuracy of the effects assessment and evaluates the effectiveness of mitigation measures. Identification of follow-up programs for the Project are not described in this Study Plan as the information needed to determine environmental monitoring requirements is dependent on the outcome of the effects assessment and consultation with Indigenous communities, agencies and interested persons. Therefore, the Proponent will include information on follow-up programs, that address the requirements outlined in Section 26 of the TISG, in the IS / EA Report and will identify the compliance and effects monitoring activities to be undertaken during all phases of the Project, as required.

10. Assumptions

The following assumptions were used when determining the above effects assessment methodology:

1. Existing condition values for groundwater quantity will be based on the seasonal range of groundwater levels collected three times per year (spring, summer and fall) over a period of two (2) years at all monitoring stations.
2. Existing condition values for groundwater quality will be based on the seasonal range of groundwater concentrations obtained from samples collected three times per year (spring, summer and fall) over a period of two (2) years at all monitoring stations.
3. Geochemistry soil and bedrock samples will be collected at 30 monitoring well locations (15 typical and five) detailed locations, which each have three monitoring well locations). Each geologic unit encountered in the borehole will be sampled separately. It is assumed that three geological units will be present in the overburden. Bedrock samples will be collected from the top of bedrock (at the overburden contact) and one from a lower depth in the borehole. In addition to these 150 samples, an allowance has been made for 100 samples from the soil plots, potential bedrock outcrops, geotechnical core and sulphide rock.
4. Geochemistry analyses on samples will be completed for the following tests:
    a. Mineralogy (on samples representative of major geologic units): 25 samples.
    b. Near-Total Recoverable Elemental Analysis (including total mercury): 250 samples.
    c. Acid Base Accounting: 250 samples
    d. Shake Flask Extraction: 250 samples

11. Concordance with Federal and Provincial Guidance

This section provides the best information currently available on how federal and provincial requirements identified for the Project to date will be addressed. The final concordance with federal and provincial requirements will be included in the IS / EA Report, and will be based on regulatory agency guidance, professional judgement and input received through the Project consultation and engagement process.

Table 11-1: Study Plan Federal Concordance – Conformance with Requirements

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
1	The Agency	TISG Section 4.4, page 19	■ In its alternative means analysis, in addition to the potential environmental, health, social and economic effects, the proponent must address all project elements, including, but not limited to, the following project elements and components, where relevant to the Project activities and design: – management of mobilized metals (such as chromium and other naturally occurring metals) from aggregate extraction and stockpiling activities;	■ This work plan outlines the proposed desktop assessment and field sampling program that will be conducted to assess the likelihood of ML / ARD impacts on groundwater quality within the Project area. Should results suggest moderate to high potential for ARD, the following phased characterization approach and impact management measures / mitigation plans will be considered and implemented based on the recommendations of a qualified professional geochemist: – Conducting additional laboratory (e.g., static or kinetic) testing to confirm ARD and ML potential. – Avoiding disturbing or using the suspect rock. ■ The need for an ARD / ML Management Plan will be determined following the assessment of field data and completion of the baseline report. ■ The soil sampling component of this work plan is outlined in Section 7.3.1 and includes analysis of metals, as well as numerous other parameters. ■ Calculations will be required to estimate the volume of rock / aggregate available from potential sources based on a survey of each specific area and assumption of aggregate thicknesses and quarry extents. These calculations can be completed using AutoCAD / GIS. To assess the magnitude of potential ARD / ML impacts on water quality downgradient of quarry areas, borrow material placement areas and disturbed areas (i.e., blasting) may require geochemical modelling. These calculations will be completed using industry standard software (such as PHREEQC) during the effects assessment. A limited amount of modelling may be required during the effects assessment; however, modelling is not planned for the baseline report	■ Section 7.3.1 and 9.4
2	The Agency	TISG Section 14.2, page 87	■ If the proponent undertakes quarrying activities to extract aggregate material that may results in effects on groundwater and surface water levels (i.e., quarrying below the water table), the Impact Statement must describe the risk to the receiving environment related to effects to the quantity and quality of all effluent streams released from the site, including surface runoff from aggregate and overburden stockpiles, and dewatering discharge;	■ Potential changes to groundwater (quality and quantity) will be assessed as part of the EA. Changes to surface water (quality and quantity) will be assessed under the Surface Water Study Plan	■ Section 7.1, 7.2, and Section 9.4 ■ ■ Surface Water Study Plan
3	The Agency	TISG Section 14.2, page 88	■ With respect to potential effects on water quality resulting from acid rock drainage and/or metal leaching, the Impact Statement must: provide estimates of the potential for aggregate extraction activities (i.e., eskers and quarries) and rock exposed in permanent rock cuts to be sources of acid rock drainage or metal leaching; "	■ Analytical results will be assessed by a professional geochemist to indicate the ARD and ML potential of soil and bedrock associated with ground disturbance and material placement activities associated with the Project. The geochemical data review will include comparison of laboratory data to in situ groundwater data collected from the corresponding monitoring wells at the sample location, and if available, surface water quality samples to assess the potential for metal leaching. The metal leaching source terms/ water quality will be used to support the surface and groundwater quality assessments. The assessment of ARD potential will be assessed based on guidance provided in MEND (Price, 2009) using the following classification: – Negligible – Laboratory testing indicates that the geological unit disturbed by the Project is non-PAG (NPR >2)	■ Section 7.3

9. *Federal TISG Reference should be the Section or subsection, page etc. that clearly identifies where comment/issue we are addressing can be found (ex. Section 8.1 of TISG)*

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
				– Low – Laboratory testing indicates the majority of the geological unit disturbed by the Project is non-PAG, with a limited volume of "Uncertain" material excavation (NPR value between 1 and 2) but the overall NPR of the material is non-PAG. – Moderate – Laboratory testing indicates that the majority of the geological unit be disturbed by the Project is Uncertain (NPR between 1-2) with a limited volume of PAG material (NPR <1) but the overall NPR of the material is also Uncertain. – High – Laboratory testing indicates that the majority of the volume of the geological unit disturbed by the Project is Uncertain and the overall blend is PAG (NPR between 1-2, or <1, respectively) or the majority of the material is PAG	
4	The Agency	TISG Section 14.2, page 88	■ If the proponent undertakes quarrying activities to extract aggregate material that may results in effects on groundwater and surface water levels (i.e., quarrying below the water table), the Impact Statement must describe the methods used to predict acid rock drainage and/or metal leaching for construction materials, including sample collection and laboratory testing; "	■ Sampling and laboratory analysis methods will be discussed in the baseline report. Details of the ML / ARD potential determination methods for borrow source material will also be provided in the IS / EA Report	■ Section 7.3
5	The Agency	TISG Section 14.2, page 88	■ If the proponent undertakes quarrying activities to extract aggregate material that may results in effects on groundwater and surface water levels (i.e., quarrying below the water table), the Impact Statement must provide an acid rock drainage assessment and mitigation plan that describes the confirmatory monitoring of construction materials and potential mitigation strategies to prevent or control acid rock drainage and metal leaching during construction, operation, decommissioning and abandonment; and	■ This Study Plan outlines the proposed desktop assessment and field sampling program that will be conducted to assess the likelihood of ML / ARD impacts on surface water or groundwater quality within the Project area. Should results suggest moderate to high potential for ARD, the following phased characterization approach and impact management measures / mitigation plans will be considered and implemented based on the recommendations of a qualified professional geochemist: – Conducting additional laboratory (e.g., static or kinetic) testing to confirm ARD and ML potential. – Avoiding disturbing or using the suspect rock. ■ The need for an ARD / ML Management Plan will be determined following the assessment of field data and completion of the baseline report.	■ Section 7.3
6	The Agency	TISG Section 14.2, page 88	■ If the proponent undertakes quarrying activities to extract aggregate material that may results in effects on groundwater and surface water levels (i.e., quarrying below the water table), the Impact Statement must describe contingency plans, monitoring during operation, decommissioning and abandonment, and maintenance plans.	■ Monitoring programs will be identified as part of the IA / EA.	■ Section 9.9
7	The Agency	TISG Section 14.2, page 88	■ If the proponent undertakes quarrying activities to extract aggregate material that may results in effects on groundwater and surface water levels (i.e., quarrying below the water table), the Impact Statement must identify potential risks to surface and seepage water quality from the aggregate and overburden stockpiles and project infrastructure during construction, and operation, decommissioning and abandonment;	■ Potential changes to surface and groundwater (quality and quantity) will be assessed as part of the IA / EA.	■ Section 7, Section 9
8	The Agency	TISG Section 1.1, page 4	■ The Guidelines correspond to factors to be considered in the impact assessment. These factors are listed in subsection 22(1) of IAAC and prescribe that the impact assessment of a designated project must take into account any change to the designated project that may be caused by the environment;	■ The potential effects of the project on the quality and quantity of groundwater and the potential effects of the environment on the project will be assessed in accordance with applicable standards and guidance.	■ Section 9
9	The Agency	TISG Section 2.3, pages 6-7	■ The description should focus on aspects of the Project and its setting that are important in order to understand the potential environmental, health, social and economic effects and impacts of the Project. The following information must be included and, where appropriate, located on map(s): – geographic co-ordinates (i.e., longitude/latitude using international standard representation in degrees, minutes, seconds) for the beginning and end points of the proposed road; – current land and/or aquatic uses within the study areas;	■ The information related to landscape features, sensitive or protected areas and select others listed in the TISG will be illustrated on detailed maps and/or described within the IS / EA Report, where appropriate. This information will be gathered through the desktop analysis, consultation and community engagement and field studies as described in the Study Plan.	■ Section 7; Section 8

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
			– distance of the project components to any federal lands and the location of any federal lands within the study areas; – all waterbodies and their location on a map; – navigable waterways; – the environmental significance and value of the geographical setting in which the Project will take place and the study areas; – environmentally sensitive areas, such as national, provincial, territorial and regional parks, UNESCO World Heritage Sites, geological heritage sites, ecological reserves, ecologically and biologically sensitive areas, wetlands, and habitats of federally or provincially listed species at risk and other sensitive areas; – Dedicated Protected Areas3 and any other areas of ecological and social significance identified by the community during the community-based land use planning processes with the Province of Ontario (e.g., Enhanced Management Areas; see Section 6.1 for requirements related to confidentiality); – lands subject to conservation agreements; – current mineral development proposals, and areas of early and advanced mineral exploration in the study areas; – current areas of aggregate extraction; – description and locations of all potable drinking water sources (i.e., municipal or private), including spring water sources; – description of local communities and Indigenous groups that is culturally relevant and gender sensitive; – if the information is not confidential, provide a description and location of Indigenous traditional territories and/or consultation areas, Treaty and/or Title lands, Indian Reserve lands, Indigenous harvesting regions (with permission of Indigenous groups), Métis settlements; and – culturally important features of the landscape.		
10	The Agency	TISG Section 3.1, page 10	■ The Impact Statement must describe all project components including but not limited to: – water management infrastructure to divert, control, collect and discharge surface drainage and groundwater seepage to the receiving environment; – the location and details of single and multi-span watercourse crossings and types of structure used for water crossings (e.g., crossing type, design and length); – the location and details of culverts for water flow connectivity and water level balancing (e.g., crossing type, design and length.);	■ The baseline groundwater report will include language regarding general water management (groundwater withdrawal and discharge and surface water diversion) during access corridor construction activities.	■ Section 8.2.2
11	The Agency	TISG Section 5.1, page 22	■ Any proposed mitigation measures are to be clearly linked, to the extent possible, to valued components in the Impact Statement as well as to specific project components or activities, as well as comments raised during engagement activities	■ Once potential effects have been identified, the effects assessment will explore technically and economically feasible mitigation measures to avoid or minimize the identified negative effects and enhancement measures to increase positive effects.	■ Section 9.5

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
12	The Agency	TISG Section 7.1, page 30	■ The Impact Statement must establish appropriate study area boundaries to describe the baseline conditions. The study area boundaries need to encompass the spatial boundaries of the Project, including any associated project components or activities, and the anticipated boundaries of the Project effects, including all potentially impacted local communities, municipalities and Indigenous groups. Considerations in assigning appropriate study areas or boundaries would include, but not be limited to: – areas potentially effected by changes to water quality and quantity or changes in flow in the watershed and hydrologically connected waters; – areas potentially effected by airborne emissions or odours; – areas determined by dispersion and deposition modelling; – areas within the range of vision, light and sound and the locations and characteristics of the most sensitive receptors; – species habitat areas, usage timing and migratory patterns; – emergency planning and emergency response zones; – the geographic extent of local and regional services; – any impacted local communities, including municipalities; – all potentially impacted Indigenous groups; – areas of known Indigenous land, cultural, spiritual and resource use; and – existing effected infrastructure.	■ The Study Areas are defined and described in the Study Plan.	■ Section 6
13	The Agency	TISG Section 7.1, page 30	■ If the baseline data have been extrapolated or otherwise manipulated to depict environmental, health, social and/or economic conditions within the study area, modelling methods must be described and must include assumptions, calculations of margins of error and other relevant statistical information. Models that are developed should be validated using field data from the appropriate local and regional study areas. Ensure baseline data are representative of project site conditions. If surrogate data from reference sites are used rather than site-specific surveys, the proponent should demonstrate that the data are representative of project site conditions.	■ We will include details on modelling methods and discuss confidence in using desktop and/or field studies when describing baseline conditions.	■ Sections 7.2, 8.2.2, and 9.4
14	The Agency	TISG Section 7.1, page 31	■ Where baseline data are available in geographic information system (GIS) format, this information is to be provided to the Agency as electronic geospatial data file(s) compliant with the ISO 19115 standard19. This would support the Government of Canada's commitment to Open Science and Data and would facilitate the sharing of information with the public through the Canadian Impact Assessment Registry Internet Site and the Government's Open Science and Data Platform. The Agency intends to make the geospatial data files available to the public under the terms of the Open Government License – Canada.	■ Data provided will meet ISO 19115 standards.	■ Section 8
15	The Agency	TISG Section 7.2, page 32	■ The Impact Statement must provide detailed descriptions of specific data sources, data collection, sampling, survey and research protocols and methods followed for each baseline environmental, health, social and economic condition that is described, in order to corroborate the validity and accuracy of the baseline information collected.	■ Descriptions of specific data sources, data collection, sampling, survey and research protocols and methods followed for each baseline environmental condition will be provided in the IS / EA Report and are summarized in this Study Plan.	■ Section 7
16	The Agency	TISG Section 7.2, page 33	■ Baseline data must be collected in a manner that enables reliable analysis, extrapolations and predictions. Resulting data should be suitable for analyses to estimate pre-project baseline conditions, derive predictions of impacts, and evaluate and compare post-project conditions and at scales of within and across the Project, Local and Regional Assessment areas. Modelling methods, error estimates and assumptions should be reported (as per section 7.1). Modelling and simulations should be used early in the planning phase to estimate the necessary sampling intensity and to quantitatively evaluate the effectiveness of design options. Ethical guidelines and relevant cultural protocols governing research, data collection and confidentiality must be adhered to.	■ Descriptions of specific data sources, data collection, sampling, survey and research protocols and methods followed for each baseline environmental condition will be provided in the IS / EA Report and are summarized in this Study Plan.	■ Section 7

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
17	The Agency	TISG Section 7.2, page 33	■ If using existing data sources, the Impact Statement must provide justification to show that the data sources are relevant in spatial and temporal coverage to the Project. Some data sources may have good coverage in Southern Ontario or existing road networks but be unsuitable as a baseline for these northern areas where there are not roads.	■ Data sources are being reviewed for their appropriateness and will be included in Study Plans where applicable. Information on specific data sources and their relevance to the Project will be included in the IS / EA Report.	■ Section 7; Appendix A
18	The Agency	TISG Section 7.2, page 33	■ With regard to field studies, survey work must be planned to include multiple sampling locations and multiple visits to each location to support all required assessment analyses. Existing data should be considered as a limited augmentation of this new data. See the "Establishing Baseline Conditions" (sections 8.5, 8.9, 8.10, 8.11) in this Tailored Impact Statement Guidelines for recommendations on survey design and methodology. Surveys and analyses should be conducted by qualified experts. Baseline data must be collected in a manner that enables reliable analysis, extrapolations and predictions. Resulting data should be suitable for analyses to estimate pre-project baseline conditions, derive predictions of impacts, and evaluate and compare post-project conditions and at scales of within and across the Project, Local and Regional Assessment areas. Modelling methods, error estimates and assumptions should be reported (as per section 7.1). Modelling and simulations should be used early in the planning phase to estimate the necessary sampling intensity and to quantitatively evaluate the effectiveness of design options. Ethical guidelines and relevant cultural protocols governing research, data collection and confidentiality must be adhered to.	■ Descriptions of specific data sources, data collection, sampling, survey and research protocols and methods followed for each baseline environmental condition will be provided in the IS / EA Report and are summarized in this Study Plan.	■ Section 7
19	The Agency	TISG Section 7.2, pages 31-33	■ Information sources and data collection methods used for describing the baseline environmental, health, social and economic setting may consist of the following sources of information. For specific sources of baseline information, see Appendix 1. – Federal government (e.g., Environment and Climate Change Canada, Health Canada, Indigenous Services Canada, Statistics Canada, Women and Gender Equality Canada); – Ontario provincial government (e.g., Ministry of Environment, Conservation, and Parks, Ministry of Natural Resources and Forestry; – Bird Conservation Region plans; – academic institutions; – field studies, including site-specific survey methods; – database searches, including: • federal, provincial, territorial, municipal and local data banks; • Breeding Bird Atlas - Ontario (2001-2005); • monitoring program databases protected areas, watershed or coastal management plans; • natural resource management plans; • species recovery and restoration plans; – field measurements to gather data on ambient or background levels for air, water, soil and sediment quality, light levels or acoustic environment (soundscape); – land cover data, including: • terrestrial ecosystem mapping products; • forest cover maps; • remote sensing resources; • important habitats and features to include: ○ water bodies, wetlands, watercourses; ○ riparian habitat; ○ river banks or other eroded habitats; ○ artificial water sources; ○ forest, tree patches, solitary trees (especially old decaying trees); ○ forest edges and tree rows;	■ Data sources are being reviewed for their appropriateness and will be included in Study Plans where applicable. Information on specific data sources and their relevance to the Project will be included in the IS / EA reports.	■ Section 7; Appendix A

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
			○ ridges, including eskers; ○ caves and mines; ○ cliffs, rock outcrops, exposed bedrock, talus, and other karst topography; ○ buildings, bridges, and other anthropogenic features, including linear features; ○ sources of artificial lighting attracting insects; ○ critical habitat; and ○ and any other habitat features known to be important in the area. – Published literature, such as peer reviewed journals, reports by think tanks, non-government organizations and government reports; – environmental assessment documentation, including monitoring reports, from prior projects in the area and similar projects outside the area; – regional studies, project assessments and strategic assessments; – renewable harvest data; – Indigenous knowledge, including oral histories and knowledge gathered by spending time on the land with knowledge holders; – community based monitoring and studies conducted by Indigenous communities; – expert, community, public and Indigenous engagement and consultation activities, including workshops, meetings, open houses, surveys; – qualitative information gathered from interviews, focus groups or observation; – census data; – baseline human health risk assessments; • community and regional economic profiles; • community well-being studies; and • statistical surveys, as applicable.		
20	The Agency	TISG Section 7.3, page 34	■ The list of valued components must be informed, validated and finalized through engagement with the public, Indigenous groups, lifecycle regulators, jurisdictions, federal authorities, and other interested parties. The Impact Statement must describe valued components, processes, and interactions that are identified to be of concern or that the Agency considers likely to be impacted by the Project and are included in the Guidelines.	■ A summary of the consultation plan for Indigenous communities, government agencies, and interested persons has been provided in Section 4 of the Study Plan; further details can be found in the IS / EA Consultation Plan included as Appendix B of the Proposed ToR. Specific consultation and engagement activities and schedules are currently in development and will be shared with MECP and IAAC once available.	■ Section 4
21	The Agency	TISG Section 7.3, page 35	■ The valued components must be described in sufficient detail to allow the reviewer to understand their importance and to assess the potential adverse and positive environmental, health, social and economic effects and impacts arising from the Project activities.	■ The IS / EA will include detailed descriptions of the VCs and the rationale for their inclusion to describe their importance and the predicted residual effects (adverse and positive) as a result of the project.	■ Section 9
22	The Agency	TISG Section 7.3, page 35	■ For each of the valued components that will be assessed in the Impact Statement, the proponent must create a study plan and a work plan to be validated by the Agency. Upon receipt of a study plan, the Agency may request that the proponent present and discuss the study plan at technical meetings, which will be scheduled during the impact statement phase.	■ The Study Plan meets this requirement. A summary of the Technical discussions with agencies have been summarized in Section 3 of the Study Plan.	■ Section 3
23	The Agency	TISG Section 7.3, pages 34-35	■ In selecting a valued component to be included, the following factors should be considered: – valued component presence in the study area; " – "the extent to which the valued component is linked to the interests or exercise of Aboriginal and Treaty rights of Indigenous peoples, and whether an Indigenous group has requested the valued component; – "the extent to which the effects (real or perceived) of the Project and related activities have the potential to interact with the valued component; – "the extent to which the valued component may be under cumulative stress from other past, existing or future undertakings in combination with other human activities and natural processes;	■ The IS / EA will include detailed descriptions of the VCs and the rationale for their inclusion to describe their importance and the predicted residual effects (adverse and positive) as a result of the project.	■ Section 9

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
			– "the extent to which the valued component is linked to federal, provincial, territorial or municipal government priorities (e.g., legislation, programs, policies); – "the extent to which the valued component is being addressed through any ongoing or completed regional assessment processes; – "the possibility that adverse or positive effects on the valued component would be of particular concern to Indigenous groups, the public, or federal, provincial, territorial, municipal or Indigenous governments; and – whether the potential effects of the Project on the valued component can be measured and/or monitored or would be better ascertained through the analysis of a proxy valued component.		
24	The Agency	TISG Section 7.4.1, page 36	■ For valued components establish three study area spatial boundaries to assess impacts to each valued component: 1) Project Study Area: defined as the project footprint for each alternative route; " 2) Local Study Area: defined for each valued component – see below; 3) Regional Study Area: defined for each valued component – see below ■ Provide a rationale for boundaries of the project study area, local study area, and regional study area for each valued component and indicate how the above objectives were met in establishing the boundaries.	■ The Study Areas are defined and described in the Study Plan.	■ Section 6
25	The Agency	TISG Section 7.4.1, pages 35-36	■ The Impact Statement must describe the spatial boundaries, including project, local and regional study areas, for each valued component included in assessing the potential adverse and positive environmental, health, social and economic effects of the Project and provide a rationale for each boundary. Spatial boundaries are defined taking into account the appropriate scale and spatial extent of potential effects and impacts of the Project; community knowledge and Indigenous knowledge; current or traditional land and resource use by Indigenous groups; exercise of Aboriginal and Treaty rights of Indigenous peoples, including cultural and spiritual practices; and physical, ecological, technical, social, health, economic and cultural considerations. The size, nature and location of past, present and foreseeable future projects and activities are factors that should be included in the definition of spatial boundaries. It should be noted that in some cases, spatial boundaries might extend to areas outside of Canada. These transboundary spatial boundaries should be identified where transboundary effects are expected.	■ The Study Areas are defined and described in the Study Plan.	■ Section 6
26	The Agency	TISG Section 7.4.2, page 37	■ The temporal boundaries of the impact assessment span all phases of the Project determined to be within the impact assessment. If potential effects are predicted after project decommissioning or abandonment, this should be taken into consideration in defining specific boundaries. In order to assess a project's contribution to sustainability, consideration should be given to the long-term effects on the well-being of present and future generations. When defining temporal boundaries, the proponent should consider how elements of environmental, health, social and economic well-being that local communities, including municipalities, and Indigenous groups identify as being valuable could change over time.	■ The temporal boundaries for the IA / EA are defined and described in the Study Plan.	■ Section 6
27	The Agency	TISG Section 8.1, page 39	■ The Impact Statement must provide the approximate number, distance and identity factors of likely human receptors, including any foreseeable future receptors, that may be impacted by changes in air, water, country food quality (e.g., dust deposition on vegetation), and noise levels. At minimum, provide a map showing approximate locations of permanent residences, temporary land uses (e.g., cabins and traditional sites) and known locations of sensitive human receptors (e.g., schools, hospitals, community centres, retirement complexes or assisted care homes).	■ Project features, such as the proposed CAR, quarries and pits, access roads, camp and laydown areas will be shown on a plan map in the baseline report. The distances between the Project features and likely human receptors (e.g., residences, water wells and springs) will also be included on the plan map.	■ Section 8.2.2
28	The Agency	TISG Section 8.6, page 45	■ The Impact Statement must provide a delineation and characterization of groundwater–surface water interactions, including an identification of groundwater-dependent ecosystems, wetlands, discharge and recharge areas;	■ The baseline groundwater report will assess the magnitude and flow directions of groundwater-surface water interactions and discuss the ecological significance to nearby ecological receptors (wetlands, streams) at select hydrogeology monitoring locations.	■ Section 7.2 and Section 8.2.2
29	The Agency	TISG Section 8.6, page 45	■ The Impact Statement must provide baseline groundwater quality data for physicochemical parameters (temperature, pH, electrical conductivity, dissolved oxygen, turbidity) and relevant chemical constituents (major and minor ions, trace metals, radionuclides, nutrients and organic compounds, including those of	■ The groundwater sampling and analysis program will be summarized in the baseline groundwater report, and will include field sampling methods, field measured physiochemical parameters and laboratory measured	■ Section 7.2.6

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
			potential concern); the data should illustrate the seasonal and inter-annual variability in baseline groundwater quality, including possible changes due to groundwater–surface water interactions;	parameters, including general parameters, anions, nutrients, metals, VOC's, PAH's and radionuclides. The monitoring program takes seasonal and annual variability into account.	
30	The Agency	TISG Section 8.6, page 45	■ The Impact Statement must identify all domestic, communal, or municipal water wells within the local and regional project areas, including their screened hydrostratigraphic unit and piezometric level; describe their current use, potential for future use, and whether their consumption has any Indigenous cultural importance;	■ Registered groundwater supply wells and springs will be identified during the desktop assessment. ■ Following the desktop assessment, a water supply survey will be conducted within the Marten Falls First Nation Community, and any other residences/ communities within the LSA of the proposed CARs to determine the details of registered water wells and unregistered water wells and springs. ■ Locations and well completion details of all identified water supply wells will be presented in the baseline groundwater study report. ■ As part of the baseline studies, a water supply well water sampling program has been proposed to determine baseline water quality. Should complaints/ issues surrounding well water quality arise, the wells can be resampled and compared to baseline results.	■ Section 7.1, 7.2 and 8.2.2
31	The Agency	TISG Section 8.6, page 46	■ The Impact Statement must describe and provide the hydraulic properties of the hydrostratigraphic units;	■ The baseline groundwater report will include a description of the hydrostratigraphic units encountered along the proposed CARs.	■ Section 8.2.2
32	The Agency	TISG Section 8.6, page 46	■ The Impact Statement must describe the structural geology of the hydrogeological environment, including major faults, fracture density and orientation with respect to groundwater flow directions;	■ The baseline groundwater report will include mapped / known structural geology information that is pertinent to groundwater flow.	■ Section 7.1 and Section 8.2.2
33	The Agency	TISG Section 8.6, page 46	■ The Impact Statement must describe the groundwater flow boundaries of the hydrogeological environment for the purposes of the Impact Statement;"	■ The baseline groundwater report will include discussion on known or inferred groundwater flow boundaries.	■ Section 8.2.2
34	The Agency	TISG Section 8.6, page 46	■ The Impact Statement must provide hydrogeological maps and cross-sections of the study area showing water table elevations, potentiometric contours, interpreted groundwater flow directions, groundwater divides and areas of recharge and discharge; and	■ The baseline groundwater report will include hydrogeological maps of the hydrogeology monitoring locations, showing water table elevations, potentiometric contours, interpreted groundwater flow directions, groundwater divides and areas of recharge and discharge.	■ Section 8.2.2
35	The Agency	TISG Section 8.6, page 46	■ The Impact Statement must present a conceptual model of the hydrogeological environment, including a discussion of geomorphic, hydrostratigraphic, hydrologic, climatic and anthropogenic controls on groundwater flow.	■ The baseline groundwater report will include a conceptual model of the hydrogeological environment, including a discussion of geomorphic hydrostratigraphic, hydrologic, climatic and anthropogenic controls on groundwater flow.	■ Section 8.2.2
36	The Agency	TISG Section 8.6, page 46	■ The Impact Statement must provide groundwater elevation data from any monitoring wells showing seasonal water level variations when pertinent to the period of quarry and borrow area operation;	■ The groundwater monitoring program will be summarized in the baseline groundwater report and will include manual water level measurements and continuous automated water level measurements using pressure transducers.	■ Section 7.2.6
37	The Agency	TISG Section 8.6, page 46	■ The Impact Statement must describe the groundwater quality baseline characterization program including sampling site selection, monitoring duration and frequency, sampling protocol and analytical protocol including quality assurance and quality control measures;	■ The groundwater monitoring and sampling program will be summarized in the baseline groundwater report, and will include sampling site selection, monitoring duration and frequency, sampling protocol and analytical protocol including quality assurance and quality control measures;	■ Section 7.2 and Section 8.2.1
38	The Agency	TISG Section 8.6, page 46	■ The Impact Statement must identify any groundwater monitoring wells in proximity to rock quarries and borrow areas, including their location, completion details (diameter, screen depth), geological log, screened hydrostratigraphic unit, piezometric level, and monitoring frequency;	■ All groundwater monitoring wells will be identified including details on their locations, completion details, geology, piezometric levels and monitoring frequency.	■ Section 7.1, 7.2 and Section 8.2.2
39	The Agency	TISG Section 9, Page 69	■ describe drinking water sources which may be affected by the Project, including surface and/or groundwater (permanent, seasonal, periodic or temporary), their distance from project activities and approximate wellhead capture zones;	■ Estimated water well and construction area zone of influence calculations will be completed to assess and identify drinking water sources and sensitive ecological receptors that may be affected by Project works.	■ Section 8.2.2 and Section 9.4
40	The Agency	TISG Section 13, pages 80-83	■ This section of the TISG describes the methodology for the effects assessment, including definitions of scope, severity, and irreversibility.	■ This information will be included in the IS / EA Report and is summarized in the Study Plan.	■ Section 9

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
41	The Agency	TISG Section 14.2, page 86	■ With respect to potential project effects on the physical hydrogeological system, the Impact Statement must provide a project-specific water use assessment identifying and describing the quantity and quality of water resources potentially affected by the Project, including: – any withdrawal of groundwater or surface water; – changes to the groundwater recharge/discharge areas; – temporal and spatial changes in groundwater quantity, quality and flow (e.g., long- term changes in water levels), including how these changes may relate to domestic, communal or municipal water supply wells; – the flow or volume of water available in the water bodies; and – how any waste waters or dewatering water would be managed and where it would be discharged.	■ A project-specific water use assessment identifying and describing the quantity and quality of water resources potentially affected by the Project will be included in IS / EA Report.	■ Section 9.4
42	The Agency	TISG Section 14.2, page 87	– compare the quality of all effluent streams to the Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines for the Protection of Aquatic Life, and to provincial water quality objectives for contaminants of concern (e.g., arsenic, chromium, mercury) that do not have CCME guidelines. CCME's Water Quality Guideline values are national science-based voluntary guidelines developed collaboratively among provincial, territorial and federal jurisdictions for the protection of freshwater and marine life56;	■ Water quality criteria will be established specific to each sampled location as outlined in the Study Plan.	■ Section 8.2.2
43	The Agency	TISG Section 14.2, page 87	■ With respect to potential project effects on water quality in the receiving environment, the Impact Statement must describe any changes to groundwater quality that could affect surface water quality;	■ Predicted changes to groundwater quality that could affect surface water quality will be included as part of the IS / EA Report.	■ Section 8.2.2
44	The Agency	TISG Section 14.2, page 87	■ With respect to potential project effects on water quality in the receiving environment, the Impact Statement must provide an assessment for off-site migration pathways for affected groundwater and an analysis of contaminant attenuation capacities within the hydrogeological units of the project study area; and	■ An assessment of potential off-site migration pathways for affected groundwater, and an analysis of contaminant attenuation capacities within the hydrogeological units of the project study area will be included as part of the IS / EA Report.	■ Section 8.2.2
45	The Agency	TISG Section 14.2, page 87	■ If the proponent undertakes quarrying activities to extract aggregate material that may results in effects on groundwater and surface water levels (i.e., quarrying below the water table), the Impact Statement must describe spatial and temporal (i.e., all project life cycle) changes to groundwater quality at potential receptor locations (e.g., existing or future drinking water wells and spring water sources), including traditional land users, due to effluents from the Project including changes to physicochemical parameters (temperature, pH, salinity, dissolved oxygen, dissolved organic carbon), chemical constituents (major and minor ions, trace metals, nutrients, organic compounds);	■ Numerical and water balance modelling will be run to estimate inferred temporary or permanent changes to groundwater quality at potential receptors as a result of all intrusive construction works, including quarrying.	■ Section 8.2.2 and Section 9.4
46	The Agency	TISG Section 14.2, page 87	■ If the proponent undertakes quarrying activities to extract aggregate material that may results in effects on groundwater and surface water levels (i.e., quarrying below the water table), the Impact Statement must: – present an integrated site water balance model incorporating surface and groundwater fluxes for the construction, operation and decommissioning of large quarrying sites	■ Potential changes to surface and groundwater (quality and quantity) will be assessed as part of the IS / EA.	■ Section 8.2.2 and Section 9.4
47	The Agency	TISG Section 14.2, page 87	■ With respect to potential project effects on water quality in the receiving environment, the Impact Statement must describe groundwater and surface water monitoring programs during the construction, operation and decommissioning and abandonment.	■ Monitoring programs during the construction, operation and decommissioning and abandonment will be identified as part of the IS / EA Report.	■ Section 8.2.2

ID	Regulatory Agency/ Guidance	Federal TISG Reference[9]	Requirement / Comment / Concern	Response	Study Plan Reference
48	The Agency	TISG Section 14.3, page 88	■ The Impact statement must describe any contaminants of concern (e.g., arsenic, chromium, mercury) potentially associated with the Project (including from spills or accidental discharges) that may affect soil, sediment, wetlands, and surface and groundwater (including substances used during summer and winter maintenance activities);	■ Potential changes to surface and groundwater (quality and quantity), including subsequential effects on other VCs, will be assessed as part of the IA / EA. Sampling of contaminants of potential concern has been described in the Groundwater and Geochemistry Study Plan and the Surface Water Study Plan.	■ Section 7.2.6.2 Section 8.2.2 and Section 9.4 of Surface Water Study Plan
49	The Agency	TISG Section 14.3, page 88	■ The Impact statement must describe how hydrological or drainage changes may disturb soils, wetlands, peatlands or muskeg and result in the release of mercury or methylmercury from disturbed soils, which may affect water and groundwater quality, fish, wildlife and human health;	■ The project will be designed to minimize or avoid changes in water flow and / or drainage - further information is available in the Surface Water Study Plan. Sampling for mercury and methylmercury is proposed to collect baseline data and assess the risk associated with mercury and methylmercury.	■ Section 7.2.6.2 Human Health and Community Safety Study Plan Surface Water Study Plan
50	The Agency	TISG Section 16.1, Page 103	■ With respect to biophysical determinants of health, the Impact Statement must provide an assessment of adverse and positive effects on human health in current and future availability (including contamination/ quality) of country foods (i.e., food that is trapped, fished, hunted, harvested or grown for subsistence, cultural or medicinal purposes)	■ Groundwater quality results will be compared against applicable water quality criteria to protect human and ecological receptors. If it is identified by the IA / EA that residual effect pathways from groundwater to human health exists, additional baseline studies may be proposed. Details regarding potential bioaccumulation of contaminants and consumption by Indigenous groups will be discussed in the Human Health and Community Safety VC Study Plan.	■ Section 8.2.2, Human Health and Community Safety Study Plan
51	The Agency	TISG Section 17.2, Page 108	■ Identify predicted effects of the Project on the quality and quantity of ground or surface water and implications for recreational uses.	■ The IA / EA will evaluate the potential effects on surface and groundwater and the indirect effects to other disciplines (e.g., Land and Resource Use). If it is determined by the IA / EA that a residual effect to land and resource use exists (i.e., after mitigation), additional baseline studies may be proposed. In addition to this Study Plan, please see the Physiography, Terrain and Soils Study Plan and the Surface Water Study Plan for details on methods and approaches for assessing the potential effects on surface water and groundwater. Please refer to the Land and Resource Use Study Plan for details on assessing effects to recreational use.	■ Section 8.2.2, Section 9.4, Physiography, Terrain and Soils Study Plan ■ ■ Surface Water Study Plan ■ ■ Land and Resource Use Study Plan
52	The Agency	TISG Section 20, page 119-128	■ Section 20 of the TISG describes the requirements around mitigation and enhancement measures that must be considered in the Impact Statement.	■ Mitigation measures will be informed by best management practices, applicable resource management and/or recovery plan, Indigenous input, and industry standards.	■ Section 9.5
53	The Agency	TISG Section 21, pages 129-130	■ Section 21 of the TISG describes the requirements and guidance associated with determining residual effects.	■ Residual effects will be assessed in the IA / EA.	■ Section 9.6
54	The Agency	TISG Section 22, pages 131-133	■ Section 22 of the TISG describes the guidance around conducting cumulative effects assessment for the project.	■ Cumulative effects assessment will be conducted as part of the IA / EA.	■ Effects Assessment Methodology
55	The Agency	TISG Section 25, pages 139-140	■ Section 25 of the TISG provides guidance on how to demonstrate the Project's contributions to sustainability.	■ The IS / EA Report will include discussion on how the project contributes to sustainability	■ Section 9.7
56	The Agency	TISG Section 26, Page 141	■ Section 26 of the TISG includes a description of the considerations for developing a follow-up program for environmental, health, social or economic effects, as applicable.	■ The IA / EA will include descriptions of follow-up programs, as required by VC.	■ Section 9.9

Table 11-2: Study Plan Provincial Concordance – Conformance with Requirements

ID	Comment from Regulatory Agency	Comment Type	Requirement / Comment / Concern	Response	Study Plan Reference
1	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ Considering the extent of wetland areas and number of water crossings associated with the project, additional baseline data are required on the geochemistry of aggregate rock source (i.e., quarry) materials/blasted rockfill. Acid Rock Drainage and Metal Leaching (ARD/ML) from potential aggregate rock source materials must be determined prior to quarry selection and development along the proposed route, and prior to use in construction.	■ This issue is now addressed in the Groundwater and Geochemistry Study Plan. This includes the proposed desktop assessment and field sampling program that will be conducted to assess the likelihood of ML / ARD impacts on surface water or groundwater quality within the Project area. ■ Groundwater monitoring is discussed in the Groundwater and Geochemistry Study Plan.	■ Section 7.4.2
2	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ ARD/ML sample analysis must be completed during the EA, and a commitment must be made in the Terms of Reference for inclusion of the 'Geochemistry' discipline in Table 7-1. Table 7-1: Environmental Disciplines to be Considered during the Environmental Assessment in the Terms of Reference must include 'Geochemistry' in the discipline list for the Natural Physical and Biophysical Environment.	■ This issue is now addressed in the Groundwater and Geochemistry Study Plan. This includes the proposed desktop assessment and field sampling program that will be conducted to assess the likelihood of ML / ARD impacts on surface water or groundwater quality within the Project area. ■ Groundwater monitoring is discussed in the Groundwater and Geochemistry Study Plan.	■ Section 7.4.2
3	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ #7 Draft Terms of Reference (Nov. 2019), Section 7.2 Potential Environmental Effects; Subsection 7.2.5 Groundwater, p. 50.Subsection 7.2.5 provides an overview of potential effects on groundwater resources associated with the project.This section must include potential groundwater quality effects associated with use of quarried aggregate rock source materials that have acid rock drainage and/or metal leaching (ARD/ML) potential.This section must also include potential groundwater quality effects from construction camp sewage systems.Subsection 7.1.4.5 Groundwater of the Terms of Reference must be edited to include the following effects:· Use of quarried aggregate rock source materials during construction has the potential to result in groundwater and surface water quality effects from acid rock drainage and/or metal leaching (ARD/ML).· Groundwater quality may be affected by discharge from construction camp sewage systems.	■ This issue is now addressed in the Groundwater and Geochemistry Study Plan. This includes the proposed desktop assessment and field sampling program that will be conducted to assess the likelihood of ML / ARD impacts on surface water or groundwater quality within the Project area. ■ Groundwater monitoring is discussed in the Groundwater and Geochemistry Study Plan.	■ Section 7.4.2
4	MNRF	■ Letter received from Dave Barker, Resources Management Supervisor, Nipigon District, MNRF on the Draft Terms of Reference	■ Sec. 7.2.3 – Physiology, Geology, Terrain and Soils pg. 42 Appendix A The proponent acknowledges the importance of identifying and securing the aggregate materials that will be required for road construction and maintenance. MNRF shares the view that the availability of suitable and sufficient amounts of aggregate for the project will be a major consideration in route selection and overall feasibility. The rationale is to be transparent on the quantity and sources of aggregate at the ToR stage because of the wetland dominated landscape with limited sources. The associated potential effects in obtaining sufficient volume to construct and maintain the proposed road because it is possible that sources will need to be accessed beyond the defined local study area resulting in additional roads. Although potential aggregate sources (fig 7.2 pg 26) is provided, detailed information about the type and volume of aggregate needed to implement the project and that exists in the project area will need to be presented, along with an assessment of environmental impacts of new aggregate extraction operations that are proposed and how these will be mitigated. The assessment approach to evaluating potential effects for aggregates is weak (see Appendix A) because it appears to be included in the general local geology criteria with no mention of indicators that are sensitive to ecological changes at the project, local and regional levels. For example, attention should be given to developing criterion and indicators that reflect the potential ecological and hydrologic effects associated with construction and maintenance of the proposed road.	■ The Groundwater and Geochemistry Study Plan identifies potential quarries and pits and sampling activities will be conducted to develop a baseline for existing conditions and to assess the potential for ML / ARD or elevated soil concentration issues. This information will be used in conjunction with data from other disciplines to assess the risk on ecological habitats in the pit, quarry and construction areas.	■ Section 7 and 9

ID	Comment from Regulatory Agency	Comment Type	Requirement / Comment / Concern	Response	Study Plan Reference
5	MNRF	■ Letter received from Ariane Heisey, Paul MacInnis, Claire Pineau, ENDM on the Draft Terms of Reference	■ In the list in 7.1.3 and in 7.1.4, there may be merit to include the studies that have already been undertaken specific to the Project or it can be included in the more detailed descriptions in 7.1.4· Description of Existing Environment – may have merit to review language developed by Marten Falls First Nation and Ontario for MFFN CBLUP and broadband project to help monitor consistency between the documents. Can discuss further with ENDM ROF if desired.· Consider including information about the completed studies to date.· Consider reviewing language in other related documents to help monitor consistency, as appropriate."	■ Review of historical studies will be included as part of the desktop assessment and language used in these documents will be carried forward in reports, where applicable.	■ Section 7.1
6	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ Subsection 7.1.4.5 pg 28-29 states that baseline groundwater elevation measurements will be recorded during the geotechnical drilling program, and signs of groundwater upwelling will be recorded if encountered during the surface water field program. Additional baseline groundwater quality and quantity monitoring field programs are required to evaluate groundwater effects associated with the Project."	■ In addition to geotechnical works, where some hydrogeological data will be measured, a baseline groundwater study will be conducted.	■ Section 7.2
7	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ In Section 9, the proponent indicated that environmental commitments and monitoring plans will be developed and included in the EA. Based on the absence of baseline groundwater quality and quantity monitoring information and the potential environmental risks associated with quarry material geochemistry, the following plans will be required in addition to the groundwater effect management/mitigation measures and compliance/effects monitoring plans:· Draft Baseline Groundwater Work Plan (description of baseline groundwater quality and quantity field programs); and· Aggregate Material Geochemical Management Plan (testing, results interpretation, storage, handling and mitigation measures for materials that are likely to result in acid rock drainage and/or metal leaching [ARD/ML])."	■ This Study Plan outlines the proposed desktop assessment and baseline groundwater study that will be conducted to determine baseline groundwater quantity and quality within the Project area and assess potential geochemical risks to propose a geochemical management plan.	■ Section 7
8	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ Section 9 Commitments and Monitoring of the Terms of Reference must provide additional detail on the required baseline groundwater quality and quantity monitoring programs that will be undertaken during the EA. Submission of a Draft Baseline Groundwater Work Plan is required prior to the EA, with review by a Ministry of the Environment, Conservation and Parks (MECP) Northern Region Technical Support Hydrogeologist. The baseline groundwater monitoring program must include the collection of groundwater quality samples and groundwater elevation measurements from representative areas along the proposed road corridor route, and at proposed aggregate source locations and construction camps.	■ This Study Plan outlines the proposed desktop assessment and baseline groundwater study that will be conducted to determine baseline groundwater quantity and quality within the Project area. It includes collection of water levels and water quality data from representative areas along the proposed road corridor, and at proposed pit and quarry areas, construction camps and laydown areas.	■ Section 7
9	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ Subsection 7.1.4.5 pg 28-29 states that the Marten Falls First Nation community relies on groundwater for domestic and public water supplies. Registered and unregistered groundwater supply wells were not identified on any maps within the Nov. 2019 Draft Terms of Reference. The proponent must provide more detailed information on the well locations and depths (including borehole logs, if available), with maps displaying the location of domestic and public water wells in the Marten Falls First Nation community and surrounding inhabited areas within two km of the proposed road corridor/aggregate pits and quarries/work camps. Radius of influence calculations for groundwater takings associated with the Project should be completed to determine risk to local well water supplies.	■ Registered groundwater supply wells and springs will be identified during the desktop assessment. Following the desktop assessment, a water supply survey will be conducted within the Marten Falls First Nation Community, and any other residences/communities within the LSA of the proposed CARs to determine the details of registered water wells and unregistered water wells and springs. ■ Locations and well completion details of all identified water supply wells will be presented in the baseline groundwater study report. ■ As part of the baseline studies, a water supply well water sampling program has been proposed to determine baseline-water quality. Should complaints/issues surrounding well water quality arise, the wells can be resampled and compared to baseline results.	■ Section 7.1 ■ Section 7.2 ■ Section 8.2.2

ID	Comment from Regulatory Agency	Comment Type	Requirement / Comment / Concern	Response	Study Plan Reference
10	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ Subsection 7.1.4.5 Groundwater of the Terms of Reference must describe and identify on a map, the registered domestic and public groundwater supply wells within the Marten Falls First Nation community and surrounding inhabited areas. Registered wells and water well records can be found at the following website [https://www.ontario.ca/environment-and- energy/map-well-records].The EA must include the results of a door-to-door water well survey for inhabited areas within two km of the proposed road corridor/aggregate pits and quarries/work camps, to identify unregistered water supply wells and to verify the locations of registered wells. Dewatering radius of influence (ROI) calculations must be included in the EA for any planned groundwater takings associated with the Project. Additional baseline groundwater level and groundwater quality measurements will be required for MECP PTTW and ECA applications, where registered and/or unregistered water supply wells may be affected by blasting, water taking or discharge activities associated with the Project."	■ Registered and unregistered groundwater supply wells will be identified during the desktop assessment and subsequent field program. A water supply survey will be conducted within the Marten Falls First Nation Community, and any other residences/comminutes within the LSA of the selected road corridor route to determine the location of registered water wells and unregistered water wells. A baseline well water monitoring program will also be completed to acquire baseline water quality and quantity data. Locations of all water supply wells will be presented in the baseline groundwater study report. ■ Estimated zone of influence calculations will be conducted using aquifer property data obtained from field investigations to help approximate the extent of construction dewatering works impacts.	■ Section 7 ■ Section 9.4
11	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ Subsection 7.1.4.5 Groundwater of the Terms of Reference must provide additional detail on the required baseline groundwater quality and quantity monitoring field programs that will be undertaken during the EA. Specifically, groundwater quality samples and groundwater elevation measurements must be collected from representative areas along the proposed road corridor route, and at proposed aggregate source locations and construction camps. Baseline groundwater flow measurements will also be required for proposed aggregate source locations. The identification of representative areas must consider: terrestrial terrain, local hydrogeology, bedrock and overburden geology and geochemistry. Level loggers in monitoring wells are recommended to record seasonal groundwater elevation fluctuations, if wells are deep enough to prevent freezing."	■ This Study Plan outlines the proposed baseline groundwater study that will be conducted to determine baseline groundwater quantity and quality within the Project area. This includes collection of groundwater samples, manual and automated (data logger) collected groundwater levels, hydraulic conductivity tests and calculation of hydraulic gradients and groundwater flow velocities at numerous sites along the propose access corridor route. Monitoring locations will be situated in areas with the greatest potential to negatively affect water quantity and quality of hydrology and hydrogeology systems.	■ Section 7.2
12	MECP	■ Email from Agni Papageorgiou & Sasha McLeod, Special Project Officer Environmental Assessment Services Section, Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ #17 Section 8 Page 54 Consultation on Assessment Methodology - MFFN acknowledges that the proposed methodology will be open to input during the draft ToR review, but also says a more detailed method will be presented in the EA. Page 47 indicates the effects assessment criteria will be developed during the EA. While it is appropriate to defer some detailed work planning to the EA phase, the ToR should include commitments for how technical reviewers, and other interested persons, will be consulted during the development of specific evaluation methodologies or technical work plans. It is strongly recommended that those opportunities for review occur prior to the completion of studies (e.g., prior to the submission of a draft or final EA document).It is not clear whether MFFN plans to consult on the more detailed methodology and criteria during the EA phase or if the ToR phase is the main opportunity to provide input. Please indicate how consultation on the ToR has informed the preliminary criteria and indicators. Please clarify when MFFN will consult and provide opportunity for input on the detailed assessment method, including criteria and indicators (and work plans as MECP has proposed), with agencies, communities and stakeholders during the EA phase in order to finalize the methodologies before EA studies get advanced.	■ This Study Plan will be reviewed by relevant federal and provincial agencies, interested persons and indigenous communities.	■ Section 4

ID	Comment from Regulatory Agency	Comment Type	Requirement / Comment / Concern	Response	Study Plan Reference
13	MECP	■ Email from Agni Papageorgiou & Sasha McLeod, Special Project Officer Environmental Assessment Services Section, Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ #21 Section 10.2.4 Page 73 Technical Work Plans - Page 73 states that MECP has indicated it will not be commenting on work plans associated with field work until the ToR is finalized. This statement does not reflect MECP's guidance to the project team. MECP's guidance, which is documented on page 69 of the RoC, is that the ToR is the mechanism to seek technical review of work plans and that discipline- specific work plans should be included with the ToR. As well, discussions that MECP has had with the project team to date are considered pre-consultation, since it is the ToR that sets out what work is to be done during the EA phase. ■ Please revise the statement on page 73 to state: "MFFN provided MECP and MNRF work plans associated with field work planned during 2019 for review, however MECP advised this is considered-consultation and that discipline-specific work plans should be appended to the ToR to allow full technical review. "As the draft ToR did not include detailed discipline-specific work plans, the other option the ministry strongly recommends is to include commitments to develop work plans at the outset of the EA phase, including opportunities for technical review.	■ This Study Plan will be reviewed by relevant federal and provincial agencies, interested persons and indigenous communities.	■ Section 4
14	MECP	■ Email from Agni Papageorgiou & Sasha McLeod, Special Project Officer Environmental, MECP Assessment Services Section, Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ Assessment Methods - For the most part, section 7.2 provides a description of potential environmental effects for each discipline. However this section also includes assessment methodologies for some subsections (7.2.1 and 7.2.2 AERMOD modelling, quantitative noise assessment) while the majority do not (7.2.3 – 12). The level of detail in the ToR about assessment methods should be consistent for all environmental components. ■ It is strongly recommended to include commitments to develop work plans at the outset of the EA phase, including opportunities for technical review by agencies and others. The work plans should include assessment methodology appropriate for each environmental component. The ToR could include a high level summary table for each environmental discipline listing data collection and assessment methods, with a commitment to develop the work plans at the outset of the EA phase to provide more details. Consider where the information about air and noise modelling is best placed.	■ Methodology concerning data collection (including desktop and field-based, where appropriate) are summarized in this Study Plan.	■ Section 7.1 ■ Section 7.2
15	MECP	■ Email from Agni Papageorgiou & Sasha McLeod, Special Project Officer Environmental, MECP Assessment Services Section, Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ #16 Section 8 Page 54 Work Plans - Section 8 describes the approach that will be taken to evaluate alternative methods during the EA, including proposed criteria and indicators (presented in Appendix A). The information presented is high level and does not provide an opportunity for technical review of the methodologies that will be applied to evaluate those specific criteria and indicators. It is strongly recommended to include commitments to develop work plans at the outset of the EA phase, including opportunities for technical review by agencies and others.	■ This Study Plan will be reviewed by relevant federal and provincial agencies, interested persons and indigenous communities.	■ Section 4
16	MECP	■ Email from Mike Landers, Senior Environmental Officer, Thunder Bay District Office, Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ #4 7.2.5 Groundwater Pg. 50 ■ Adverse effect for user/owner of wells. Identify in the EA location of wells and to include a Well monitoring plan to ensure issues (if any) are identified forthwith and mitigated. Minimize the complaints/issues surrounding the well had previously produced potable water, after the blasting, the well no longer produces potable water. The plan must include risk level, mitigation and corrective actions.	■ Registered groundwater supply wells and springs will be identified during the desktop assessment. Following the desktop assessment, a water supply survey will be conducted within the Marten Falls First Nation Community, and any other residences/communities within the LSA to determine the details of registered water wells and unregistered water wells and springs. ■ Locations and well completion details of all identified water supply wells will be presented in the baseline groundwater study report.	■ Section 7.1 ■ Section 7.2

ID	Comment from Regulatory Agency	Comment Type	Requirement / Comment / Concern	Response	Study Plan Reference
17	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ #7 Draft Terms of Reference (Nov. 2019), Section 7.2 Potential Environmental Effects; Subsection 7.2.5 Groundwater, p. 50. ■ Subsection 7.2.5 provides an overview of potential effects on groundwater resources associated with the project. This section must include potential groundwater quality effects associated with use of quarried aggregate rock source materials that have acid rock drainage and/or metal leaching (ARD/ML) potential. This section must also include potential groundwater quality effects from construction camp sewage systems. Subsection 7.1.4.5 Groundwater of the Terms of Reference must be edited to include the following effects:· Use of quarried aggregate rock source materials during construction has the potential to result in groundwater and surface water quality effects from acid rock drainage and/or metal leaching (ARD/ML).· Groundwater quality may be affected by discharge from construction camp sewage systems.	■ Details regarding assessment of ARD / ML potential are described in this Study Plan. Best practices will be used when placing road fill (e.g., using low ARD / ML potential materials) ■ Additional water quality monitoring will be required if discharge of construction camp sewage within the RSA occurs. This comment will be revisited once camp locations and sewage management methods are confirmed.	■ Section 7.4.2
18	MECP	■ Email from Shannon Heggie, Hydrogeologist - Groundwater Unit, Technical Support Section, Northern Region, Drinking Water and Environmental Compliance Division Ministry of the Environment, Conservation and Parks with comments of the Draft ToR	■ #14 Draft Terms of Reference (Nov. 2019), Appendix A – Draft Criteria & Indicators for Alternatives Evaluation, p. A- 1. ■ In Appendix A, it is recommended that the following Ontario government data source is used for additional baseline Groundwater and Surface Water information from the Ministry of the Environment, Conservation and Parks with respect to the project: Data Catalogue [https://www.ontario.ca/search/data- catalogue?Publisher=%5B%22Environment,%20Conservation%20and%20Parks%22%5D&sort=asc&status=%5B%2230%22%5D]Include the following source of information in Appendix A – Draft Criteria & Indicators for Alternatives Evaluation of the Terms of Reference: Ministry of the Environment, Conservation and Parks – Data Catalogue [https://www.ontario.ca/search/data- catalogue?Publisher=%5B%22Environment,%20Conservation%20and%20Parks%22%5D&sort=asc&status=%5B%2230%22%5D]	■ A search of the data catalog will be conducted as part of the desktop assessment.	■ Section 7.1
19	MNRF	■ Letter received from Dave Barker, Resources Management Supervisor, Nipigon District, MNRF on the Draft Terms of Reference	■ Draft Criteria and Indicators for Alternatives Evaluation Appendix A Available resources to help inform the draft criteria and indicators include research publications and expert knowledge on topics such as stressor-effects pathways, cumulative effects, and associated environmental components and indicators. Contacting researchers such as Rob Mackereth (MNRF) who has published research on these topics and related subjects is encouraged. - Rempel, R.S., et al. 2016. Support for development of a long term environmental monitoring strategy for the Ring of Fire area. Ontario Ministry of Natural Resources and Forestry, Science and Research Branch, Peterborough, ON. Science and Research Information Report IR-08. 34 p. + append. Catalogue-natural-resource-scientific-and-technical-publicationsWhile no specifics are provided in this submission, MNRF welcomes a discussion with MECP and ENDM to explore what (if any) role this project could play in advancing baseline information and long-term environmental monitoring for the Ring of Fire in partnership with First Nations communities.	■ Data sources are being reviewed for their appropriateness and will be included in Study Plans where applicable. Information on specific data sources and their relevance to the Project will be included in the IS / EA Report.	■ Section 7 ■ Appendix A
20	MECP	■ Completeness Review Memorandum compiled from MECP emails and August 2019 meetings with MECP and ENDM	■ Study areas are missing and lack clarity – maps show study area for 4 routes even though only 2 (or 1?) routes are proposed to be assessed; no indication of local and regional study areas for each environmental component (e.g., groundwater, surface water, caribou, etc.).	■ The Study Areas are defined and described in the Study Plan.	■ Section 6.2 ■ Figure 6-2

12. References

AECOM Canada Ltd., 2020:

Marten Falls First Nation Proposed Terms of Reference Marten Falls Community Access Road – Environmental Assessment, Appendix B: Consultation & Engagement Plan to Support the Environmental Assessment / Impact Statement.

CCME (Canadian Council of Ministers of the Environment). 2016:

Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment, 2016, Canadian Council of Ministers of the Environment.

Golder Associates Ltd. (Golder). 2020. Marten Falls First Nation Community Access Road Project: Geology and Groundwater Existing Conditions Report. Draft.

Impact Assessment Agency of Canada, 2019:

Impact Assessment Act. https://laws-lois.justice.gc.ca/eng/acts/I-2.75/

Impact Assessment Agency of Canada, 2020:

Public Participation Plan for the Marten Falls Community Access Road Project Impact Assessment. https://iaac-aeic.gc.ca/050/documents/p80184/133934E.pdf

Impact Assessment Agency of Canada, 2020a:

Indigenous Partnership and Engagement Plan for the Marten Falls Community Access Road Project Impact Assessment. https://iaac-aeic.gc.ca/050/documents/p80184/133936E.pdf

Impact Assessment Agency of Canada, 2020b:

Glossary of Terms for the impact assessment of designated projects under the IAA. https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/glossary-of-terms.html

Impact Assessment Agency of Canada, 2020c:

Tailored Impact Statement Guidelines for the Marten Falls Community Access Road Project. https://iaac-aeic.gc.ca/050/documents/p80184/133937E.pdf

Ministry of Environment (MOE), 1999:

Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater. Queen's Printer. January 1999

Ontario Government, 1990a:

Environmental Assessment Act. https://www.ontario.ca/laws/statute/90e18

Price, W.A., 2009:

Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. MEND Report

Appendix A

Preliminary List of Data Sources

- Field investigations (undertaken for surface water and other environmental disciplines)
- Indigenous Knowledge
- Data from previous environmental assessments
- Ontario Integrated Hydrology Data
- Land Information Ontario base mapping data (Ministry of Natural Resources and Forestry [MNRF] 2020)
- Natural Heritage Information Centre
- Ontario Flow Assessment Tool Version 3
- Hydrometric data from Water Survey of Canada and MECP, or from Ontario Hydro
- Archived water quality data from the MECP provincial (Stream) Water Quality Monitoring Network
- The MECP Source Protection Information Atlas
- Archived water taking data from the MECP Permits to Take Water Database
- The MECP Water Well Inventory
- Aquatic Ecosystem Assessments for Rivers (Metcalfe et al. 2013)
- Support for development of a long-term environmental monitoring strategy for the Ring of Fire area: Background documents, workshop report, pathway diagrams and indicator list (Rempel et al., 2016)
- The MECP and the Ministry of Transportation Ontario (MTO) Foundation Library (GEOCRES)
- The Ministry of Natural Resources and Forestry (MNRF), Ontario Geological Survey (OGS)
- The Geological Survey of Canada (GSC)
- The MECP Water Well Information System (WWIS)

Appendix B

Agency Comments on the Draft Study Plan

Draft Study Plan Comments – Federal

Comment # / Ref #	Study Plan Section	TISG Section	Agency/Regulatory Body Comments Received From	Comment / Context	Action Item	Final Response	Study Plan Reference
General Comment	■ General Comment	■ **Sections 5, 6, 7, 13, 19.2, and 25**	The Agency	■ In addition to the required actions detailed below, other required actions to be addressed in the update to this study plan are detailed in a separate table titled "2020-07-02 – IAAC to MFFN - General Comments on MFCAR Draft Study Plans". The Agency has provided these other required actions to highlight common sections of the Tailored Impact Statement Guidelines (the Guidelines) where requirements were not met in the draft study plans submitted to the Agency. These additional actions must be addressed in the updated study plans.	■ Please see Comment / Context	■ We have reviewed the relevant comments and incorporated where appropriate. Please refer to the General Comments Table Response submitted separately to the Agency for specific responses.	■ Various Sections
GW-01	■ **Table 3-1: Groundwater Study Areas** – Local Study Area (LSA): 2.0 km Regional Study Area (RSA): 5.0 km Rationale: Potential effects (s) to groundwater are considered to be localized and limited to the alignment and area immediately surrounding the alignment within the zone of influence (ZOI) that may be affected by Project construction activities. ■ **4.1 Desktop Assessment** – "…The desktop review will focus on published information obtained from Marten Falls First Nation… The report will include detailed information on registered water well locations and depths (including borehole logs, if available) and a figure showing domestic and public water well locations within two kilometres of the Project works." ■ **4.2.1 Study Area Reconnaissance & Determination of Key Groundwater Monitoring Locations** – "The groundwater baseline study will include … • Areas within two kilometres of the developed Marten Falls First Nation communities, particularly with potential dewatering and other effects to existing structures,	■ **Section 6** – "The proponent must engage with all Indigenous groups that may be impacted by the Project. The Indigenous Engagement and Partnership Plan, issued by the Agency, is available to assist the proponent in further developing or refining their engagement strategy and supporting ongoing trust and relationship-building. – In addition to the requirements set out in section 6.1, 6.2 and 6.3, the proponent must provide Indigenous groups with an opportunity to: • provide Indigenous knowledge during baseline data collection; • comment on the list of valued components and indicators;…" ■ **Section 7.4.1** – "…Spatial boundaries are defined taking into account the appropriate scale and spatial extent of potential effects and impacts of the Project; community knowledge and Indigenous knowledge; – current or traditional land and resource use by Indigenous groups; exercise of Aboriginal and Treaty rights of Indigenous peoples, including cultural and spiritual practices; and physical,	The Agency	■ The field study is proposed to occur within two kilometres from the centreline of the proposed Community Access Road (CAR), including the Marten Falls First Nation community, associated borrow source areas, associated roads and construction lay down. Given that groundwater flow may continue beyond this distance depending on hydrogeological conditions, with the potential for impacts to drinking water sources, it is not clear how the arbitrary distance from project activities is relevant to effects on groundwater. Additionally, Marten Falls First Nation appears to be the sole Indigenous group engaged to confirm the spatial boundaries and identify sensitive locations (e.g., potable water wells) during the desktop and field groundwater studies. ■ It remains unclear why engagement with the other Indigenous groups listed in the Indigenous Engagement and Partnership Plan (IEPP), including those communities with members who rely on potable water wells in the vicinity of the Project Study Area or who may access natural springs while involved in land use activities within the project area, are not considered for the development of the spatial boundaries and selection of sensitive locations.	■ Provide details to demonstrate the approach that will be used to identify all domestic, communal, or municipal water wells within the local and regional project areas as per the Guidelines. ■ Clarify the inconsistency between the geographic extent of the Regional Study Area mentioned in the Desktop Assessment report and the geographic extent of the Regional Study Area shown in Table 3-1. ■ Describe in the study plan how Indigenous groups will have opportunities to provide Indigenous knowledge on the groundwater study plan and validate the baseline data collected. ■ All Indigenous groups listed in the IEPP must be provided opportunities to: – provide Indigenous knowledge during baseline data collection;	■ Section 4 was updated to clarify that government agencies, first nation communities and any interested persons will have the opportunity to comment on components of the study plans throughout the IS / EA Report consultation and engagement process. ■ The LSA was refined and edits to the text were made in Section 6.2. ■ Revised text to include springs in Section 7.2.1.1 and Section 8.2.2. Any spring water samples will be samples for the same parameters and at the same frequency as groundwater. ■ Sections 7.2.1.1 and 8.2.2 were updated to include water levels and hydrostratigraphic units. ■ Section 7.1 and 7.2.1.1 outline the approach used to identify all domestic, communal, or municipal water wells / springs within the local and regional project area.	■ Section 4 ■ Section6.2 ■ Section 7.1 ■ Section 7.2.1.1 ■ Section 8.2.2

Comment # / Ref #	Study Plan Section	TISG Section	Agency/Regulatory Body Comments Received From	Comment / Context	Action Item	Final Response	Study Plan Reference
	infrastructure and/or local well supplies; • Areas within close proximity (two kilometres) to other existing groundwater users (e.g., registered and unregistered water supply wells); ■ **4.2.1.1 Water Well Locations** – "…A door-to-door water well survey will be completed within Marten Falls and any outpost camps within two kilometres of the proposed CAR, associated borrow source areas, associated roads and construction lay down areas to identify unregistered water supply wells and to verify the locations of registered wells."	ecological, technical, social, health, economic and cultural considerations…" ■ **Section 8.6** – "…The Impact Statement must:… • identify all springs and any other potable surface water resources within the local and regional project areas and describe their current use, potential for future use, and whether their consumption has Indigenous cultural importance; • describe the surface water quality baseline characterization program, including sampling site selection, monitoring duration and frequency, sampling protocol, and analytical protocol, including quality assurance and quality control measures;… • identify all domestic, communal, or municipal water wells within the local and regional project areas, including their screened hydrostratigraphic unit and piezometric level; describe their current use, potential for future use, and whether their consumption has any Indigenous cultural importance;…"		■ As per Section 6 of the Guidelines, the Agency expects the proponent to engage with, at a minimum, the Indigenous groups listed in the IEPP.	– comment on the list of valued components and indicators; – inform the effects assessment and review its conclusions; and – inform the development of mitigation measures and follow-up programs.		
GW-02	■ **Section 4.1 Desktop Assessment** – The desktop assessment will include the following tasks: • A review of previous studies pertaining to the Project or conducted within the RSA that may provide additional hydrogeological, geological, hydrological, geochemical or biological data relevant to the Project. • A desktop review of available reports and other pertinent information from within the RSA, if any; ■ **Section 7 Conformance with Federal and Provincial Guidance** – "The desktop assessment and/or the baseline groundwater report will	■ **Section 7.1** – "…Ensure baseline data are representative of project site conditions. If surrogate data from reference sites are used rather than site-specific surveys, the proponent should demonstrate that the data are representative of project site conditions." ■ **Section 7.2** – "…The Impact Statement must provide detailed descriptions of specific data sources, data collection, sampling, survey and research protocols and methods followed for each baseline environmental, health, social and economic condition that is described, in order to corroborate the validity and	The Agency	■ The study plan states that previous studies and reports relevant to the project area may be used to provide additional data and detailed descriptions of the specific data sources will be provided in the baseline report, as required in Section 7.2 of the Guidelines. Section 7.2 of the Guidelines also requires justification to show that the data sources are relevant in spatial and temporal coverage to the Project.	■ Provide details to demonstrate that existing data sources are relevant in spatial and temporal coverage to the Project.	■ Revised text in Section 7.1. Site Specific baseline data will be collected. Surrogate data from other sites will not be used in place of site-specific baseline data for the Project area, but may be used to supplement site specific data if the data are from nearby sites within the region.	■ Section 7.1 ■ Section 7.2

Comment # / Ref #	Study Plan Section	TISG Section	Agency/Regulatory Body Comments Received From	Comment / Context	Action Item	Final Response	Study Plan Reference
	provide detailed descriptions of specific data sources and data collection methods associated with groundwater."	accuracy of the baseline information collected…. – If using existing data sources, the Impact Statement must provide justification to show that the data sources are relevant in spatial and temporal coverage to the Project…"					
GW-03	■ **5.2.2 Data Analysis and Reporting** – "Upon completion of the two-year groundwater monitoring program, water quality and quantity data will be analyzed and the findings will be presented in a hydrogeology baseline report… The hydrogeology baseline report will include:… • Plan maps showing: ▪ The Project location and key features (i.e., the selected CAR, aggregate borrow source area, access roads, camp and laydown areas, the Marten Falls First Nation community and registered and unregister water wells); ▪ Project study areas, encompassing the spatial boundaries of the Project, including any associated project components and the anticipated boundaries of the Project effects that may potentially effected local communities, municipalities and Indigenous groups; ▪ Bedrock and surficial geology, including major structural features (e.g., faults); ▪ Groundwater monitoring locations and inferred groundwater flow directions" • Groundwater quality results will be compared to applicable guidelines and standards for aquatic life and drinking water uses, including the Canadian drinking water quality guidelines, Ontario drinking water quality guidelines and the Ontario Groundwater Standards;"	■ **Section 9** – "…To understand the community and Indigenous context and baseline health profile, the proponent must:… • describe drinking water sources which may be effected by the Project, including surface and/or groundwater (permanent, seasonal, periodic or temporary), their distance from project activities and approximate wellhead capture zones;…" ■ **Section 16.1** – "With respect to biophysical determinants of health, the Impact Statement must:… • identify predicted effects of the Project on the quality and quantity of ground or surface water used for domestic uses based on the most stringent guideline values of the following criteria; Canadian Drinking Water Quality Guidelines (CDWQG), Ontario Drinking Water Quality Standards (ODWQS), or Ontario Soil, Groundwater and Sediment Standards (SGSS);…"	The Agency	■ According to Section 5.2.2 of the study plan, baseline groundwater data, including geographic information of water wells, from the proposed monitoring program will be documented in a hydrogeology baseline report. It remains unclear if the report will specifically identify information related to water wells that may be used as drinking water sources. ■ All drinking water sources (both surface water and groundwater) within the areas of influence of the Project should be identified in the report and considered in the water quality and health effects assessments. ■ Health Canada recommends the use of the most stringent drinking water quality guideline values for an assessment of potential health effects. Note that the ODWQS include less stringent criteria than the most recent CDWQG for lead, manganese and strontium.	■ Clarify whether any water wells that may be used as drinking water sources will be identified as drinking water sources in the baseline study and how water quality data will be used for the health effects assessment. ■ Provide detail to demonstrate that the potable groundwater contaminant levels will be compared to the most stringent guideline values, as per Section 16.1 of the Guidelines.	■ The drinking water sources (groundwater or surface water) will be identified during the desktop assessment and / or the field water well /spring surveys. Any water wells that have potential to provide drinking water will be treated as drinking water sources. ■ Water quality results will be compared against all applicable criteria for all suitable uses (drinking water, aquatic life, wildlife, etc.). Exceedances from all criteria will be flagged in the baseline and future reports, which includes the most stringent criteria.	■ Section 7.2.1.1 ■ Section 8.2.2

Comment # / Ref #	Study Plan Section	TISG Section	Agency/Regulatory Body Comments Received From	Comment / Context	Action Item	Final Response	Study Plan Reference
GW-04	■ **5.2.2 Data Analysis and Reporting** – "The hydrogeology baseline report will include: • Tables summarizing data such as: ○ Water well owners, water levels, reported yield and uses (domestic, communal, municipal, commercial/industrial);"	■ **Section 14.2** – "With respect to potential project effects on the physical hydrogeological system, the Impact Statement must: • provide a project-specific water use assessment identifying and describing the quantity and quality of water resources potentially affected by the Project, including: ▪ any withdrawal of groundwater or surface water; ▪ changes to the groundwater recharge/discharge areas; ▪ temporal and spatial changes in groundwater quantity, quality and flow (e.g., long-term changes in water levels), including how these changes may relate to domestic, communal or municipal water supply wells; ▪ the flow or volume of water available in the water bodies; and ▪ how any waste waters or dewatering water would be managed and where it would be discharged."	The Agency	■ It is not clear from the study plan if the tables will also include the actual or inferred available drawdown at the water wells. This information will inform whether the degree of drawdown associated with the Project would necessitate mitigation measures.	■ Update the study plan to ensure that measured or inferred available drawdown with water well information are included, as required in Section 14.2 of the Guidelines.	■ Revised updated section 8.2.2 to specifically include "inferred available drawdown".	■ Section 8.2.2
GW-05	■ **6.2 Methods for Predicting Future Conditions** – "No modelling is proposed as part of the study plan for groundwater. There will be some analytical calculations and analysis software packages (e.g., AQTESOLV) required for the estimation of K values."	■ Section 14.2 – "With respect to potential project effects on the physical hydrogeological system, the Impact Statement must: • provide a project-specific water use assessment identifying and describing the quantity and quality of water resources potentially affected by the Project, including: ▪ any withdrawal of groundwater or surface water; ▪ changes to the groundwater recharge/discharge areas; o temporal and spatial changes in groundwater quantity, quality and flow (e.g., long-term changes in water levels), including how these changes may relate to domestic,	The Agency	■ The study plan suggests that analytical solutions or models will not be used to assess the magnitude of changes to groundwater quantity. ■ It is unclear what methods will be used to quantify the magnitude of the effects to groundwater quantity given the magnitude definitions provided in Table 6-3.	■ Provide details about the methods that will be used to quantify the magnitude of the effects to groundwater quantity in a manner that meets the requirements of the Guidelines.	■ Analytical calculations and analysis software packages (e.g., AQTESOLVE) will be utilized for the estimation of hydraulic conductivity (K) values. Numerical models will use field derived aquifer properties to estimate CAR construction related zones of influence / drawdown cones to assess for potential interference for ecological systems or drinking water sources. In addition, a water balance model approach will be utilized to evaluate the impact of groundwater extraction on valued ecosystem components (receptors). The need for a	■ Section 9.4

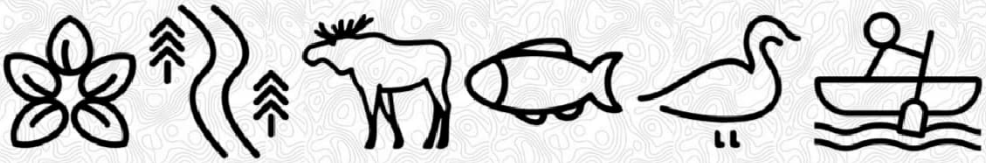
Comment # / Ref #	Study Plan Section	TISG Section	Agency/Regulatory Body Comments Received From	Comment / Context	Action Item	Final Response	Study Plan Reference
		communal or municipal water supply wells; ▪ the flow or volume of water available in the water bodies; ▪ how any waste waters or dewatering water would be managed and where it would be discharged.""				more comprehensive groundwater model will be elevated following completion of project design.	
GW-06	■ **6.3 Magnitude of Effect** **Table 6-2: Groundwater Quality Magnitude Definition** – **"Negligible** Definition: There is little to no variation predicted in measurable parameters and is within the range of natural variation. Rationale: Monitoring wells show no discernable change to water quality, therefore no effect on ecological life or potable use. – **Low** Definition: There is a small variation predicted in measurable parameters, that are outside the range of natural variation and below the applicable water quality criteria or within 20% of existing condition values. Rationale: Temporary effect or permanent change to water quality is discernable but remains protective of ecological life and potable water sources. – **Medium** Definition: There is a modest variation predicted in measurable parameters, that is significantly different from existing conditions and is below the applicable water quality criteria or is between 20% to 50% of existing condition values. Rationale: Temporary effect or permanent change to water quality is significant but remains protective of ecological life and potable water sources.	■ **Section 21** – "…Proponents must describe the extent to which residual effects are adverse. Where relevant, or where best practice or evidence-based thresholds exist, effects should be described using criteria to quantify adverse effects. This includes criteria such as whether the effects are high or low in magnitude, the geographical extent, timing, frequency, duration and reversibility of the effects, taking into account any important contextual factors. Where the potential for human health effects exist due to exposure to a particular contaminant at any level (e.g., non-threshold air pollutants, including particulate matter and nitrogen dioxide, and water pollutants, such as but not limited to arsenic and lead) mitigation measures should aim to reduce the residual effects to as low as reasonably achievable. In addition, effects should be characterized using language most appropriate for the effect (for example, impacts on the exercise of Aboriginal and Treaty rights and social effects may be described differently from biophysical effects)…" – "…The Impact Statement must: • characterize the residual effects using criteria most appropriate for the effect; • characterize residual effects for human health using human health-related criteria most appropriate for the carcinogenic and non-	The Agency	■ The magnitude of residual effects will be determined partly based on the percentage deviation (e.g., between 20% and 50%) from the baseline condition. No explanation is provided on how the proposed judgement criteria are developed or whether they are adequate to protect human health. ■ Furthermore, the study plan assumes that groundwater quality remains protective of human health as long as contaminant levels are below the water quality criteria. However, there is no evidence of a health effect threshold at the population level upon exposure to certain water contaminants, such as arsenic and lead. The characterization of potential health impacts should acknowledge that health risks exist below criteria levels along the continuum of concentrations for these non-threshold pollutants/contaminants. ■ Health Canada encourages the proponent to use all available technologies to reduce their emissions as low as reasonably achievable (ALARA) and beyond those required to achieve applicable criteria (i.e., CDWQG) in order to reduce the health burden of groundwater pollution on the population.	■ Update the study plan to include, in the definitions for magnitude, criteria that are relevant to the protection of human health. ■ Describe the approach that will be used to ensure that these criteria are appropriate for the human health impact assessment.	■ The percentage division values for water quality and quantity were selected using professional judgement. Water quality and quantity undergo natural seasonal fluctuations, therefore it is extremely challenging to state whether changes are natural or Project induced at less than 20% change. Once baseline data are collected, we will have a better idea of the range of natural seasonal variation and can adjust the approach as needed. ■ The CDWQG's do state concentrations for a few parameters (arsenic, lead, haloaceteic acids, and vinyl chloride) should be ALARA (as low as reasonably achievable). That being said, they still undergo natural seasonal variation and it is extremely challenging to state whether changes are natural or Project induced at less than 20% change.	■ Section 9.6

Comment # / Ref #	Study Plan Section	TISG Section	Agency/Regulatory Body Comments Received From	Comment / Context	Action Item	Final Response	Study Plan Reference
	– **High** Definition: There is a large variation predicted in measurable parameters, exceeds applicable water quality criteria, or is greater than 50% of existing condition values. Rationale: Temporary effect or permanent change to water quality is discernable and can potentially impair ecological or potable uses of water."	carcinogenic health effects of non-threshold contaminants;" • provide the rationale for the choice of criteria used to determine the extent to which the predicted effects are adverse. The information provided must be clear and sufficient to enable the Agency, review panel, technical and regulatory agencies, Indigenous groups, and the public to review the proponent's analysis of effects;…"					
GW-07	■ **Section 7 Conformance with Federal and Provincial Guidance** – "…. will be included in future reporting (effects assessment), but will not be included as part of the baseline works."	■ **Section 14.2**	The Agency	■ It is unclear how many of the requirements in Section 14.2 of the Guidelines will be met. ■ The effects assessment must consider the effects of each of the project components and physical activities, in all phases, and be based on a comparison to the proposed baseline work.	■ Provide more detail on the methodology of the effects assessment, and how the requirements described in Section 14.2 of the Guidelines will be met. ■ Provide detail on how engagement with Indigenous groups and the public will inform the effects assessment, as well as the selection of mitigation and follow-up program measures.	■ Additional wording added.	■ Section 4 ■ Section 9

Draft Study Plan Comments – Provincial

Comment ID	Study Plan Section	Agency/Regulatory Body Comments Received From	Comment / Context	Action Item	Final Response	Study Plan Reference
1	■ N/A	■ MECP, Environmental Assessment Branch	■ Please review EAB comments on the Wildlife, Ungulates and Vegetation work plans that may apply to this work plan.	■ Please review EAB comments on the Wildlife, Ungulates and Vegetation work plans that may apply to this work plan.	■ No additional wording added.	■ N/A
2	■ p. viii - List of Acronyms	■ MECP, Environmental Assessment Branch	■ Minor typo in MFFN - **Martin** Falls First Nation	■ Correct typo	■ Corrected	■ Abbreviations
3	■ p. 4, s. 4. 1	■ MECP, Environmental Assessment Branch	■ Page 4 indicates that the desktop assessment will focus on Alternative #1 and Alternative #4 RSAs. There may be additional alternatives brought forward in the ToR or EA process, and it is not clear how this work plan may include consideration and study of additional alternatives if they are brought forward.	■ Please ensure that the work plan reflects all alternatives (including route alternatives and supporting infrastructure) that are presented in the proposed ToR, and if appropriate include clear flexibility provisions explaining how the work plan would be adapted to consider and study any additional alternatives.	■ Reworded entire Study Plan to include "all proposed routes".	■ Various
4	■ p. 5, s. 4.2.1	■ MECP, Environmental Assessment Branch	■ Page 5 states that "The groundwater baseline study will include installation of hydrogeological stations in areas along the successful CAR." It is not clear what "successful CAR" means. This should be explained, particularly in the context of how this part of the baseline study fits into the alternatives assessment - i.e. is the groundwater field study done on all alternatives or just the preferred alternatives?	■ Please clarify what the term "successful CAR" means and how the groundwater field study fits into the alternatives assessment for routes and supporting infrastructure. Please clarify if the desktop assessment (s. 4.1) is being done for all alternatives and the field study (s. 4.2) is being done for the preferred alternatives. If not, clarify if both desktop and field work is being done for all alternatives. Please ensure this is clear in the ToR and work plan.	■ Reworded entire Study Plan to include "all proposed routes".	■ Various Sections throughout the work plan.
1	■ p. 6/Section 4.2.2 Proposed Groundwater Monitoring Well Installation Regime for Each at Key Monitoring Locations	■ MECP, Hydrogeologist	■ The consultant indicated that typical groundwater monitoring stations will involve two wells at one location (nested shallow and deep). In order to collect comprehensive baseline groundwater data, overburden monitoring wells or drive-point piezometers must be screened/installed to allow characterization of representative units (e.g., peat, silt/clay, till/ shallow fractured bedrock). Additional monitoring wells/piezometers may be required for adequate baseline characterization.	■ Overburden groundwater monitoring wells or drive-point piezometers must be screened/ installed to allow characterization of representative units (e.g., peat, silt/clay, till, shallow fractured bedrock). Additional monitoring wells/piezometers may be required for adequate baseline characterization.	■ Added "Addition monitoring wells or drive-point piezometers may also be required to allow for adequate baseline characterization of all hydrostratigraphic units that are encountered (e.g., peat, silt/clay, till, shallow fractured bedrock)." to the end of paragraph two of Section 7.2.2	■ Section 7.2.2
2	■ p. 10-11/Section 4.2.6.2 Groundwater Quality Sampling	■ MECP, Hydrogeologist	■ It is recommended that the following additional analytical parameters are included for groundwater quality samples and water supply well samples within 2 km of Project activities: general parameters (pH, conductivity, hardness), total suspended solids, and total dissolved solids.	■ Include the following additional analytical parameters for groundwater quality samples and water supply well samples within 2 km of Project activities: general parameters (pH, conductivity, hardness), total suspended solids, and total dissolved solids.	■ The additional requested parameters have been added to the list of parameters that groundwater and drinking water samples will be analyzed for.	■ Section 7.2.6.2
3	■ p. 12/Section 5.2.2 Data Analysis and Reporting	■ MECP, Hydrogeologist	■ The consultant has not indicated if groundwater quality results, from identified water supply wells within 2 km of Project activities, will be provided to the well owners. It is recommended that groundwater quality sample results from existing registered and unregistered water supply wells should be provided to the well owner within 30 days of receipt from the laboratory, with appropriate follow-up support by the consultant for results interpretation.	■ Groundwater quality sample results from existing registered and unregistered water supply wells shall be provided to the well owner within 30 days of receipt from the laboratory, with appropriate follow-up support by the consultant for results interpretation.	■ Added "Water quality sample results from existing registered and unregistered water supply wells shall be provided to the well owner within 30 days of receipt from the laboratory, with appropriate follow-up support by the consultant for results interpretation." at the end of Section 7.2.6.2.	■ Section 7.2.6.2

Phone: 1-800-764-9114 **Email:** info@martenfallsaccessroad.ca **Web:** http://www.martenfallsaccessroad.ca



Comments Table

Proposal: Marten Falls Community Access Road Project – Groundwater and Geochemistry Study Plan
Proponent: Marten Falls First Nation

Study Plan Title: Groundwater and Geochemistry Plan
Commenter Name, Job Title and Ministry: Sabrina Penfold, Hydrogeologist, MECP, Northern Region

Comment #	Page/Section # in Work Plan	Comments & Rationale	Proposed Action/Solution
1.	*Groundwater and Geochemistry Study Plan (May 2021),* **Section 7.2.1 Study Area Reconnaissance & Determination of Key Groundwater Monitoring Locations,** p 24	In Subsection 7.2.1, the proponent states "Focused study will be conducted on a range of water crossings (small to large), wetlands and borrow source areas. The most culturally and ecologically sensitive locations will be selected." The MECP's interpretation is that, as written, the choice of 20 focused study locations is an assumption for planning / cost estimation purposes only. MECP does not interpret that this is a fixed cap. MECP requests that a consistent framework be developed and applied to assess and compare sensitivity at all potential groundwater disturbance locations. The work plan document should address this.	The proponent must include a framework for the assessment and comparison of sensitive groundwater locations throughout the project footprint in the work plan. Rationale for selection of specific focused study locations must be provided.
2.	*Groundwater and Geochemistry Study Plan (May 2021),* **Section 7.2.6.1 Water**	In Subsection 7.2.6.1 the proponent states "Groundwater levels are anticipated to be within 3 m of the groundwater surface across the project area."	If amended, the **Groundwater and Geochemistry Study Plan, Subsection 7.2.6.1** should provide clarification of this statement.

Comment #	Page/Section # in Work Plan	Comments & Rationale	Proposed Action/Solution
	Level Measurements, p 29	As written, this does not appear to be physically possible. Is this a typographical error?	
3.	*Groundwater and Geochemistry Study Plan (May 2021),* **Section 7.2.6.2 Groundwater Quality Sampling,** p 30-32	In Subsection 7.2.6.2 the proponent provides a list of parameters that will be analyzed from samples collected from monitoring wells, drive-point piezometers, existing water supply wells and spring water sources. The analytical parameter list does not include hexavalent chromium. The project footprint extends through a mining claim area (OAF # 20000007482) that has identified natural deposits containing chromium. MECP requests that the analytical suite for groundwater baseline sampling include hexavalent chromium.	If amended, the **Groundwater and Geochemistry Study Plan**, **Subsection 7.2.6.2 Groundwater Quality Sampling** must include hexavalent chromium in the analytical suite of parameters. Hexavalent chromium is detrimental to human health and is mobilized through soil disturbance.
4.	*Groundwater and Geochemistry Study Plan (May 2021),* **Section 7.2.6.2 Groundwater Quality Sampling, Existing Water Supply Wells and Spring Water Sources**	In Subsection 7.2.6.2 the proponent indicates that water supply samples will be collected from the point of consumption. Existing water supply wells should be sampled prior to any treatment, where possible, and also at the point of consumption. The Groundwater and Geochemistry work plan should address this.	If the Groundwater and Geochemistry Study Plan is amended, **Subsection 7.2.6.2** of the **Groundwater and Geochemistry Study Plan** must indicate that existing water supply wells will be sampled prior to any treatment as well as at the point of consumption for the user to verify the effectiveness of treatment. This is to determine if there have been any effects on the aquifer from the proposed project. MECP requires that the work plan address this.

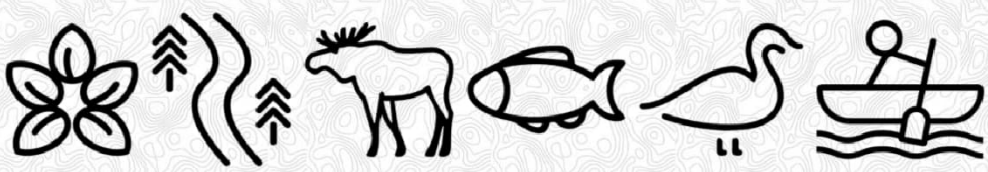
Comment #	Page/Section # in Work Plan	Comments & Rationale	Proposed Action/Solution
5.	*Groundwater and Geochemistry Study Plan (May 2021),* **Subsection 8.2.2 Data Analysis and Reporting,** p. 40	Subsection 8.2.2 states the groundwater collected from spring sources (discharges to surface water) will be compared to all applicable guidelines and standards for aquatic life and drinking water uses including Canadian Drinking Water Quality Guidelines (CDWQG), Ontario Groundwater Quality Standards (ODWQS) and the Ontario Soil, Groundwater and Sediment Standards (SGSS). The proponent must also compare groundwater discharging to surface water (spring sources) to the Provincial Water Quality Objectives (PWQO) as a part of the baseline characterization. Provincial Water Quality Objectives (PWQO) are numerical and narrative criteria which serve as chemical and physical indicators representing a satisfactory level for surface waters (i.e. lakes and rivers) and, where it discharges to the surface, the ground water of the Province. Ontario Groundwater Quality Standards should read “Ontario Drinking Water Quality Standards”. This should be corrected.	If amended, the **Groundwater and Geochemistry Study Plan, Subsection 8.2.2 Data Analysis and Reporting** must be updated to include a comparison of groundwater spring quality to the Provincial Water Quality Objectives (PWQOs). The reference to the Ontario *Groundwater* Quality Standards should be corrected to the Ontario *Drinking Water* Quality Standards.
6.	*Groundwater and Geochemistry Study Plan (May 2021),* **General Comment**	The ECA (A-590005) of the Hanover Tower Road Landfill states that the site is approved to accept only domestic waste. Unless the ECA is amended, construction and/or industrial waste cannot be accepted at this facility. The current study plan does not provide details regarding	MECP recommends that the available domestic waste capacity at the Hanover Tower Road Landfill be confirmed by the proponent with respect to the estimated duration and volume of domestic waste production throughout development of the CAR. The ECA for the

Comment #	Page/Section # in Work Plan	Comments & Rationale	Proposed Action/Solution
		the disposal of industrial and/or construction waste associated with the project. MECP is concerned that the ECA for the Hanover Tower Landfill may need to be amended or that a different waste disposal facility should be identified for these additional waste streams.	Hanover Tower Landfill may need to be amended to accommodate the new waste stream.
7.	*Groundwater and Geochemistry Study Plan (May 2021),* **General Comment**	The project Terms of Reference mention the following potential water takings: - Concrete batch plants - Water trucks The current study plan is silent on the source for the expected water takings. This information must be included in the work plan for MECP review.	All expected water takings and uses must be clearly identified in the work plan. Sources of these water takings must sufficiently characterized to inform an application for a PTTW if expected takings are >50,000 L/day.

MARTEN FALLS FIRST NATION
ALL SEASON COMMUNITY ACCESS ROAD

Groundwater and Geochemistry Field Logistics Work Plan

August 2021



Distribution List

# Hard Copies	PDF Required	Association / Company Name
	✓	Marten Falls First Nation
	✓	AECOM Canada Ltd.

Revision History

Rev #	Date	Revision Description

Statement of Qualifications and Limitations: AECOM

The attached Report (the "Report") has been prepared by AECOM Canada Ltd. ("AECOM") for the benefit of the Client ("Client") in accordance with the agreement between AECOM and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");
- represents AECOM's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to AECOM which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

AECOM shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. AECOM accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

AECOM agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but AECOM makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by AECOM represent AECOM's professional judgement in light of its experience and the knowledge and information available to it at the time of preparation. Since AECOM has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, AECOM, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

Except (1) as agreed to in writing by AECOM and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

AECOM accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of AECOM to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

AECOM: 2015-04-13
© 2009-2015 AECOM Canada Ltd. All Rights Reserved.

Disclaimer: Golder Associates

The attached Report (the "Report") has been prepared by Golder Associates Ltd. ("Golder") for the benefit of AECOM Canada Ltd. ("Client") in accordance with the agreement between Golder and Client, including the scope of work detailed therein (the "Agreement").

Golder has prepared the Report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to the Report ("Standard of Care").

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");
- represents Golder's judgement in light of the Limitations and the Standard of Care applicable for the preparation of similar reports;
- may be based on information provided to Golder which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

Golder shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. Golder accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

The Report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the Report. To properly understand the suggestions, recommendations, and opinions expressed in the Report, reference must be to the foregoing and to the entirety of the Report. Golder cannot be responsible for use of portions of the Report without reference to the entire Report.

The findings and conclusions documented in the Report have been prepared for the specific site, design objective, development, and purpose described to Golder by the Client. The factual data, interpretations, and recommendations pertain to a specific project as described in the Report and are not applicable to any other project or site location. Any change of or variation in the site conditions, purpose, or development plans may alter the validity of the Report. The findings and conclusions of the Report are valid only as of the date of the Report. If new information is discovered in future work, Golder should be requested to re-evaluate the conclusions of the Report, and to provide amendments as required. Accordingly, Golder cannot be responsible for use of the Report, or portions thereof, unless Golder is requested to review and, if necessary, revise the Report.

The Report, all plans, data, drawings, and other documents as well as all electronic media prepared by Golder are considered its professional work product are not to be modified, amended, excerpted, or revised and shall remain the copyright property of Golder, who authorizes only the Client to make copies of the report, but only in such quantities as are reasonably necessary for the use of the Report by those parties for the specific purpose described in the Report and the Agreement. The Client may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express prior written permission of Golder.

Golder agrees that the Report represents its judgement in accordance with the Standard of Care as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Golder makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by Golder represent Golder's judgement in light of its experience and the knowledge and information available to it at the time of preparation in accordance with the Standard of Care. Since Golder has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, Golder, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

Except (1) as agreed to in writing by Golder and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

Golder accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of Golder to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

Authors

Report Prepared By:

<Original signed by>

Caitlin Cooke, M.Sc., P.Geo.
Hydrogeologist
Golder Associates Ltd.

<Original signed by>

Matthew Bowman, B.Sc., P.Geo.
Hydrogeologist
Golder Associates Ltd.

Report Reviewed By:

<Original signed by>

John Piersol, M.Sc., P.Geo.
Associate, Hydrogeologist
Golder Associates Ltd.

Table of Contents

page

1. Introduction 1
2. Overview and Approach 2
   - 2.1 Methodology 2
   - 2.2 Program Staffing 4
3. Discipline Specific-Schedule 5
4. Health and Safety 6
   - 4.1 General 6
   - 4.2 COVID-19 7
5. References 9

List of Figures

Figure 2-1: VC Survey Locations for Groundwater and Geochemistry Field Program 3

List of Tables

Table 2-1: Field Study Methodology 2
Table 2-2: Personnel Qualifications 4
Table 3-1: Program Schedule 5

Acronyms

Agency, the ... Impact Assessment Agency of Canada
CAR ..... Community Access Road
EA ..... Environmental Assessment
HaSEP ..... Health and Safety and Environmental Protection Plan
IA ..... Impact Assessment
IAA ..... *Impact Assessment Act*
IS ..... Impact Statement
JSEA ..... Job Safety and Environmental Analysis
km ..... kilometre
LSA ..... Local Study Area
MECP ..... Ontario Ministry of the Environment, Conservation and Parks
MFFN ..... Marten Falls First Nation
PDA ..... Project Development Area
RSA ..... Regional Study Area
TISG ..... Tailored Impact Statement Guidelines
ToR ..... Terms of Reference
VC ..... Valued Component

1. Introduction

The Proponent of the Community Access Road (CAR or the Project) is Marten Falls First Nation (MFFN), a remote First Nation community in northern Ontario located at the junction of the Albany and Ogoki rivers, approximately 430 kilometres (km) from Thunder Bay, Ontario. The MFFN community is proposing an all-season CAR that will connect the MFFN community to Ontario's provincial highway network (Highway 643) to the south via the existing Painter Lake Road. MFFN, as the Proponent of the Project, has formed a MFFN CAR Project Team that includes MFFN CAR Community Member Advisors and MFFN CAR Project Consultants who act with input, guidance, and direction from the MFFN Chief and Council.

This document outlines the work plan to implement the field studies for groundwater and geochemistry recognizing that the results will be used to support a coordinated Impact Assessment (IA), required for Project review by the Impact Assessment Agency of Canada (the Agency) under the federal *Impact Assessment Act* (IAA), and an Environmental Assessment (EA), required for Project review by the Ontario Ministry of the Environment, Conservation and Parks (MECP) under the Ontario *Environmental Assessment Act*.

The Groundwater and Geochemistry Work Plan describes the proposed methods and schedule to complete the field program and considers both the Agency's Tailored Impact Statement Guidelines for the Marten Falls Community Access Road Project (TISG) (IAAC 2020) and the comments received on the Draft Terms of Reference (ToR) (AECOM 2020).

2. Overview and Approach

The approach and associated study areas for the groundwater and geochemistry field program are defined in the Groundwater and Geochemistry Study Plan (MFFN CAR 2021). These considerations were developed based on guidance from and discussions with both federal and provincial regulators. A brief description of the proposed methodology and staffing plan to complete the groundwater and geochemistry field program are described below, with the understanding that the technical content is limited to supplementary information (not previously included in the Groundwater and Geochemistry Study Plan).

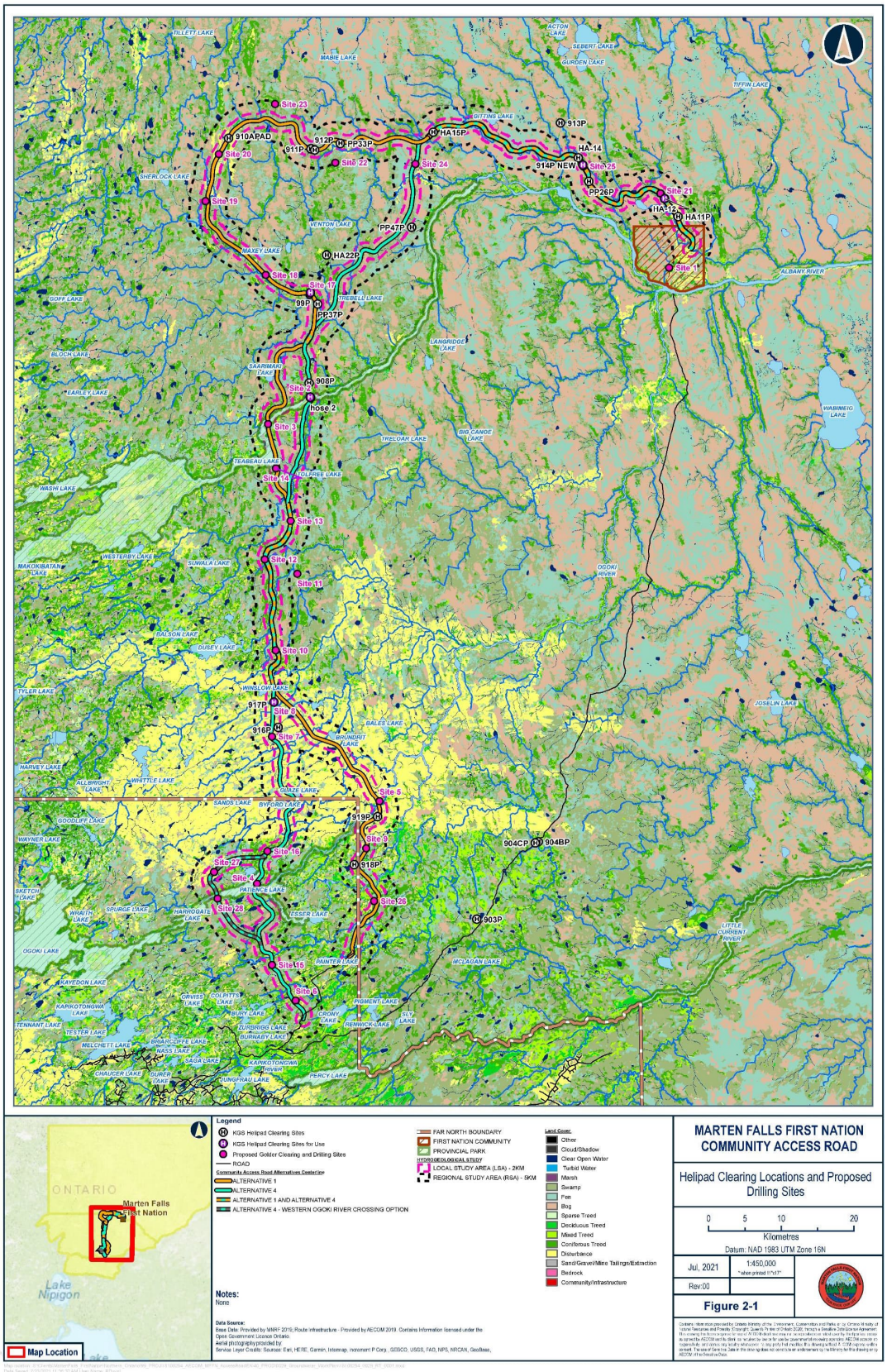
2.1 Methodology

The proposed methodology for the groundwater and geochemistry field program is described in **Table 2-1**, and the corresponding survey locations are shown in **Figure 2-1.** The proposed methodology described below is in line with what was initially detailed in the Groundwater and Geochemistry Study Plan, with the exception of the In-Community Well Survey. Through discussions with MFFN Community Leaders and the Ministry of Transportation, it was determined that no groundwater wells are used to source drinking water. As a result, it was concluded that there was no need to conduct the In-Community Well Survey.

Table 2-1: Field Study Methodology

Groundwater and Geochemistry	
Approvals to Conduct Field Study	■ Indigenous community acceptance of locations of disturbance ■ MECP Letter of Authorization to Conduct Research in a Provincial Park or Conservation Reserve ■ MNRF Work Permit, Letter of Authorization and Land Use Permits for conducting work on Public Lands ■ MECP Species at Risk Clearance ■ All work will be conducted in accordance with relevant Acts and regulations, regardless of whether approvals are required (e.g. nest sweeps prior to tree removal)
Field Study Methods	■ Study Area Reconnaissance and Determination of Key Groundwater Monitoring Locations ■ Tree Clearing, Drilling and Installation of 50 Groundwater Monitoring Wells at 20 sites (28 sites are depicted in Figure 2-1 for contingency purposes) ■ Well Surveying, Monitoring Well Development and Hydraulic Conductivity Testing following well installation ■ Sampling Sessions that include the Groundwater Quantity and Quality Monitoring Program ■ Soil and Rock Acid Rock Drainage / Metal Leaching Sampling from 30 Groundwater Monitoring Wells, collected during the first Sampling Session.
Lab Analysis Methods	■ Canadian Association for Laboratory Accreditation accredited laboratory for groundwater chemistry and geochemical analysis.

Figure 2-1: VC Survey Locations for Groundwater and Geochemistry Field Program



2.2 Program Staffing

The proposed staff participating in the groundwater and geochemistry field program are outlined in **Table 2-2**.

Table 2-2: Personnel Qualifications

Name	Title	Project Role	Credentials	Years of Experience*
John Piersol	Associate, Hydrogeologist	Groundwater Senior Reviewer	M.Sc., P.Geo.	20
Matthew Bowman	Hydrogeologist	Groundwater Component Lead	B.Sc., P.Geo.	13
Caitlin Cooke	Hydrogeologist	Groundwater Component Alternate	M.Sc., P.Geo.	16
To be determined		Groundwater Field Crew Lead		
David Brown	Principal, Mine Water and Environment	Geochemistry Senior Reviewer	P.Geo. ON, NL	>30
Laura Colgrove	Geochemist	Geochemistry Component Lead	M.Sc., P.Geo.	2

*Note: * Experience as of March 2021*

Please note that the staffing for the groundwater and geochemistry field program may also rely on additional members from the MFFN CAR Project Consultant Team and / or members from local Indigenous communities.

3. Discipline Specific-Schedule

The proposed schedule for the groundwater and geochemistry field program is presented below in **Table 3-1**. This schedule is subject to change based on evolving climactic conditions in the Project Area, including forest fires.

Table 3-1: Program Schedule

Task / Program	Start Date (MM/YR)	Approximate Duration	Targeted VC Interaction
■ Tree Clearing	■ September / October 2021	■ Three weeks	■ Groundwater
■ Drilling and Installation of 50 Groundwater Monitoring Wells	■ September / October 2021	■ One month	■ Groundwater
■ Monitoring Well Development, Well Surveying and Hydraulic Conductivity Testing	■ October 2021	■ Following well installation	■ Groundwater
■ Sampling Sessions (conducted annually in spring, summer and fall, dependent on weather and schedule)	■ October 2021 to Fall 2022	■ Two weeks per session	■ Groundwater
■ Soil and Rock Acid Rock Drainage / Metal Leaching Sampling	■ October 2021	■ Two weeks	■ Groundwater

Prior to field programs commencing, the following groups from the Project Contact List will be notified:

- Indigenous Community Key Contacts
- Tribal Councils, Provincial Territorial Organizations and Métis Nation of Ontario
- Other Indigenous Persons Identified for Consultation (including MFFN community members)
- Businesses
- Tourism Operators
- Community and Interest Groups and Non-Governmental Organizations
- Interested Parties / Potential Stakeholders – Unaffiliated
- Government Review Team
- Non-Government Review Team agency representatives
- Forest Management Companies
- Mining Claim Holders
- Emergency Medical Services and Law Enforcement
- Neighbouring Projects and their Contacts
- Other Agency Representatives (elected Members of Parliament and Provincial Parliament of Ontario)

4. Health and Safety

4.1 General

Golder is committed to the health and safety of employees, clients, contractors and the public, with the understanding that all work performed by Golder is subject to strict health and safety policies and applicable federal, provincial, and municipal acts and regulations. Golder has internal Work Safe Practices for aerial work, remote work, cold weather work, and working around water. All field crew members will be expected to review these protocols prior to commencing surveys. In addition, the Golder survey teams will develop a project specific Health and Safety and Environmental Protection Plan (HaSEP) prior to conducting field work. The Project's HaSEP will be reviewed and discussed with all field crew members (including pilot and Indigenous crew members) prior to the survey's commencement.

The aerial / helicopter support for the Project will be designed and scheduled according to Golder's and the client's health and safety policies, procedures, and training. Restrictions on aircraft type and pilot proficiency will apply. Prior to daily take-off, the pilot will provide an aircraft orientation and safety briefing to all members of the survey team. The briefing will include identifying hazards, emergency response plans and procedures, and general helicopter protocol (including how to exit and enter an aircraft). As part of these briefings, hazards specific to the day's task will also be identified, discussed, and documented on a job safety and environmental analysis (JSEA) form, with a plan for all crew members to sign the JSEA. Field surveys will only occur when weather conditions allow safe aircraft operations, recognizing that (1) field crew members have the right to refuse substandard actions or conditions if the worker feels that these actions / conditions are imminently dangerous to their safety or to the safety of others and (2) field crew members should rely on pilot judgement as well as their own experienced and comfort level to determine if flights should occur or be prematurely terminated.

As part of each field day, field crew members will pack extra food, water, and clothing in case of aircraft mechanical trouble and unexpected delays. In addition, each field crews will carry a survival and first aid kit for emergency situations (supplementary to the aircraft emergency survival kit). Daily check-in times with a designated contact will be pre-determined as part of the HaSEP, noting that satellite phones or satellite communication devices (e.g., Garmin inReach) will be used in areas where cell phone coverage is not reliable.

4.2 COVID-19

All COVID-19 related risk mitigation and recovery measures have been established in line with government protocols and AECOM corporate measures. Field crews will employ preventative COVID-19 actions including daily screening questionnaires and the use of Personal Protective Equipment such as gloves, masks, regular disinfection and social distancing.

Members of the field crews are not to attend site, or must remove themselves from site, if they fit any of the following criteria:

- They have symptoms associated with COVID-19 (e.g., fever, cough, sore throat, shortness of breath, sneezing / running nose or loss of sense of smell);
- They have been confirmed for COVID-19 or are awaiting the results from being tested for COVID-19;
- They have been in close-contact with a known or suspected case of COVID-19 in the past 14 days; and / or
- They have returned, or been in contact with someone who has returned, from overseas in the past 14 days.

When working in the community, field crews will strictly adhere to the COVID-19 preventative measures as described above. Where community access is required to facilitate a field survey, entry will be discussed with the community in advance. As needed, a negative COVID-19 test will be presented prior to entering Indigenous communities.

Field crews will have access to an adequate supply of sanitizer, and, as part of this, the crew members will regularly sanitize their hands. Further to this: field crews will minimize use of shared tools and equipment, as practical (including the use of hand tools, electronic devices, pens, clipboards, and notepads); all work surfaces and equipment used in the course of work will be adequately cleaned and disinfected at the end of the work shift or more frequently when visibly soiled or used repeatedly; and cloth or surgical masks (as a minimum) will be worn by field crews at all times during the course of work and in transit to the work site in line with government direction.

For all workers, regardless of specific exposure risks, it is always a good practice to:

- Frequently wash your hands with soap and water for at least 20 seconds, noting that, when soap and running water are unavailable, use of an alcohol-based hand rub with at least 60% alcohol is suggested.
- Avoid touching your eyes, nose, or mouth with unwashed hands.
- Avoid close contact with people who are sick.
- Cover your mouth and nose with your bent elbow or tissue when you cough or sneeze, and immediately dispose of the used tissue.
- Stay home if you are sick.

5. References

AECOM Canada Ltd. (AECOM), 2020:

Marten Falls First Nation Proposed Terms of Reference Marten Falls Community Access Road – Environmental Assessment

Impact Assessment Agency of Canada (IAAC), 2020:

Tailored Impact Statement Guidelines for the Marten Falls Community Access Road Project. https://iaac-aeic.gc.ca/050/documents/p80184/133937E.pdf

Marten Falls First Nation Community Access Road Project (MFFN CAR), 2021:

Groundwater and Geochemistry Study Plan

Phone: 1-800-764-9114 **Email:** info@martenfallsaccessroad.ca **Web:** http://www.martenfallsaccessroad.ca

Attachment B – Geochemical Characterization Technical Support Document

MARTEN FALLS FIRST NATION
COMMUNITY ACCESS ROAD

Attachment B: Geochemical Characterization Technical Support Document

Version #2

February 2026

Disclaimer: WSP Canada Inc.

WSP Canada Inc. prepared this report solely for the use of the intended recipient, AECOM Canada ULC, in accordance with the professional services agreement between the parties. The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment.

The conclusions presented in this report are based on work performed by trained professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The content and opinions contained in the present report are based on the observations and / or information available to WSP Canada Inc. at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by WSP Canada Inc. and other engineering / scientific practitioners working under similar conditions, and subject to the same time, financial, and physical constraints applicable to this project.

WSP Canada Inc. disclaims any obligation to update this report if, after the date of this report, any conditions appear to differ significantly from those presented in this report; however, WSP Canada Inc. reserves the right to amend or supplement this report based on additional information, documentation, or evidence.

WSP Canada Inc. makes no other representations whatsoever concerning the legal significance of its findings.

The intended recipient is solely responsible for the disclosure of any information contained in this report. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance, or decisions. WSP Canada Inc. does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report.

WSP Canada Inc. has provided services to the intended recipient in accordance with the professional services agreement between the parties and in a manner consistent with that degree of care, skill, and diligence normally provided by members of the same profession performing the same or comparable services in respect of projects of a similar nature in similar circumstances. It is understood and agreed by WSP Canada Inc. and the recipient of this report that WSP Canada Inc. provides no warranty, express or implied, of any kind. Without limiting the generality of the foregoing, it is agreed and understood by WSP Canada Inc. and the recipient of this report that WSP Canada Inc. makes no representation or warranty whatsoever as to the sufficiency of its scope of work for the purpose sought by the recipient of this report.

In preparing this report, WSP Canada Inc. has relied in good faith on information provided by others, as noted in the report. WSP Canada Inc. has reasonably assumed that the information provided is correct and WSP Canada Inc. is not responsible for the accuracy or completeness of such information.

Benchmark and elevations used in this report are primarily to establish relative elevation differences between the specific testing and / or sampling locations and should not be used for other purposes, such as grading, excavating, construction, planning, and development.

Design recommendations given in this report are applicable only to the project and areas as described in the text and then only if constructed in accordance with the details stated in this report. The comments made in this report on potential construction issues and possible methods are intended only for the guidance of the designer. The number of testing and / or sampling locations may not be sufficient to determine all the factors that may affect construction methods and costs. We accept no responsibility for any decisions made or actions taken as a result of this report unless we are specifically advised of and participate in such action, in which case our responsibility will be as agreed to at that time.

This limitations statement is considered an integral part of this report.

Authors

Revision	Name	Title	Company
Original	Carrie Jewiss	Environmental Scientist	WSP Canada Inc.
Review	David Brown	Geochemist	WSP Canada Inc.
Approval	David Brown	Geochemist	WSP Canada Inc.

Date	Revised By	Revision Descriptions
November 20, 2024	WSP Canada Inc.	V1
January 26, 2026	WSP Canada Inc.	V2

Table of Contents

1. Introduction 1
1.1 Regulatory Requirements 3
2. Baseline Study Objectives 5
3. Study Area 6
4. Methods 11
4.1 Desktop Review 11
4.1.1 Information Sources 11
4.1.2 Geochemical Data 11
4.1.3 Geological Characterization 12
4.1.4 Terrain Mapping 12
4.2 Field Investigations 12
4.3 Sample Collection 13
5. Analytical Methods 18
5.1.1 Acid Base Accounting 18
5.1.2 Loss on Ignition Analysis 19
5.1.3 Elemental Analysis 19
5.1.4 Short-Term Leach Testing 20
5.2 Data Management and Analysis 21
6. Results 22
6.1 Soil 22
6.1.1 Acid Base Accounting and Loss on Ignition 22
6.1.2 Elemental Analysis 25
6.1.3 Short-Term Leach Testing 25
6.1.3.1 Samples Classified as Non-Potentially Acid Generating: 25
6.1.3.2 Sample Classified as Potentially Acid Generating: 26
6.2 Organic Material 29
6.2.1 Acid Base Accounting and Loss on Ignition 29
6.2.2 Elemental Analysis 32
6.2.3 Short-Term Leach Testing 33

6.2.3.1 Samples Classified as Non-Potentially Acid Generating: 33
6.2.3.2 Samples Classified as Potentially Acid Generating: 34
6.3 Bedrock 37
6.3.1 Acid Base Accounting and Loss on Ignition 37
6.3.2 Elemental Analysis 39
6.3.3 Short-Term Leach Testing 40
6.3.3.1 Samples Classified as Non-Potentially Acid Generating: 40
6.3.3.2 Sample Classified as Potentially Acid Generating: 41
7. Summary 44
7.1 Classification of Samples 44
7.2 Mitigation and Monitoring 45
8. References 46
Annex A – Soil Sampling Locations 48
Annex B – Sample Photos 49
Annex C – Certificates of Analysis 50
Annex D – Static Analysis Results 51
Annex E – Shake Flask Extraction Results 52

List of Figures

Figure 1-1: Project Location 2
Figure 3-1: Physiography, Terrain, and Soils Study Areas 8
Figure 3-2: Groundwater Existing Conditions Local and Regional Study Areas 10
Figure 4-1: Groundwater Borehole Locations and Soil Samples Taken for Geochemistry 17
Figure 6-1: Neutralization Potential versus Acid Potential for Soil Samples 24
Figure 6-2: Neutralization Potential versus Acid Potential for Organic Samples 32
Figure 6-3: Neutralization Potential vs Acid Potential in Bedrock Samples 39

List of Tables

Table 3-1: Physiography, Terrain, and Soils Study Areas 7
Table 3-2: Groundwater and Geochemistry Study Areas 9
Table 4-1: Sample Description 13
Table 5-1: Guidelines for Determination Acid Generation Potential Based on Neutralization Potential / Acid Potential (MEND, 2009) 18
Table 6-1: Soil Acid Based Accounting Summary 23
Table 6-2: Soil Shake Flask Extraction Result Summary 28
Table 6-3: Organic Acid Based Accounting Summary 31
Table 6-4: Organic Shake Flask Extraction Result Summary 36
Table 6-5: Bedrock Acid Based Accounting Summary 38
Table 6-6: Bedrock Shake Flask Extraction Result Summary 43

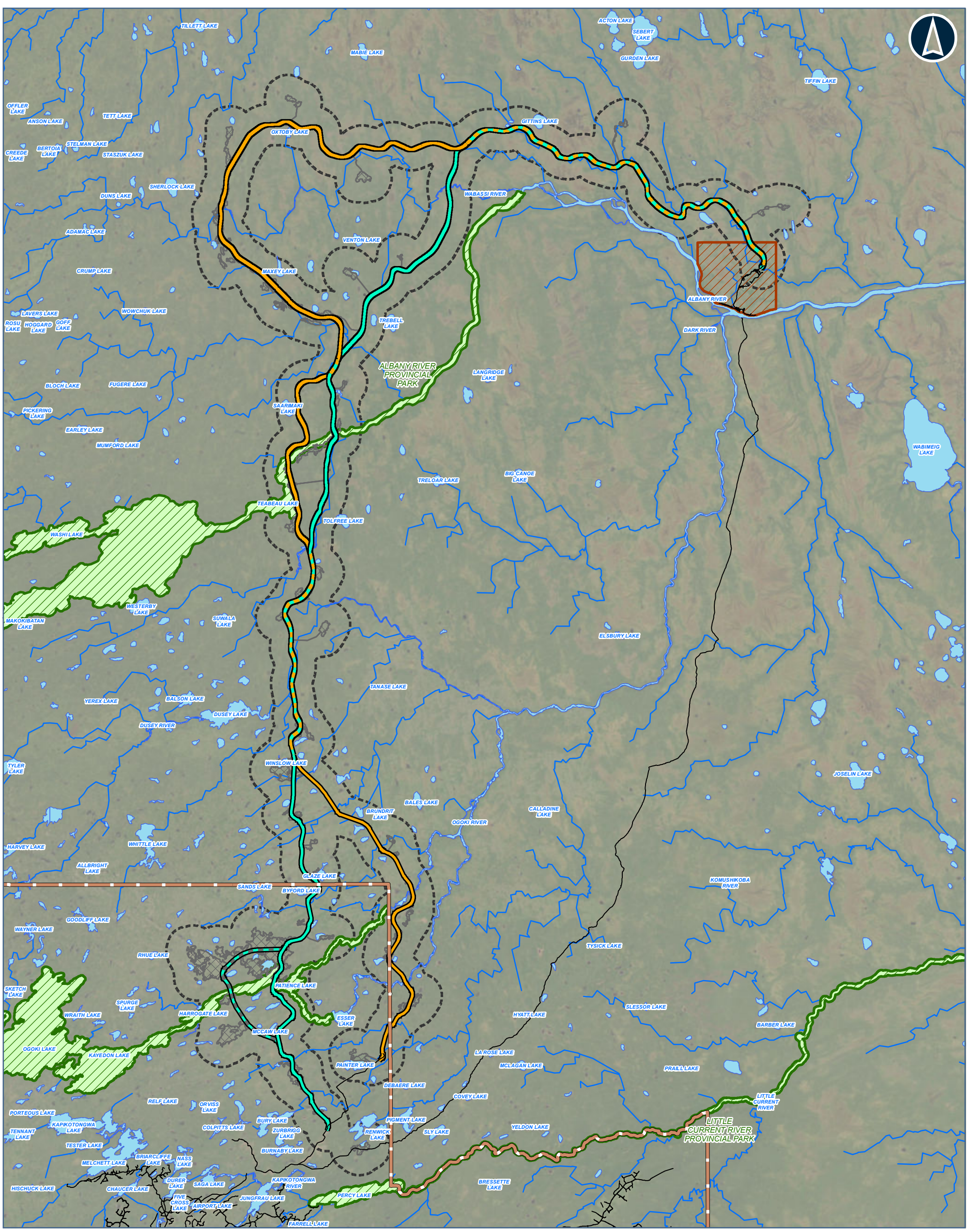
1. Introduction

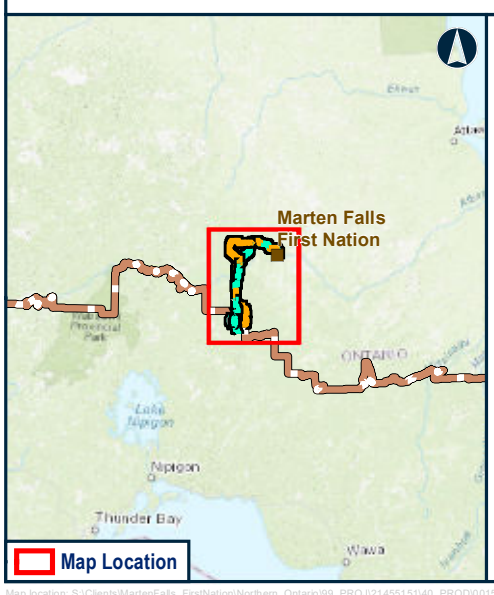
Marten Falls First Nation is a remote First Nation community in northern Ontario, approximately 430 km from Thunder Bay, Ontario, located at the junction of the Albany and Ogoki rivers. Marten Falls First Nation is proposing a multi-purpose Community Access Road (the Project) that will connect Marten Falls First Nation to the Ontario provincial highway network. The Project includes the construction and operation of a road with the following key characteristics:

- Approximately 184 km of a two-lane gravel, all-season road on a new right-of-way;
- Approximately 100 m wide right-of-way cleared; and
- Proposed designated speed limit of 80 km per hour.

Marten Falls First Nation is currently accessible year-round by air transportation out of Thunder Bay, Ontario, and Nakina, Ontario, and by a winter access road constructed on an annual basis, if winter conditions permit. Since the 1990s, Marten Falls First Nation has received provincial funding to maintain the 140 km of winter road to Marten Falls First Nation.

Marten Falls First Nation has retained a Consultant Project Team consisting of AECOM Canada ULC, Dillon Consulting, WSP Canada Inc., KGS Group Consulting Engineers, KBM Resources Group, Green Forest Management Inc., and CE Strategies to provide Environmental Assessment and preliminary design services for the Project. As part of these services, WSP Canada Inc. is undertaking studies to characterize the geochemical environment.





Legend

- ROAD
- WATERBODY
- WATERCOURSE

COMMUNITY ACCESS ROAD ALTERNATIVES CENTERLINE

- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE 4
- ALTERNATIVE 4 - WESTERN OGOKI RIVER CROSSING OPTION
- FAR NORTH BOUNDARY
- FIRST NATION COMMUNITY
- PROVINCIAL PARK
- PROPOSED DEVELOPMENT AREA
- PROJECT STUDY AREA

Notes:
None

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Source: Esri, Vantor, Earthstar Geographics, and the GIS User Community

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

PROJECT LOCATION

0 5 10 20
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 1-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0015_Aquatics_WaterCrossings\21455151-0015-RT-0001.mxd
Date Saved: 2/12/2026 5:00:59 PM User Name: gld_rduval

1.1 Regulatory Requirements

The Project is subject to the Ontario *Environmental Assessment Act*. In April 2018, Marten Falls First Nation signed a voluntary agreement with the Ontario Ministry of the Environment, Conservation and Parks to prepare an Individual Environmental Assessment.

In November 2019, the Impact Assessment Agency of Canada confirmed that a federal Impact Assessment would be required for the Project. As part of the provincial Environmental Assessment process, the Proponent is required to submit an Environmental Assessment report to the Ontario Ministry of the Environment, Conservation and Parks for review and a decision. As part of the federal Impact Assessment process, the Proponent is required to submit to the Impact Assessment Agency of Canada an Impact Statement, for the Impact Assessment Agency of Canada to determine whether it satisfactorily contains all the information and studies outlined in the *Tailored Impact Statement Guidelines*.

This report is meant to address the following requirements of the *Tailored Impact Statement Guidelines*:

- In its alternative means analysis, in addition to the potential environmental, health, social, and economic effects, the Proponent must address all Project elements, including, but not limited to, the following Project elements and components, where relevant to the Project activities and design: management of mobilized metals (such as chromium and other naturally occurring metals) from aggregate extraction and stockpiling activities (*Tailored Impact Statement Guidelines* Section 4.4, page 19);
- With respect to potential effects on water quality resulting from acid rock drainage and / or metal leaching, the Impact Statement must provide estimates of the potential for aggregate extraction activities (i.e., eskers and quarries) and rock exposed in permanent rock cuts to be sources of acid rock drainage or metal leaching (*Tailored Impact Statement Guidelines* Section 14.2, page 88);
- If the Proponent undertakes quarrying activities to extract aggregate material that may result in effects on groundwater and surface water levels (i.e., quarrying below the water table), the Impact Statement must describe the methods used to predict acid rock drainage and / or metal leaching for construction materials, including sample collection and laboratory testing (*Tailored Impact Statement Guidelines* Section 14.2, page 88);
- If the Proponent undertakes quarrying activities to extract aggregate material that may result in effects on groundwater and surface water levels (i.e., quarrying below the water table), the Impact Statement must provide an acid rock drainage assessment and mitigation plan that describes the confirmatory monitoring of construction materials and potential mitigation strategies to prevent or control acid rock drainage and metal

leaching during construction, operation, decommissioning, and abandonment (*Tailored Impact Statement Guidelines* Section 14.2, page 88); and

- The Impact Statement must describe any contaminants of concern (e.g., arsenic, chromium, mercury) potentially associated with the Project (including from spills or accidental discharges) that may affect soil, sediment, wetlands, and surface and groundwater (including substances used during summer and winter maintenance activities) (*Tailored Impact Statement Guidelines* 14.3, page 88).

2. Baseline Study Objectives

WSP Canada Inc. was retained to collect geochemical baseline data on materials that could be disturbed during road construction or aggregate extraction in support of the Project. The geochemical baseline data were used to support the *Environmental Assessment / Impact Statement Report* for the Project.

The objectives of the geochemistry baseline study were to:

- Characterize the existing geochemical environment in the Project area;
- Gather information required to inform environmental effects and technical assessments;
- Confirm that the baseline studies meet all provincial and federal regulatory requirements for effects assessments;
- Establish a framework to facilitate future environmental effects monitoring; and
- Support the development of Project specific mitigation strategies.

This report documents and summarizes existing conditions for geochemical characterization obtained during field programs completed from 2021 to 2023.

3. Study Area

Study areas identify the geographic extents within which potential effects of the Project are likely to occur and will be considered in the *Environmental Assessment / Impact Statement Report*. The existing conditions and potential effects are documented for three study areas selected for the Project:

- **Construction Disturbance Area:** area of direct disturbance;
- **Local Study Area:** the area where most of the direct effects of the Project are likely to occur; and
- **Regional Study Area:** the area where indirect effects of the Project are likely to occur.

The Construction Disturbance Area includes the Project footprint, which encompasses a 100 m wide right-of-way for each route alternative (i.e., Alternative 1 and Alternative 4). The right-of-way is only expected to be cleared to a width of 60 m for permanent use with the remaining 40 m to be temporarily cleared to accommodate activities such as the excavation of pits and quarries, construction of temporary laydown areas, and the implementation of debris and / or timber stockpiles. Alternative 1 includes approximately 226 km of new Community Access Road, while Alternative 4 comprises approximately 194 km in length of new Community Access Road. The Construction Disturbance Area seen in **Figure 3-1** was designed to capture the potential direct effects of the Project at the immediate local scale (in other words, the area of direct disturbance).

The study area for Physiography, Terrain, and Soils Valued Component and the study area for Groundwater Valued Component were determined separately and are both discussed below separately. For further information, the *Physiography, Terrain, and Soils Discipline Existing Conditions & Effects Assessment Report* (WSP, 2024a) and the *Groundwater Discipline Existing Conditions & Effects Assessment Report* can be referenced (WSP, 2024b). In defining the final Local Study Areas and Regional Study Areas, each environmental discipline considered:

- Location and other characteristics of the environmental discipline relative to the Project;
- The anticipated extent of the potential Project effects;
- Federal, provincial, regional, and local government administrative boundaries;
- Input from Indigenous Groups, including Red Sky Independent Métis Nation, and Marten Falls First Nation (Oji-Cree translation, *Wegwajihwana* ;
- Community knowledge and Indigenous Knowledge;
- Current or traditional land and resource use by Indigenous communities;
- Exercise of Aboriginal and Treaty Rights of Indigenous Peoples, including cultural and spiritual practices; and

- Physical, ecological, technical, social, health, economic, and cultural considerations.

The Physiography, Terrain, and Soils Local Study Area includes the Construction Disturbance Area and extends 3 km from the centreline of the right-of-way for the route alternatives (total 6 km width). Where elements of the Construction Disturbance Area (e.g., pits and quarries) fall outside the 3 km extension from centreline, a 500 m buffer was applied (**Figure 3-1**). The Physiography, Terrain, and Soils Local Study Area was designed to capture the local effects of the Project on surface water, fish, and fish habitat environments that may extend beyond the Construction Disturbance Area with the understanding that the spatial extent of this Local Study Area is intended to account for the local area where effects of the Project are likely to be measurable.

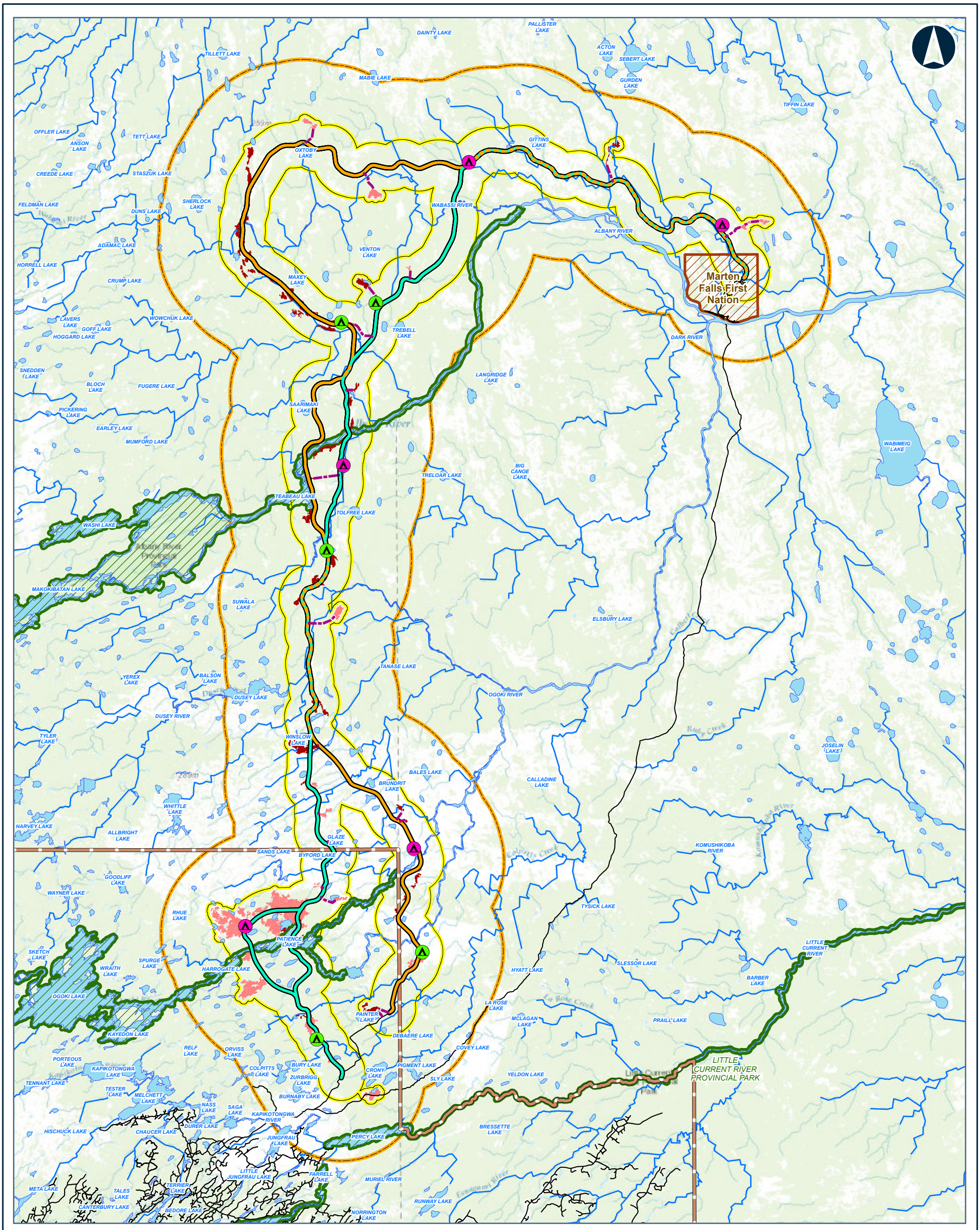
The Physiography, Terrain, and Soils Regional Study Area includes the catchment areas (as defined on a tertiary watershed scale) Construction Disturbance Area and extends 11 km from the centreline of the right-of-way for the route alternatives (total 22 km width). The Regional Study Area was designed to provide a large enough area to assess the cumulative and regional effects on Physiography, Terrain, and Soils.

The Local Study Area and Regional Study Area boundaries for Physiography, Terrain, and Soils are detailed in **Table 3-1** with the Local Study Area and Regional Study Area boundaries being shown on **Figure 3-1**.

Table 3-1: Physiography, Terrain, and Soils Study Areas

Study Area	Geographic Extent	Rationale
Local Study Area	3 km buffer on either side of the centreline of Alternative 1 and Alternative 4, and additional Construction Disturbance Area beyond the 3 km buffer	Designed to address the area where direct effects of the Project are likely to occur beyond the Construction Disturbance Area.
Regional Study Area	11 km buffer on either side of the centreline of Alternative 1 and Alternative 4	Using a boundary of 11 km on either side of the Project centreline will allow for assessment of cumulative and indirect effects of the Project on the broader landscape, while remaining representative of the types of physiography, terrain, and soils found within the Regional Study Area.

Notes: km = kilometre.



LEGEND

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)
- 50 PERSONS
- 200 PERSONS

APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP

APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE

ROUTE ALTERNATIVES
- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE 4

POTENTIAL AGGREGATE SOURCE
- BEDROCK
- SAND AND GRAVEL

FAR NORTH BOUNDARY

ROAD

FIRST NATION COMMUNITY

PROVINCIAL PARK

WATERCOURSE

WATERBODY

PHYSIOGRAPHY, TERRAIN, AND SOILS LSA

PHYSIOGRAPHY, TERRAIN, AND SOILS RSA

Data Source:
Base Data: Provided by MNRF 2023; Contains Information licensed under the Open Government Licence Ontario.
Service Layer Credits: World Topographic Map: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, AAFC, NRCan
World Topographic Map: Esri Canada, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, AAFC, NRCan

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Existing Conditions Physiography, Terrain, and Soils Study Areas

0 2.75 5.5 11 16.5 22
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Jan, 2026	1:480,000 * when printed 11"x17"
Rev:0	

Figure 4-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2024), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0043_Physiography_Terrain\21455151-0043-RT-0000\21455151-0043-RT-0000.aprx
Date Saved: 1/12/2026 2:44 PM User Name: gld_rduval

The groundwater Local Study Area includes the area within 1 km around the centreline of Alternative 1 and Alternative 4 and associated construction areas. This Local Study Area was designed to capture the local effects of the Project on groundwater that may extend beyond the Construction Disturbance Area with the understanding that the spatial extent of this Local Study Area is intended to account for the local area where effects of the Project are likely to be measurable.

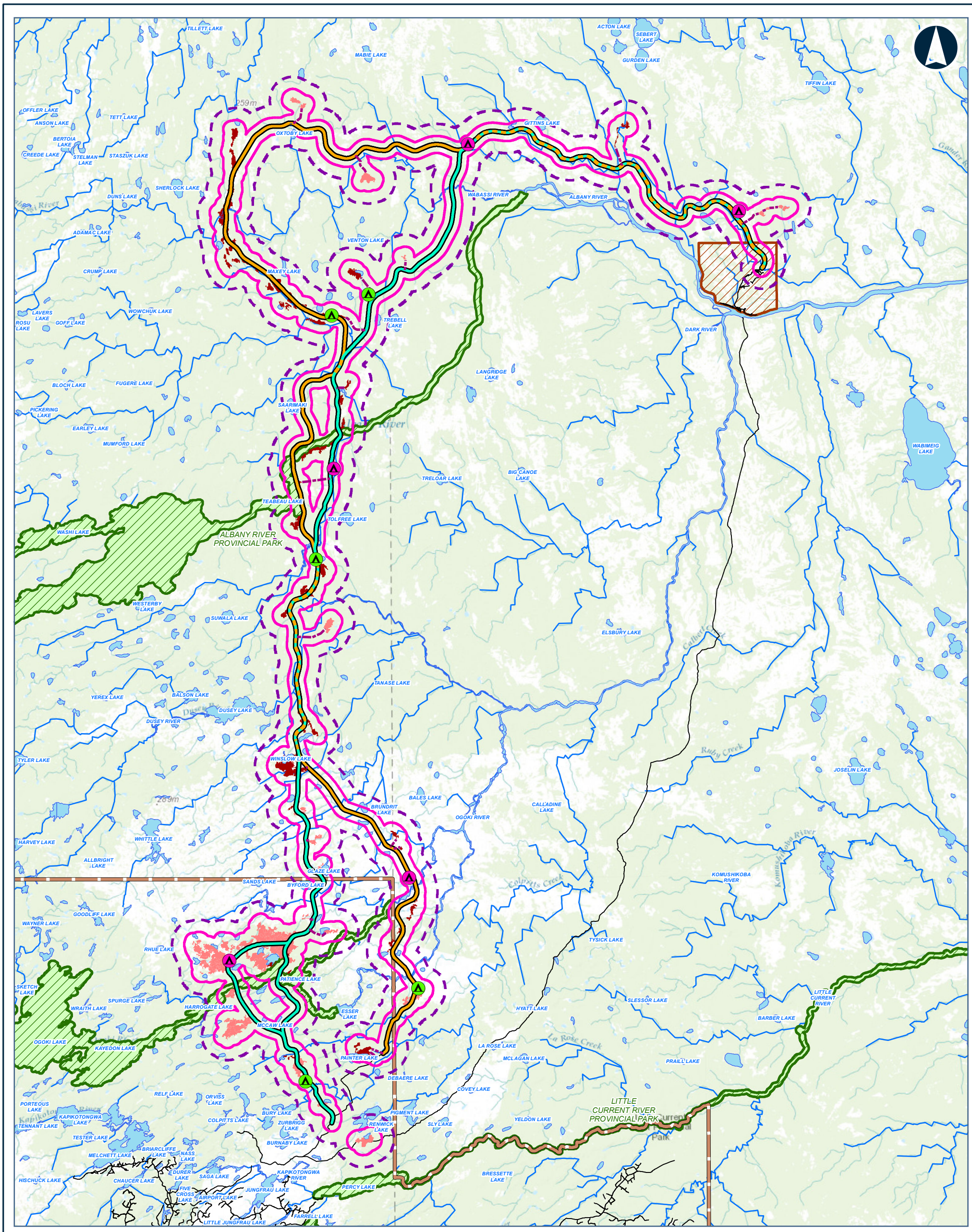
The groundwater Regional Study Area for groundwater includes the area within 2.5 km around the centreline of Alternative 1 and Alternative 4 and associated construction areas. The Regional Study Area was designed to provide a large enough area to assess the cumulative and regional effects on groundwater.

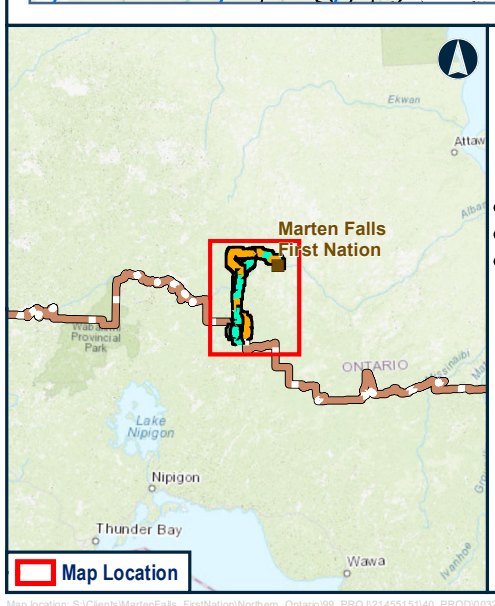
The Local Study Area and Regional Study Area boundaries for Groundwater and Geochemistry are detailed in **Table 3-2** with the boundaries being shown on **Figure 3-2**.

Table 3-2: Groundwater and Geochemistry Study Areas

Study Area	Geographic Extent	Rationale
Local Study Area	1 km from centreline of Alternative 1 and Alternative 4 and associated construction areas	Potential effects on groundwater are considered to be localized and limited to areas disturbed by Project construction and immediately adjacent lands.
Regional Study Area	2.5 km from centreline of Alternative 1 and Alternative 4 and associated construction areas	Potential effects on groundwater are considered to be localized and limited to areas disturbed by Project construction and immediately adjacent lands.

Notes: km = kilometre.





Legend

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)

- 50 PERSONS
- 200 PERSONS
- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- BEDROCK
- SAND AND GRAVEL
- ROAD
- WATERBODY
- WATERCOURSE
- FAR NORTH BOUNDARY
- FIRST NATION COMMUNITY
- PROVINCIAL PARK
- GROUNDWATER AND GEOCHEMISTRY LOCAL STUDY AREA
- GROUNDWATER AND GEOCHEMISTRY REGIONAL STUDY AREA

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Groundwater Existing Conditions Local and Regional Study Areas

0 5 10 20
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 4-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: King's Printer of Ontario 2023), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: S:\Clients\MartenFalls_FirstNation\Northern_Ontario\99_PROJ\21455151\40_PROD\0032_GW_Monitoring\21455151-0032-RN-0001_4-1.mxd
Date Saved: 11/11/2024 11:23:28 AM User Name: INGU06951

4. Methods

This section describes the methods used in this study, including information sources in the desktop review and analytical methods used for the characterization of collected samples as part of this study.

4.1 Desktop Review

4.1.1 Information Sources

For the purpose of characterizing the geochemical properties of the materials within the Construction Disturbance Area, Local Study Area, and Regional Study Area, the following reports were included in the compilation and review of existing information:

- *KWG Chrome Preliminary Scoping Study Report* (MICON, 2009);
- *Cliffs Chromite Project Environmental Assessment Geology and Hydrogeology Technical Supporting Document Part 1: Mine Site* (Golder 2013a);
- *Cliffs Chromite Project Environmental Assessment Geology and Hydrogeology Technical Supporting Document Part 2: Integrated Transportation System* (Golder 2013b);
- *Cliffs Chromite Project Environmental Assessment Geology and Hydrogeology Technical Supporting Document Part 3: Ferrochrome Production Facility* (Golder 2013c);
- *Cliffs Chromite Project Environmental Assessment Water and Sediment Quality Technical Supporting Document Part 1: Mine Site* (Golder 2013d);
- *Cliffs Chromite Project Environmental Assessment Water and Sediment Quality Technical Supporting Document Part 2: Integrated Transportation System* (Golder 2013e);
- *Cliffs Chromite Project Environmental Assessment Geology and Hydrogeology Cliffs Chromite Project Environmental Assessment Water and Sediment Quality Technical Supporting Document Part 3: Ferrochrome Production Facility* (Golder 2013f);
- *Environmental Assessment and Preliminary Design Services for Marten Fall Community Access Road Aggregate Resources Report* (AECOM, 2020); and
- *Canada Chrome 2010 Infrastructure Property Corridor* (Rajnovich, 2011; Golder, 2010).

4.1.2 Geochemical Data

The information sources listed in the previous section were reviewed for any potential sources of additional information pertaining to the geochemical assessment of the area. Information gained from these documents did not include specific results comparable to

what was obtained through the geochemical assessment undertaken between 2021 and 2023. Further searches on the government websites including Geology Ontario's database did not provide any further testing information.

4.1.3 Geological Characterization

A full description of the existing environment including geology is presented in the *Physiography, Terrain, and Soils Technical Support Document: Existing Conditions & Effects Assessment Report* (WSP, 2024a). A summary follows.

Bedrock geology in the Regional Study Area consists of two distinct groups of rocks, Neoarchean to Mesoarchean (2.5 to 3.2 billion years) felsic and mafic volcanics with some metasediments (OGS, 2011). The second group is characterized by much younger Ordovician (444 to 488 million years) sedimentary rocks of the Red Head Rapids Formation and the Churchill River Group, both of which are composed of shale, limestone, dolostone, and siltstone (OGS, 2011).

Surficial geology in the Regional Study Area has been mapped as mainly till. The dominant till in this area is described as a massive to bedded diamicton with a sandy silt to silt matrix, moderate to high clast content, and low to high matrix carbonate content. The till in the eastern part of this area is described as having a clayey silt to clay matrix, low to moderate clast content, and moderate to high matrix carbonate content.

4.1.4 Terrain Mapping

Detailed terrain mapping in the *Physiography, Terrain, and Soils Report* (Attachment B, Figure B-4a to B4g) indicated that the quantity of overlying soils and gravels was less than previously estimated in the review of existing mapping in the study area by Ontario Geological Survey (OGS) (2018). This reduction was in part due to the more detailed mapping, but it is mainly due to the field data. It indicates that the ground-truthed mapping was composed of silt, clay, and fine sand, which is more typical of glaciolacustrine deposition than the original sand and gravel mapping (WSP, 2024a). Potential pits and quarries are shown on Figures B-4a to B-4g and in Attachment B of the *Physiography, Terrain, and Soils Report.*

4.2 Field Investigations

Field investigations were carried out and described in Section 3.5.2 in the *Physiography, Terrain, and Soils Discipline Existing Conditions & Effects Assessment Report* and in Section 4.3.2 in the *Groundwater Discipline Existing Conditions & Effects Assessment Report.*

4.3 Sample Collection

A total of 108 samples, including 94 samples collected across the 20 groundwater monitoring well locations and 14 samples collected from soil plots based on geological information, were collected during field investigations. Samples were taken based on availability in the field, with samples for geochemical testing taken from all available boreholes and soil sampling locations.

A summary of sample information is provided in **Table 4-1**. Full sample details and description of samples is provided in **Annex A – Soil Sampling Locations**, and groundwater monitoring well locations are presented in **Figure 4-1**. Sample photos are provided in **Annex B – Sample Photos**.

Table 4-1: Sample Description

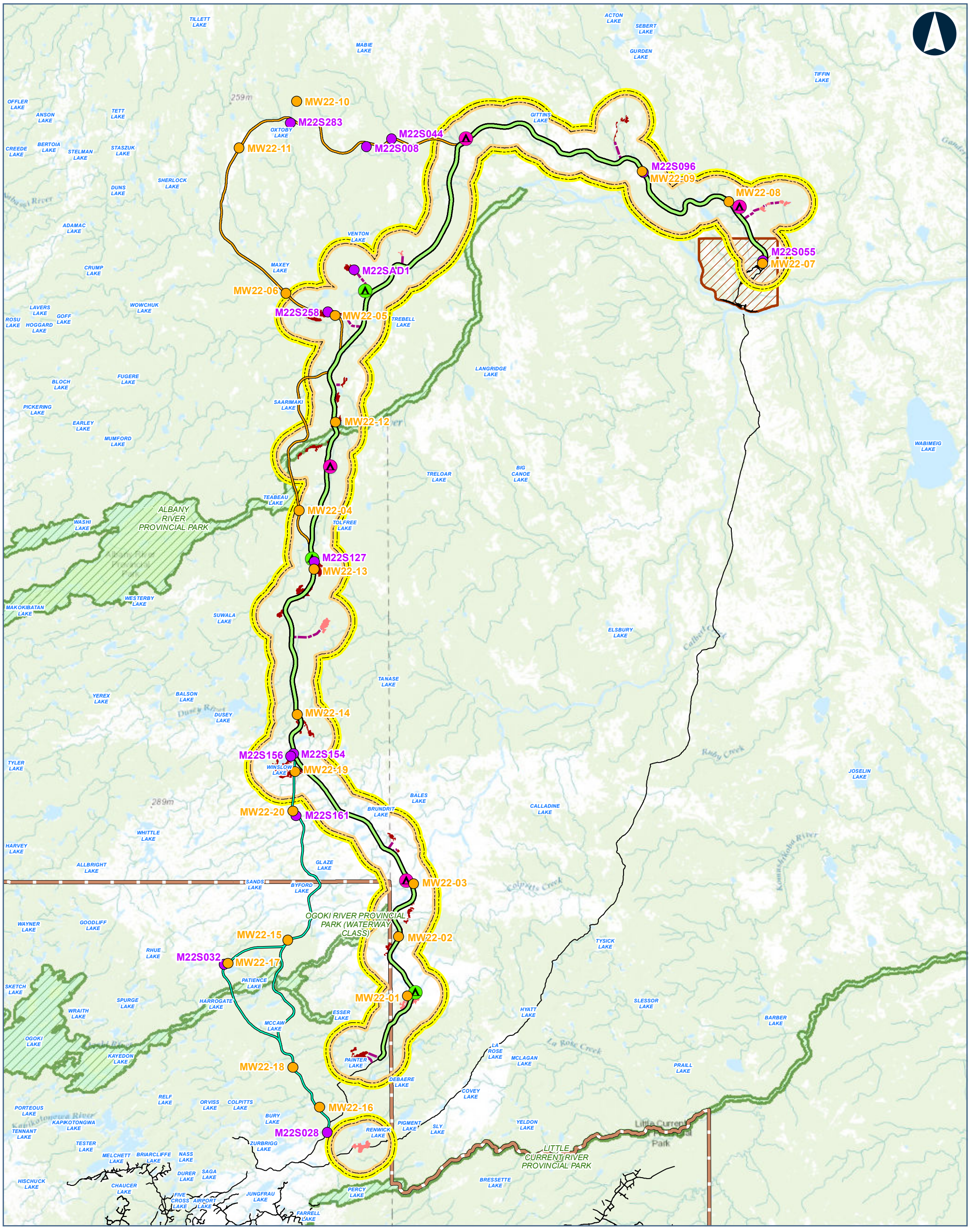
Sample ID	Sampling Program	Northing	Easting	Depth Range (Feet [′] Inch [″])	Sample Type
M22S008	Soil	5740056	528853	1′8″–1′12″	Organic
M22S011	Soil	5740980	513878	0′–0′11″	Soil
M22S028	Soil	5619112	524057	1′3″–4′9″	Soil
M22S032	Soil	5639735	511407	1′10″–2′6″	Organic
M22S044	Soil	5741000	531928	0′2″–0′	Soil
M22S055	Soil	5726044	577460	2′7″–3′11″	Soil
M22S096	Soil	5736895	562829	0′–2′11″	Organic
M22S127	Soil	5689124	522440	0′2″–0′	Soil
M22S154	Soil	5665568	519882	3′3″–7′3″	Organic
M22S156	Soil	5665283	519542	5′11″–7′3″	Organic
M22S161	Soil	5657962	520210	1′5‴–2′2″	Soil
M22S258	Soil	5719784	524118	0′2″–0′	Soil
M22S283	Soil	5742945	519489	4′11″–5′1″	Organic
M22SAD1	Soil	5724899	527330	0′4″–0′	Soil
MW22-01-1 SS8	Groundwater	5635835	533861	25′–27′	Soil
MW22-01-2 SS4	Groundwater	5635835	533859	7′5″–12′	Soil
MW22-01-2 SS6	Groundwater	5635835	533859	15′–17′	Soil
MW22-02-1 SS5	Groundwater	5643153	532825	10′–12′	Soil
MW22-02-1 SS6	Groundwater	5643153	532825	15′–17′	Soil
MW22-02-1 SS7	Groundwater	5643153	532825	20′–22′	Soil

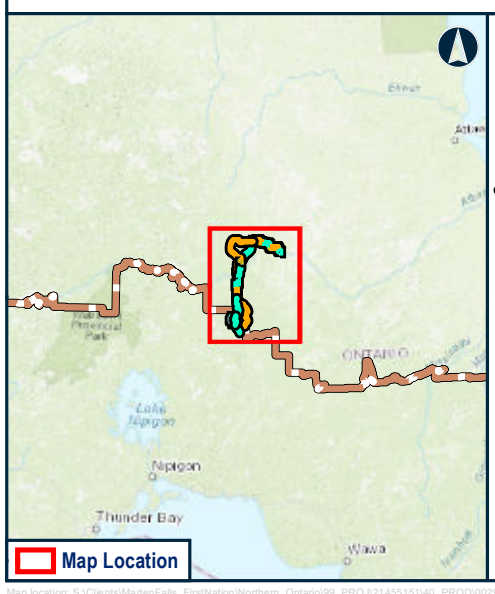
Sample ID	Sampling Program	Northing	Easting	Depth Range (Feet [′] Inch [″])	Sample Type
MW22-02-1 SS8	Groundwater	5643153	532825	25′–27′	Soil
MW22-03-1 SS3	Groundwater	5649637	534655	5′–7′	Soil
MW22-03-1 SS4	Groundwater	5649637	534655	7′5″–9′5″	Soil
MW22-03-1 SS5	Groundwater	5649637	534655	10′–12′	Soil
MW22-03-1 SS6	Groundwater	5649637	534655	15′–17′	Soil
MW22-04-1 SS6	Groundwater	5688255	522411	15′–17′	Soil
MW22-04-1 SS7	Groundwater	5688255	522411	20′–22′	Soil
MW22-04-1 SS8	Groundwater	5688255	522411	25′–27′	Soil
MW22-04-1 SS10	Groundwater	5688255	522411	35′–37′	Soil
MW22-05 SA-1	Groundwater	5719318	524958	0′–2′	Soil
MW22-05 SA-2	Groundwater	5719318	524958	2′5″–4′5″	Soil
MW22-05 SA-4	Groundwater	5719318	524958	7′5″–9′5″	Soil
MW22-05 SA-6	Groundwater	5719318	524958	12′5″–14′5″	Soil
MW22-05 SA-7	Groundwater	5719318	524958	15′–17′	Soil
MW22-06 SA-1	Groundwater	5722155	518931	0′–2′	Soil
MW22-06 SA-4	Groundwater	5722155	518931	7′5″–9′5″	Soil
MW22-06 SA-7	Groundwater	5722155	518931	20′–22′	Soil
MW22-06 SA-8	Groundwater	5722155	518931	25′–27′	Soil
MW22-06 SA-9	Groundwater	5722155	518931	30′–32′	Soil
MW22-07 SA-1	Groundwater	5725692	577429	0′–2′	Soil
MW22-07 SA-2	Groundwater	5725692	577429	2′5″–4′5″	Soil
MW22-07 SA-4	Groundwater	5725692	577429	7′5″–9′5″	Soil
MW22-07 SA-6	Groundwater	5725692	577429	15′–17′	Soil
MW22-07 SA-8	Groundwater	5725692	577429	25′–26′	Soil
MW22-08 SA-2	Groundwater	5733329	573304	2′5″–4′5″	Organic
MW22-08 SA-3	Groundwater	5733329	573304	5′–7′	Soil
MW22-08 SA-4	Groundwater	5733329	573304	7′5‴–9′5″	Soil
MW22-08 SA-6	Groundwater	5733329	573304	12′5″–14′5″	Soil
MW22-08 SA-8	Groundwater	5733329	573304	17′5″–19′5″	Soil
MW22-09 SA-1	Groundwater	5737153	562644	0′–2′	Organic
MW22-09 SA-4	Groundwater	5737153	562644	7′5″–9′5″	Organic
MW22-09 SA-5	Groundwater	5737153	562644	10′–12′	Soil

Sample ID	Sampling Program	Northing	Easting	Depth Range (Feet [′] Inch [″])	Sample Type
MW22-09 SA-6	Groundwater	5737153	562644	12′5″–14′5″	Soil
MW22-09 SA-7	Groundwater	5737153	562644	15′–17′	Soil
MW22-10 SA-2	Groundwater	5745601	520238	2′5″–4′5″	Organic
MW22-10 SA-3	Groundwater	5745601	520238	5′–7′	Soil
MW22-10 SA-4	Groundwater	5745601	520238	7′5″–9′5″	Soil
MW22-10 SA-5	Groundwater	5745601	520238	10′–12′	Soil
MW22-10 SA-6	Groundwater	5745601	520238	12′–14′	Soil
MW22-11-1 SS5	Groundwater	5739754	513512	10′–12′	Soil
MW22-11-1 SS3	Groundwater	5739754	513512	5′–7′	Organic
MW22-11-1 SS4	Groundwater	5739754	513512	7′5″–9′5″	Soil
MW22-12-1 SS4	Groundwater	5706266	525053	7′5″–9′5″	Soil
MW22-12-1 SS6	Groundwater	5706266	525053	15′–17′	Soil
MW22-12-1 SS11	Groundwater	5706266	525053	30′–32′	Soil
MW22-12-1 SS12	Groundwater	5706266	525053	32′5″–33′5″	Soil
MW22-13-1 SS5	Groundwater	5688222	522424	10′–12′	Soil
MW22-13-1 SS6	Groundwater	5688222	522424	12′5″–14′5″	Soil
MW22-13-1 SS8	Groundwater	5688222	522424	17′5″–19′5″	Soil
MW22-13-1 SS10	Groundwater	5688222	522424	22′5″–24′5″	Soil
MW22-14-1 SS3	Groundwater	5670394	520343	5′–7′	Soil
MW22-14-1 SS5	Groundwater	5670394	520343	10′–12′	Soil
MW22-14-1 SS7	Groundwater	5670394	520343	15′–17′	Soil
MW22-14-1 SS8	Groundwater	5670394	520343	17′5″–19′5″	Soil
MW22-15-1 SS2	Groundwater	5642700	519178	5′–7′	Soil
MW22-15-1 SS4	Groundwater	5642700	519178	7′5″–8′8″	Soil
MW22-15-1 SS5	Groundwater	5642700	519178	10′–12′	Soil
MW23-15-1 SA1	Groundwater	5642700	519178	13′6″–15′3″	Bedrock
MW23-15-1 SA2	Groundwater	5642700	519178	16′–18′1″	Bedrock
MW23-15-1 SA3	Groundwater	5642700	519178	18′1″–19′7″	Bedrock
MW22-15-2 SS6	Groundwater	5642699	519179	12′5″–13′4″	Soil
MW22-15-4 SS1	Groundwater	5642740	519177	0′–3′	Organic
MW22-15-4 SS2	Groundwater	5642740	519177	5′–7′	Soil
MW23-16-1 SA1	Groundwater	5622159	523068	10′10″–12′10″	Bedrock

Sample ID	Sampling Program	Northing	Easting	Depth Range (Feet [′] Inch [″])	Sample Type
MW23-16-1 SA2	Groundwater	5622159	523068	15′–17′	Bedrock
MW23-16-1 SA3	Groundwater	5622159	523068	19′7″–21′7″	Bedrock
MW22-16-02 SA2	Groundwater	5622158	523066	2′6″–4′6″	Soil
MW22-16-02 SA4	Groundwater	5622158	523066	7′6″–9′6″	Soil
MW23-17-1 SA3	Groundwater	5639873	511829	5′–6′6″	Soil
MW23-17-1 SA4	Groundwater	5639873	511829	7′6″–9′	Soil
MW23-17-1 SA5	Groundwater	5639873	511829	10′–11′16″	Soil
MW23-17-1 SA7	Groundwater	5639873	511829	14′6″–15′2″	Bedrock
MW23-17-1 SA8	Groundwater	5639873	511829	15′2″–19′2″	Bedrock
MW23-17-1 SA9	Groundwater	5639873	511829	19′2″–20′8″	Bedrock
MW23-18-1 SA1	Groundwater	5627099	519832	1′6″–2′	Soil
MW23-18-1 SA2	Groundwater	5627099	519832	2′6″–3′9″	Soil
MW23-18-1 SA3	Groundwater	5627099	519832	4′–5′	Bedrock
MW23-18-1 SA4	Groundwater	5627099	519832	8′–10′	Bedrock
MW23-18-1 SA5	Groundwater	5627099	519832	16′–18′	Bedrock
MW23-18-1 SA6	Groundwater	5627099	519832	19′–20′8″	Bedrock
MW22-19-01-AS1	Groundwater	5663323	519839	0′–2′6″	Soil
MW22-19-01-SA2B	Groundwater	5663323	519839	2′6″–4′6″	Soil
MW22-19-01-SA3	Groundwater	5663323	519839	5′–7′	Soil
MW22-19-01-SA4	Groundwater	5663323	519839	10′–11′6″	Soil
MW22-19-01-SA5	Groundwater	5663323	519839	15′–16′6″	Soil
MW22-20-01-SA1	Groundwater	5658524	519829	0′–2′6″	Organic
MW22-20-01-SA3	Groundwater	5658524	519829	5′–6′6″	Soil
MW22-20-01	Groundwater	5658524	519829	3′8″–4′	Bedrock

Notes: ′ = feet; ″ = inch.





Legend

CONSTRUCTION DISTURBANCE AREA

POTENTIAL CAMP SITE (SIZE)

- 50 PERSONS
- 200 PERSONS
- PREFERRED ROUTE
- ALTERNATIVE 1
- ALTERNATIVE 4
- ALTERNATIVE 1 AND ALTERNATIVE 4
- APPROXIMATE ACCESS ROAD TO POTENTIAL AGGREGATE SITE
- APPROXIMATE ACCESS ROAD TO POTENTIAL CONSTRUCTIONS CAMP
- BEDROCK
- SAND AND GRAVEL
- GROUNDWATER BOREHOLE LOCATIONS
- SOIL SAMPLES TAKEN FOR GEOCHEMISTRY
- ROAD
- WATERBODY
- FAR NORTH BOUNDARY
- FIRST NATION COMMUNITY
- PROVINCIAL PARK
- LOCAL STUDY AREA (1 KM)
- REGIONAL STUDY AREA (2.5 KM)

Notes:
None

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Groundwater Borehole Locations and Soil Samples taken for Geochemistry

0 5 10 20
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Feb, 2026	1:450,000 * when printed 11"x17"
Rev:0	

Figure 4-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: Queen's Printer of Ontario 2020), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

5. Analytical Methods

5.1.1 Acid Base Accounting

Acid Base Accounting measures the bulk quantities of acid generating minerals (e.g., sulphide minerals) and acid neutralizing minerals (e.g., carbonate minerals) to assess whether the materials tested will have sufficient capacity to neutralize the acid potential or if the materials have the potential to generate acidic drainage. The methodology performed on the samples is a modified Sobek method (Sobek et al., 1978) that includes analysis for paste pH, sulphur species (total sulphur, sulphate sulphur, and sulphide - sulphur), neutralization potential, and carbon species (total carbon and carbonate content). As described in Mine Environment Neutral Drainage's (MEND) *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials* (2009), the calculation of acid potential uses the stoichiometry of pyrite oxidation to calculate the amount of sulphuric acid that could be generated by the amount of sulphur present in a sample, which requires neutralization. Detailed descriptions of the Acid Base Accounting methods are found in the *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials* (MEND, 2009). The potential for acid generation is commonly interpreted according to the ratio of neutralization potential to acid potential (Net Potential Ratio), according to the guidelines recommended by the *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials* (MEND, 2009) and described in **Table 5-1**.

Table 5-1: Guidelines for Determination Acid Generation Potential Based on Neutralization Potential / Acid Potential (MEND, 2009)

Acid Generation Potential	Criteria	Comments
Potentially Acid Generating	Neutralization Potential / Acid Potential <1	Potentially acid generating, unless sulphide minerals are non-reactive
Uncertain	1 ≤ Neutralization Potential / Acid Potential ≤2	Possibly acid generating, if neutralization potential is insufficiently reactive or is depleted at a rate faster than sulphides
Non-Potentially Acid Generating	Neutralization Potential / Acid Potential >2	Not expected to generate acidity

Notes: < = less than; ≤ = less than or equal to; > = greater than.

Using bulk neutralization potential in the net potential ratio calculation accounts for less reactive silicate minerals as well as more reactive carbonate minerals. Calcium carbonate neutralization potential (CO_3-NP) can also be used in the calculations (CO_3-NPR [calcium carbonate net potential ratio] = CO_3-NP / AP [acid potential]) to account for buffering

capacity from carbonate minerals only and ignores the neutralizing capacity of other and more slowly reacting minerals (e.g., silicates).

The assessment of acid rock drainage potential will be assessed based on guidance provided in Mine Environment Neutral Drainage (MEND, 2009) using the following classification:

- Negligible – Laboratory testing indicates that the geological unit disturbed by the Project is non-potentially acid generating (Net Potential Ratio >2);
- Low – Laboratory testing indicates the majority of the geological unit disturbed by the Project is non-potentially acid generating, with a limited volume of "Uncertain" (Net Potential Ratio value between 1 and 2) or "potentially acid generating" (Net Potential Ratio value of less than 1) material excavation but the overall Net Potential Ratio of the material is non-potentially acid generating;
- Moderate – Laboratory testing indicates that the majority of the geological unit be disturbed by the Project is Uncertain (Net Potential Ratio between 1 and 2) with a limited volume of potentially acid generating material (Net Potential Ratio <1) but the overall Net Potential Ratio of the material is also Uncertain; and
- High – Laboratory testing indicates that the majority of the volume of the geological unit disturbed by the Project is Uncertain and the overall blend is potentially acid generating (Net Potential Ratio between 1 and 2, or <1, respectively) or the majority of the material is potentially acid generating.

5.1.2 Loss on Ignition Analysis

Loss on ignition was analyzed on samples to investigate their organic component. Loss on ignition is determined by comparing the weight of a 1 g sample after ashing at 1,000ºC for approximately one hour. Loss on ignition reflects volatilizes elements like sulphur and carbon and water of crystallization. A significant deviation from 100% can indicate an analytical error or the presence of anomalous levels of sulphides, carbonates, phyllosilicates, and / or hydrated minerals (MEND, 2009).

5.1.3 Elemental Analysis

Elemental analysis was conducted to determine the concentrations of major and trace elements by a multi - acid leach followed by inductively coupled plasma mass spectrometry analysis to determine the concentrations of the following elements: silver, aluminum, arsenic, barium, beryllium, bismuth, calcium, cadmium, cobalt, chromium, copper, iron, mercury, potassium, lithium, magnesium, manganese, molybdenum, nickel, phosphorus, lead, antimony, selenium, tin, strontium, titanium, thallium, uranium, vanadium, yttrium, and zinc.

The results of bulk metal analyses were compared to average elemental abundances in crustal rock (Price, 1997). For screening purposes, rock samples containing greater than ten times the average crustal abundance of each element were considered to have elevated concentrations of that parameter. The objective of this screening was to identify materials and parameters that require further consideration with respect to environmental significance. It should be noted that solid-phase element concentrations are not an indication of metal leaching potential.

5.1.4 Short-Term Leach Testing

Short-term leach testing, via shake flask extraction, was conducted on all samples. Short-term leach testing is commonly used as a qualitative screening tool that is useful for identifying the soluble metals that can be readily leached from the test material. It is important to note, however, that the results of short-term leach tests do not directly measure the expected effluent chemistry of the test material under ambient conditions.

Shake flask extraction testing was completed to measure the concentrations of constituents in the sample leachate that are readily soluble in water. The shake flask extraction leach method is described in the *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials* (MEND, 2009). Samples are mixed with deionized water at a 3:1 liquid to solid ratio in an extraction vessel. The vessel is shaken immediately, and an initial pH is recorded. The slurry is then shaken for 24 hours, after which a final pH is measured and the supernatant is extracted for analysis including the following parameters: pH, conductivity, alkalinity, sulphate, nitrite (as N), nitrate (as N), nitrate and nitrite (as N), ammonia and ammonium (as N), silver, aluminum, arsenic, boron, barium, beryllium, bismuth, calcium, cadmium, chlorine, cobalt, chromium, copper, fluorine, iron, mercury, potassium, lithium, magnesium, manganese, molybdenum, sodium, nickel, phosphorus, lead, antimony, selenium, silicon, tin, strontium, titanium, thallium, uranium, vanadium, yttrium, and zinc.

Leachate concentrations were compared to the Canadian Council of Ministers of the Environment's *Water Quality Guidelines for the Protection of Aquatic Life* (2014) and provincial water quality guidelines (MECP, 2019) for contaminants of concern, for the purposes of identifying parameters that may be present at elevated concentrations in the Construction Disturbance Area.

Although the results are compared to regulatory guidelines, it is important to note that these regulatory guidelines do not apply to short - term leach test results and therefore should not be interpreted within a regulatory context. Rather, these comparisons are conducted to qualitatively identify parameters that are leachable from test materials at concentrations that may require further evaluation in the context of the overall Environmental Assessment.

Leachate concentrations were also compared to baseline groundwater and surface water concentrations measured as part of the wider project (WSP, 2024b), as a screening to identify parameters that may be present at elevated concentrations in the Construction Disturbance Area.

5.2 Data Management and Analysis

Data management, including quality assurance and quality control, was employed to minimize potential for data entry and analysis errors, prepare datasets for analysis, and limit sensitive data distribution in accordance to established agreements.

A quality assurance / quality control program was implemented to verify that data collection, data entry, and data analysis were conducted with a high level of confidence. Quality assurance / quality control of field data is outlined in Section 3.6 in the *Physiography, Terrain, and Soils Discipline Existing Conditions & Effects Assessment Report* and in Section 4.7 in the *Groundwater Discipline Existing Conditions & Effects Assessment Report.*

Quality assurance / quality control of data receipt, data manipulation, and data summary calculations consisted of database checks, including verifying values outside of expected ranges for each parameter, verifying replicate values for different samples, and recalculation of lab calculated parameters. All calculations of summary statistics were verified by a peer reviewer.

All data passed replicate and duplicate testing within the laboratory requirements for SGS Canada Inc. Lakefield, Ontario. Data were checked on receipt for consistency between different analytical results.

6. Results

The results of the geochemical characterization for soil, organic material, and bedrock samples are summarized in the following sections. Full certificates of analysis for all geochemistry testing is provided in **Annex C – Certificates of Analysis**.

6.1 Soil

6.1.1 Acid Base Accounting and Loss on Ignition

The results of acid base accounting and loss on ignition analysis are presented in **Annex D – Static Analysis Results** and are summarized as follows and in **Table 6-1**:

- Total sulphur content ranged from <0.0005 to 0.13 weight percent of sulphur in oil (wt%), with an average value of 0.019 wt%;
- Sulphide - sulphur was below detection of 0.04 wt% as S in all samples;
- Sulphate - sulphur ranged from <0.04 to 0.06 wt% as S, with an average of 0.02 wt% as S;
- Paste pH values ranged from 5.6 to 9.1 with an average paste pH of 8.4;
- Acid potential values were calculated using the detection value for sulphide sulphur. The calculated acid potential for all soil samples was 1.3 kilogram calcium carbonate per tonne (kg $CaCO_3$/t);
- Neutralization potential values ranged from 0.8 to 488 kg $CaCO_3$/t in the soil samples; the average neutralization potential value was 294 kg $CaCO_3$/t;
- Carbonate neutralization potential values ranged from 6.8 to 424 kg $CaCO_3$/t in the soil samples, the average carbonate neutralization potential value was 287 kg $CaCO_3$/t;
- Net Potential Ratio ranged from 0.64 to 391 (**Table 6-1**; **Figure 6-1**);
    - Based on Net Potential Ratio, 82 (99%) soil samples are classified as Non-Potentially Acid Generating.
    - One soil sample was classified as Potentially Acid Generating (M22S011), with a reported neutralization potential of 0.8 indicating low neutralization capacity.
        - The reported acid potential was calculated using reported sulphide sulphur value of below the detection limit (<0.04 wt% as S) resulting in an acid potential of 1.25 kg $CaCO_3$/t (**Table 6-1**).
        - Reported sulphate sulphur was also below detection of 0.04 wt% as S.
- CO_3 - Net Potential Ratio ranged from 5.5 to 339, with all samples classified as Non-Potentially Acid Generating;

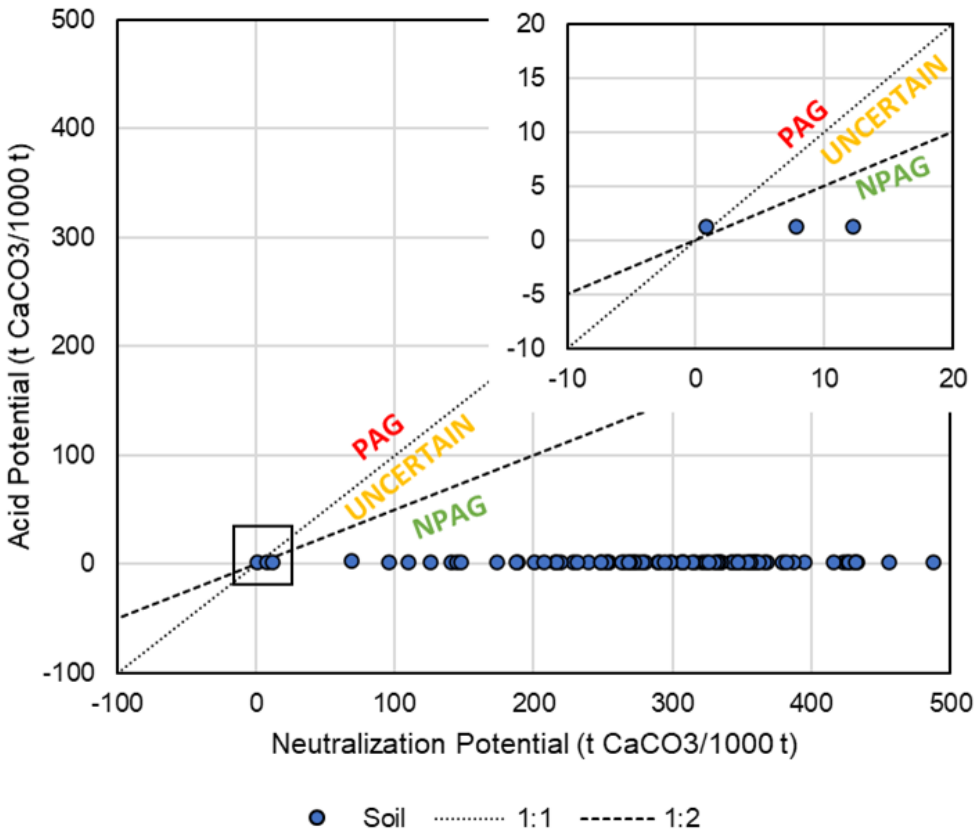
- Overall, the soil samples are classified as negligible; and
- Loss on Ignition ranged from 0.41% to 4.8% with an average of 1.4%.

Table 6-1: Soil Acid Based Accounting Summary

Parameter	Unit	Non-Potentially Acid Generating (n=80)				Potentially Acid Generating
		Min	Max	Average	75-Percentile	n=1
Paste pH	no unit	6.6	9.1	8.5	8.7	5.6
Neutralization Potential	kg $CaCO_3$/t	7.8	488	298	358	0.8
Acid Potential	kg $CaCO_3$/t	1.3	1.3	1.3	1.3	1.3
Neutralization Potential Ratio	ratio	6.2	391	238	286	0.64
Carbonate Neutralization Potential	kg $CaCO_3$/t	6.8	424	290	350	55
Carbonate Neutralization Potential Ratio	ratio	5.5	339	232	280	44
Total Sulphur	%	<0.005	0.064	0.013	0.019	0.018
Sulphate Sulphur	%	<0.04	0.06	0.021	0.02	<0.04
Sulphide Sulphur	%	<0.04	<0.04	<0.04	<0.04	<0.04

Notes:
Classification of potentially acid generating and non-potentially acid generating is based on Modified Sobek neutralization potential calculation of *N*et Potential Ratio.
kg $CaCO_3$/t = kilogram calcium carbonate per tonne; % = percent; < = less than.

Figure 6-1:Neutralization Potential versus Acid Potential for Soil Samples



Notes: PAG = Potentially Acid Generating; NPAG = Non-Potentially Acid Generating; t $CaCO_3$/1000 t = tonne calcium carbonate per 1,000 tonnes.

6.1.2 Elemental Analysis

The results of elemental analysis for soil samples are presented in **Annex D** and are summarized as follows:

- Arsenic concentrations ranged from 0.9 to 30 parts per million (ppm) and were greater than at least ten times the average crustal abundance in one of 81 samples;
- Antimony concentrations were below detection limit of 3.0 in all samples. This value is greater than at least ten times the average crustal abundance;
- Bismuth concentrations ranged from 0.045 to 0.58 ppm and were greater than at least ten times the average crustal abundance in 28 of 81 samples;
- Calcium concentrations ranged from 2,800 to 140,000 ppm and were greater than at least ten times the average crustal abundance in 77 of 81 samples;
- Potassium concentrations ranged from 270 to 21,000 ppm and were greater than at least ten times the average crustal abundance in one of 81 samples; and
- Molybdenum concentrations ranged from 0.050 to 13 ppm and were greater than at least ten times the average crustal abundance in one of 81 samples.

All other elements analyzed had solid-phase concentrations less than ten times their average crustal abundance.

6.1.3 Short-Term Leach Testing

The results of the Shake Flask Extraction test are presented in **Annex D and Annex E – Shake Flask Extraction Results** and summarized in the following sections.

6.1.3.1 Samples Classified as Non-Potentially Acid Generating:

- The initial pH for non-potentially acid generating soil samples ranged from 7.5 to 9.5 and was outside of the Canadian Council of Ministers of the Environment guideline of 6.5 to 9.0 in ten of 80 samples, and outside the Provincial Water Quality Objectives range of 6.5 to 8.5 in 28 of 80 samples. The 75-percentile was 8.7 and was within the Canadian Council of Ministers of the Environment guideline, but outside the Provincial Water Quality Objectives guideline;
    - pH ranges for surface water and groundwater were 6.4 to 7.9 and 6.8 to 8.4 respectively. The 75-percentile for initial pH was outside the naturally occurring range.
- The final pH for non-potentially acid generating soil samples ranged from 6.8 to 9.3 and was outside of the Canadian Council of Ministers of the Environment guideline of 6.5 to 9.0 in eight of 80 samples, and outside the Provincial Water Quality Objectives range of 6.5 to 8.5 in 33 of 80 samples. The 75-percentile was 8.8 and was within the Canadian

Council of Ministers of the Environment guideline, but outside the Provincial Water Quality Objectives guideline;

- pH ranges for surface water and groundwater were 6.4 to 7.9 and 6.8 to 8.4 respectively. The 75-percentile for final pH was outside the naturally occurring range.

- Sulphate leachate concentrations ranged from <2 to 29 milligrams per litre (mg/L), the 75-percentile was 1 mg/L, which was within the range of naturally occurring groundwater of 0.3 to 17 mg/L;
- Total chromium ranged from 0.00004 to 0.0064 mg/L. The 75-percentile was 0.0022 mg/L and was within the range of naturally occurring groundwater (0.0005 to 0.0025 mg/L). Total chromium was not speciated and was therefore not compared with chromium VI Canadian Council of Ministers of the Environment or Provincial Water Quality Objectives guideline; and
- The 75-percentile for fluoride, aluminum, and copper were greater than the Canadian Council of Ministers of the Environment or Provincial Water Quality Objectives guideline (**Table 6-2**).
  - The 75-percentile existed inside the range of naturally occurring groundwater and surface water sampling for aluminum.
  - A total of 51 soil samples (65%) had reported fluoride leachate concentrations above the Canadian Council of Ministers of the Environment guideline of 0.12 mg/L and higher than the associated monitoring well range. Of these 51 samples, 24 samples (30%) had a fluoride leachate concentration greater than five times the maximum measured groundwater concentration in the associated monitoring well (**Annex D**).
  - A total of 20 soil samples (25%) had reported copper leachate concentrations above the Canadian Council of Ministers of the Environment guideline of 0.004 mg/L and higher than the associated monitoring well range.
    - Only 14 samples (18%) had a copper leachate concentration greater than five times the maximum measured groundwater concentration in the associated monitoring well (**Annex E**).

6.1.3.2 Sample Classified as Potentially Acid Generating:

- The initial pH for the potentially acid generating soil sample was 8.0 and was within the Canadian Council of Ministers of the Environment guideline of 6.5 to 9.0, and the Provincial Water Quality Objectives range of 6.5 to 8.5;
  - The final pH outside the naturally occurring surface water range of 6.4 to 7.9 and within the groundwater range of 6.8 to 8.4.

- The final pH for the potentially acid generating soil sample was 5.6 and was outside of the Canadian Council of Ministers of the Environment guideline of 6.5 to 9.0 and Provincial Water Quality Objectives range of 6.5 to 8.5;
    - The final pH was outside the naturally occurring range for surface water and groundwater of 6.4 to 7.9 and 6.8 to 8.4 respectively.
- The sulphate leachate concentration was 6 mg/L, which was within the range of naturally occurring groundwater of 0.3 to 17 mg/L;
- Total chromium was 0.0044 mg/L and was outside the range of naturally occurring groundwater (0.0005 to 0.0025 mg/L). Total chromium was not speciated and was therefore not compared with chromium VI Canadian Council of Ministers of the Environment or Provincial Water Quality Objectives guideline; and
- The leachate concentration for aluminum, arsenic, boron, copper, and iron was greater than the Canadian Council of Ministers of the Environment or Provincial Water Quality Objectives guideline (**Table 6-2**).
    - Of these parameters only aluminum, boron, and copper leachate concentrations existed outside the range of naturally occurring groundwater and surface water sampling.
    - The aluminum leachate concentration was 1.5 mg/L and was greater than the Canadian Council of Ministers of the Environment guideline of 0.1 mg/L, and the Provincial Water Quality Objectives guideline of 0.075 mg/L.
    - The boron leachate concentration was 1.5 mg/L and was equivalent to the Canadian Council of Ministers of the Environment guideline of 1.5 mg/L, and greater than the Provincial Water Quality Objectives guideline of 0.2 mg/L.
    - The copper leachate concentration was 0.0094 mg/L and was greater than the Canadian Council of Ministers of the Environment guideline of 0.004 mg/L, and the Provincial Water Quality Objectives guideline of 0.001 mg/L.

Table 6-2: Soil Shake Flask Extraction Result Summary

Parameter		Canadian Council of Ministers of the Environment[a]	Provincial Water Quality Objectives	Surface Water		Groundwater[b]		Non-Potentially Acid Generating			Potentially Acid Generating
				Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	75-Percentile	
Initial pH	No unit	6.5 - 9.0	6.5 - 8.5	6.4	7.9	7.2	8.4	7.5	**9.3**	8.7	8.0
Final pH	No unit	6.5 - 9.0	6.5 - 8.5	6.4	7.9	7.2	8.4	6.8	**9.3**	8.8	5.6
Fluoride	mg/L	0.12	N/A	0.1	0.1	<0.02	0.45	0.08	**1.2**	**0.5**	N/A
Mercury	mg/L	0.000026	0.0002	N/A	N/A	0.000005	0.00005	<0.00001	**0.00004**	0.000005	0.00001
Silver	mg/L	0.00025	0.0001	0.00009	0.00009	0.00001	0.00010	<0.00005	**0.00093**	<0.00005	0.000025
Aluminum	mg/L	0.01	0.075	0.0099	0.25	0.001	0.88	**0.016**	**2.3**	**0.33**	**1.5**
Arsenic	mg/L	0.005	0.005	0.001	0.0027	0.0001	0.025	0.0005	**0.3**	0.0027	**0.0084**
Boron	mg/L	1.5	0.2	0.01	0.029	0.01	0.11	<0.002	1.4	0.18	**1.6**
Cadmium	mg/L	0.00031	0.0001	0.00009	0.00009	0.000005	0.00015	<0.000003	0.00022	0.000042	0.00004
Cobalt	mg/L	N/A	0.0009	0.0005	0.0005	0.0001	0.0020	0.000008	0.0015	0.0002	0.00069
Copper	mg/L	0.004	0.001	0.0009	0.0024	0.0002	0.0042	0.0002	**0.016**	**0.0049**	**0.0094**
Iron	mg/L	0.3	0.3	0.1	1.2	0.01	8.4	<0.007	**2.3**	0.2	**0.9**
Molybdenum	mg/L	0.073	0.04	0.0005	0.0005	0.00005	0.011	0.0005	0.042	0.0085	0.00083
Lead	mg/L	0.007	0.01	0.0005	0.0005	0.00005	0.0017	<0.00009	0.0026	0.00015	0.00042
Selenium	mg/L	0.001	0.1	0.002	0.002	0.00005	0.0014	<0.00004	**0.0081**	0.001	0.00043
Uranium	mg/L	0.015	0.005	0.0001	0.0001	0.00001	0.047	0.00011	**0.017**	0.0021	0.00012
Vanadium	mg/L	N/A	0.006	0.0005	0.00072	0.0005	0.0037	0.00047	0.012	0.0046	0.0029
Zinc	mg/L	0.016	0.02	0.005	0.0054	0.001	0.19	<0.002	0.014	0.003	0.007

Notes:
a) Where Canadian Council of Ministers of the Environment guideline is a calculated value, hardness, and pH was based on the average groundwater result.
b) Groundwater range is calculated from monitoring wells installed in overburden.
Classification is based on Modified Sobek Net Potential Ratio.
Bold indicates value exceeds the Canadian Council of Ministers of the Environment guideline, underlined indicates value exceeds the Provincial Water Quality Objectives guideline, highlighted indicates that the value is outside the range for naturally occurring groundwater and surface water.
mg/L = milligram per litre; < = less than.

6.2 Organic Material

6.2.1 Acid Base Accounting and Loss on Ignition

The results of Acid Base Accounting and Loss on Ignition analysis are presented in **Annex D** and are summarized as follows and in **Table 6-3**:

- Total sulphur content ranged from 0.0080 to 0.13 wt%, with an average value of 0.055 wt%;
- Sulphide - sulphur ranged from <0.04 to 0.10 wt% as S, with an average of 0.032 wt% as S;
- Sulphate - sulphur ranged from <0.04 to 0.11 wt% as S, with an average of 0.035 wt% as S;
- Paste pH values ranged from 5.6 to 8.1 with an average paste pH of 6.9;
- Acid potential values ranged from 1.3 to 3.1 kg $CaCO_3$/t; the average acid potential value was 1.5 kg $CaCO_3$/t;
- Neutralization potential values ranged from -56 to 328 kg $CaCO_3$/t in the organic samples; the average neutralization potential value was 111 kg $CaCO_3$/t;
    - Negative neutralization potential values were noted in four organic samples (M22S283, M22S154, M22S156, MW22-20-01-SA1).
- Carbonate neutralization potential values ranged from 121 to 415 kg $CaCO_3$/t in the organic samples; the average carbonate neutralization potential value was 302 kg $CaCO_3$/t;
- Net potential ratios ranged from -45 to 262 (**Table 6-3**; **Figure 6-2**);
    - Based on net potential ratio, four (31%) organic samples are classified as non-potentially acid generating.
        - All four organic samples that were classified as potentially acid generating (M22S011, M22S283, M22S154, M22S156, MW22-20-01-SA1) reported negative neutralization potential values, indicating the presence of stored acidity in the samples and no neutralization potential.
        - In these four organic samples the reported acid potential was calculated using reported sulphide sulphur values of below the detection limit (<0.04 wt% as S) resulting in an acid potential of 1.25 kg $CaCO_3$/t (**Table 6-3**).
        - Higher sulphate sulphur content in M22S283 and MW22-20-01-SA1 (0.05 and 0.11 wt% as S respectively), indicates that oxidization of sulphides has already occurred in these samples.

  - Leachate from samples M22S154 and M22S156 is acidic, but the sulphides and sulphates are below detection, suggesting that sulphides mineral oxidation may not be the source of acidity.

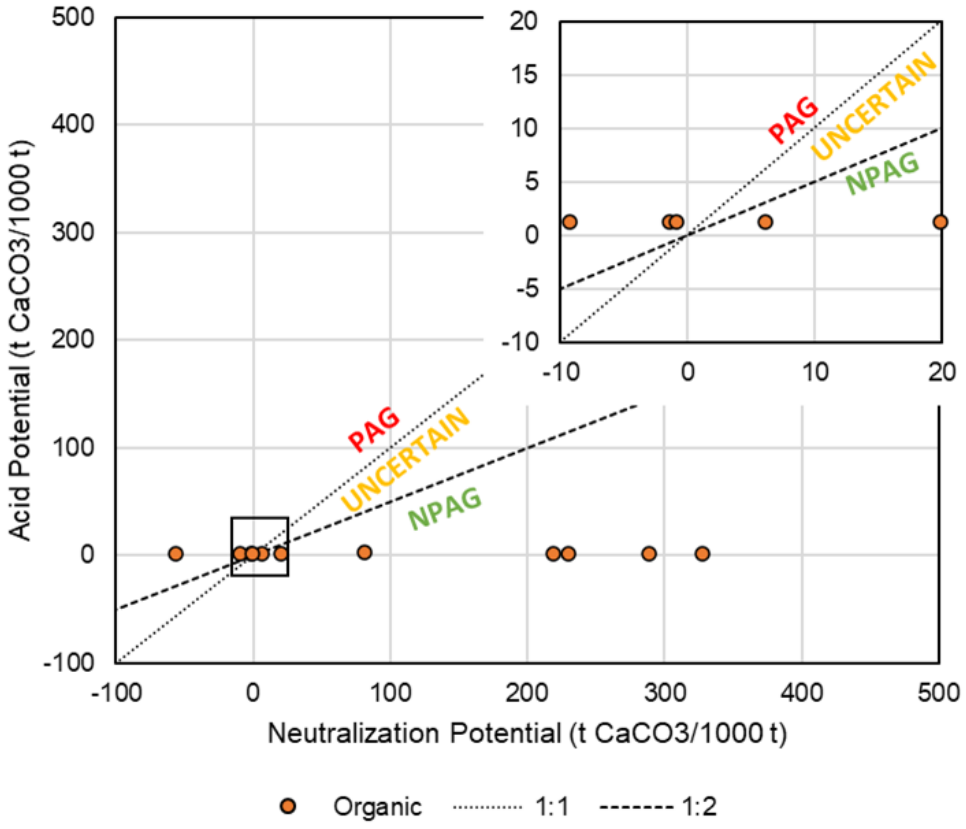
- Carbonate net potential ratio ranged from 97 to 318, with all samples classified as non-potentially acid generating;
- As per work plan, provide overall classification of unit as low – moderate; and
- Loss on Ignition ranged from 4.17% to 87% with an average of 42%.
  - Of the seven organic results tested, five samples had a Loss on Ignition of greater than 5% including MW22-10 SA-2 (7.5%), MW22-15-4 SS1 (48%), MW22-11-1 SS3 (55%), MW22-09 SA-1 (86%), MW22-20-01-SA1 (87%).

Table 6-3: Organic Acid Based Accounting Summary

Parameter	Unit	Non-Potentially Acid Generating				Potentially Acid Generating			
		Minimum	Maximum	Average	75-Percentile	Minimum	Maximum	Average	75-Percentile
Paste pH	no unit	6.2	8.1	7.4	7.8	5.6	6.3	5.8	5.9
Neutralization Potential	kg $CaCO_3$/t	6.1	328	168	272	-56	-0.9	-17	-1.3
Acid Potential	kg $CaCO_3$/t	1.3	3.1	1.6	1.3	1.3	1.3	1.3	1.3
Neutralization Potential Ratio	ratio	4.9	262	128	218	-45	-0.72	-14	-1.0
Carbonate Neutralization Potential	kg $CaCO_3$/t	121	415	302	357	203	397	304	364
Carbonate Neutralization Potential Ratio	ratio	97	286	205	260	163	318	243	292
Total Sulphur	%	0.008	0.13	0.053	0.096	0.028	0.11	0.059	0.063
Sulphate Sulphur	%	<0.02	0.06	0.029	0.02	<0.02	0.11	0.05	0.065
Sulphide Sulphur	%	<0.02	0.1	0.037	0.04	<0.02	0.02	0.02	0.02

Notes:
Classification of potentially acid generating and non-potentially acid generating is based on Modified Sobek neutralization potential calculation of net potential ratio.
kg $CaCO_3$/t = kilogram calcium carbonate per tonne; % = percent; <= less than; - = negative.

Figure 6-2:Neutralization Potential versus Acid Potential for Organic Samples



Notes: PAG = Potentially Acid Generating; NPAG = Non-Potentially Acid Generating; t $CaCO_3$/1000 t = tonne calcium carbonate per 1,000 tonnes.

6.2.2 Elemental Analysis

The results of elemental analysis for organic samples are presented in **Annex D** and are summarized as follows:

- Arsenic concentrations ranged from 1.1 to 10 ppm and were greater than at least ten times the average crustal abundance in one of 13 samples;
- Antimony concentrations were below detection limit of 3.0 in all samples. This value is greater than at least ten times the average crustal abundance;
- Bismuth concentrations ranged from 0.045 to 0.20 ppm and were greater than at least ten times the average crustal abundance in six of 13 samples;
- Calcium concentrations ranged from 5,000 to 110,000 ppm and were greater than at least ten times the average crustal abundance in five of 13 samples; and

- Selenium concentrations ranged from 0.35 to 2.2 ppm and were greater than at least ten times the average crustal abundance in one of 13 samples.

All other elements analyzed had solid-phase concentrations less than ten times their average crustal abundance.

6.2.3 Short-Term Leach Testing

The results of the Shake Flask Extraction test are presented in **Annex D and Annex E** and summarized in the following sections.

6.2.3.1 Samples Classified as Non-Potentially Acid Generating:

- The initial pH for non-potentially acid generating organic samples ranged from 8.1 to 9.5 and was outside of the Canadian Council of Ministers of the Environment guideline of 6.5 to 9.0 in one of nine samples, and outside the Provincial Water Quality Objectives range of 6.5 to 8.5 in five of nine samples. The 75--percentile was 8.7 and was within the Canadian Council of Ministers of the Environment guideline, but outside the Provincial Water Quality Objectives guideline;
    - pH ranges for surface water and groundwater were 6.4 to 7.9 and 6.8 to 8.4 respectively. The 75-percentile for initial pH was outside the naturally occurring range.
- The final pH for non-potentially acid generating organic samples ranged from 6.0 to 8.1 and was outside of the Canadian Council of Ministers of the Environment guideline of 6.5 to 9.0 in one of nine samples, and outside the Provincial Water Quality Objectives range of 6.5 to 8.5 in one of nine samples. The 75-percentile was 7.6 and was within the Canadian Council of Ministers of the Environment guideline and Provincial Water Quality Objectives guidelines;
    - pH ranges for surface water and groundwater were 6.4 to 7.9 and 6.8 to 8.4 respectively. The 75-percentile for final pH was within the naturally occurring range.
- Sulphate leachate concentrations ranged from <2 to 170 mg/L; the 75-percentile was 10 mg/L, which was within the range of naturally occurring groundwater of 0.3 to 17 mg/L;
- Total chromium ranged from 0.00057 to 0.004 mg/L. The 75-percentile was 0.0027 mg/L and was outside the range of naturally occurring groundwater (0.0005 to 0.0025 mg/L). Total chromium was not speciated and was therefore not compared with chromium VI Canadian Council of Ministers of the Environment and Provincial Water Quality Objectives guideline;

- The 75-percentile for fluoride, aluminum, arsenic, boron, and copper were greater than the Canadian Council of Ministers of the Environment or Provincial Water Quality Objectives guideline (**Table 6-2**); and
    - Of these samples only the 75-percentile for boron leachate concentrations existed outside the range of naturally occurring groundwater and surface water sampling.
- Five non-potentially acid generating organic material samples were collected during monitoring well installation and analyzed for Shake Flask Extraction. Four of the five organic material samples (67%) had reported boron leachate concentrations above the Provincial Water Quality Objectives guideline of 0.2 mg/L and higher than the associated monitoring well range (**Annex E**). All four samples were below the Council of Ministers of the Environment guideline of 1.5 mg/L.

6.2.3.2 Samples Classified as Potentially Acid Generating:

- The initial pH for potentially acid generating organic samples ranged from 6.0 to 8.9 and was outside the Council of Ministers of the Environment guideline of 6.5 to 9.0 in one of four samples, and outside the Provincial Water Quality Objectives range of 6.5 to 8.5 in three of four samples;
    - The 75-percentile was 8.8 and was within the Council of Ministers of the Environment guideline, but outside the Provincial Water Quality Objectives guideline.
    - pH ranges for surface water and groundwater were 6.4 to 7.9 and 6.8 to 8.4, respectively. The 75-percentile for initial pH was outside the naturally occurring range.
- The final pH for potentially acid generating organic samples ranged from 5.4 to 7.7 and was outside of the Council of Ministers of the Environment guideline of 6.5 to 9.0 and Provincial Water Quality Objectives range of 6.5 to 8.5 in three of four samples;
    - The 75-percentile was 6.6 and within the Council of Ministers of the Environment and Provincial Water Quality Objectives guidelines.
    - pH ranges for surface water and groundwater were 6.4 to 7.9 and 6.8 to 8.4 respectively. The 75-percentile for final pH was within the naturally occurring range for surface water but outside the naturally occurring range for groundwater.
- Sulphate leachate concentrations ranged from 6 to 25 mg/L; the 75-percentile was 25 mg/L, which was outside the range of naturally occurring groundwater of 0.3 to 17 mg/L;
- Total chromium ranged from 0.00030 to 0.017 mg/L. The 75-percentile was 0.0091 mg/L and was outside the range of naturally occurring groundwater (0.0005 to 0.0025 mg/L). Total chromium was not speciated and was therefore not compared with chromium VI Council of Ministers of the Environment and Provincial Water Quality Objectives guideline; and

- The 75-percentile for silver, aluminum, arsenic, boron, cadmium, copper, iron, and selenium were greater than the Council of Ministers of the Environment or Provincial Water Quality Objectives guideline (**Table 6-4**).
  - Of these parameters only arsenic, boron, and silver leachate concentrations existed outside the range of naturally occurring groundwater and surface water sampling.
  - Arsenic leachate concentrations ranged from 0.0094 to 0.18 mg/L and were greater than the Council of Ministers of the Environment and Provincial Water Quality Objectives guideline of 0.005 mg/L in all five samples.
    - The 75-percentile was 0.072 mg/L, which was greater than the Council of Ministers of the Environment and Provincial Water Quality Objectives guidelines.
  - Boron leachate concentrations ranged from 0.23 to 1.9 mg/L and were greater than the Council of Ministers of the Environment guideline of 1.5 mg/L in three of five samples, and the Provincial Water Quality Objectives guideline of 0.2 mg/L in all five samples.
    - The 75-percentile was 1.7 mg/L, which was greater than the Council of Ministers of the Environment and Provincial Water Quality Objectives guidelines.
  - Silver leachate concentrations ranged from <0.00005 to 0.00034 mg/L and were greater than the Council of Ministers of the Environment guideline of 0.00025 mg/L, and the Provincial Water Quality Objectives guideline of 0.0001 mg/L in one of five samples.
    - The 75-percentile was 0.00014 mg/L, which was greater than the Provincial Water Quality Objectives guideline but lower than the Council of Ministers of the Environment guideline.

Table 6-4: Organic Shake Flask Extraction Result Summary

Parameter	Unit	Canadian Council of Ministers of the Environment[a]	Provincial Water Quality Objectives	Surface Water		Groundwater[b]		Non-Potentially Acid Generating			Potentially Acid Generating		
				Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	75-Percentile	Minimum	Maximum	75-Percentile
Initial pH	No unit	6.5 - 9.0	6.5 - 8.5	6.4	7.9	7.2	8.4	8.1	**9.5**	8.5	6.0	8.9	8.8
Final pH	No unit	6.5 - 9.0	6.5 - 8.5	6.4	7.9	7.2	8.4	**6.0**	8.1	7.7	**5.4**	7.7	6.6
Fluoride	mg/L	0.12	N/A	0.1	0.1	<0.02	0.45	**0.26**	**1.0**	**0.71**	<0.06	<0.06	<0.06
Mercury	mg/L	0.000026	0.0002	N/A	N/A	0.000005	0.00005	<0.00001	**0.00003**	0.000016	<0.00001	**0.00003**	0.000018
Silver	mg/L	0.00025	0.0001	0.00009	0.00009	0.00001	0.00010	<0.00005	0.00008	0.000025	<0.00005	**0.00034**	0.00014
Aluminum	mg/L	0.01	0.075	0.0099	0.25	0.001	0.88	**0.049**	**0.42**	**0.21**	**0.12**	**1.3**	**0.51**
Arsenic	mg/L	0.005	0.005	0.001	0.0027	0.0001	0.025	0.0017	**0.26**	**0.016**	**0.0094**	**0.18**	**0.072**
Boron	mg/L	1.5	0.2	0.01	0.029	0.01	0.11	0.037	0.82	0.7	0.23	**1.9**	**1.7**
Cadmium	mg/L	0.00031	0.0001	0.00009	0.00009	0.000005	0.00015	0.000033	0.0001	0.00009	0.00003	0.00022	0.00012
Cobalt	mg/L	N/A	0.0009	0.0005	0.0005	0.0001	0.0020	0.00013	0.00061	0.00025	0.00019	0.0011	0.00069
Copper	mg/L	0.004	0.001	0.0009	0.0024	0.0002	0.0042	0.0025	**0.009**	**0.0079**	0.003	**0.0095**	**0.0052**
0.018.4Iron	mg/L	0.3	0.3	0.1	1.2	0.00005	0.011	0.027	**0.59**	0.28	0.096	**0.88**	**0.5**
Molybdenum	mg/L	0.073	0.04	0.0005	0.0005	0.00005	0.0017	0.00074	0.041	0.013	0.0003	0.0013	0.0011
Lead	mg/L	0.007	0.01	0.0005	0.0005	0.00005	0.0014	<0.00009	0.003	0.00036	0.00016	0.0013	0.00061
Selenium	mg/L	0.001	0.1	0.002	0.002	0.00001	0.047	0.00027	**0.0012**	0.00096	0.00009	**0.0012**	**0.0011**
Uranium	mg/L	0.015	0.005	0.0001	0.0001	0.0005	0.0037	0.000057	0.0021	0.0012	0.00009	0.00043	0.00022
Vanadium	mg/L	N/A	0.006	0.0005	0.00072	0.001	0.19	0.0011	0.0077	0.0025	0.00066	0.011	0.0037
Zinc	mg/L	0.016	0.02	0.005	0.0054	7.2	8.4	<0.002	**0.027**	0.004	0.004	**0.017**	0.0095

Notes:
a) Where Canadian Council of Ministers of the Environment guideline is a calculated value, hardness, and pH was based on the average groundwater result.
b) Groundwater range is calculated from monitoring wells installed in overburden.
Classification is based on Modified Sobek Net Potential Ratio.
Bold indicates value exceeds the Canadian Council of Ministers of the Environment guideline, underlined indicates value exceeds the Provincial Water Quality Objectives guideline, highlighted indicates that the value is outside the range for naturally occurring groundwater and surface water.
mg/L = milligram per litre; < = less than.

6.3 Bedrock

6.3.1 Acid Base Accounting and Loss on Ignition

The results of Acid Base Accounting and Loss on Ignition analysis are presented in **Annex D** and are summarized as follows and in **Table 6-5**:

- Total sulphur content ranged from <0.0005 to 0.72 wt% with an average of 0.092 wt% in the bedrock samples;
- Bedrock sulphide - sulphur ranged from <0.04 to 0.42 wt% as S, with an average of 0.059 wt% as S;
- Sulphate - sulphur ranged from <0.04 to 0.72 wt% as S, with an average of 0.093 wt% as S;
- Paste pH values ranged from 6.8 to 10; the average paste pH was and 9.7;
- Acid potential values ranged from 1.3 to 13 kg $CaCO_3$/t in the bedrock samples; the average acid potential value was 2.2 kg $CaCO_3$/t;
- Neutralization potential values ranged from 3.5 to 27 kg $CaCO_3$/t in the bedrock samples. The average neutralization potential was 11 kg $CaCO_3$/t;
- Carbonate neutralization potential ranged from 0.33 to 13.5 kg $CaCO_3$/t in the bedrock samples. The average carbonate neutralization potential was 2.1 kg $CaCO_3$/t;
- Net potential ratios ranged from 0.75 to 15 for bedrock samples (**Table 6-5; Figure 6-3**);
    - Based on net potential ratio 13 (93%) bedrock samples are classified as non-potentially acid generating.
    - One bedrock sample (MW23-16-1 SA3) had a net potential ratio of 0.75 and is classified as potentially acid generating; this sample had elevated sulphide sulphur compared to the other samples (0.42 wt% as S).
- Carbonate net potential ratios values ranged from 0.05 to 7.2 in the bedrock samples. The average carbonate neutralization potential was 1.7;
    - Based on carbonate net potential ratio three (21%) bedrock samples were classified as non-potentially acid generating.
    - Three samples (21%) were classified as uncertain with a carbonate net potential ratio of 1.1 to 1.8.
    - Eight samples were classified as potentially acid generating using carbonate net potential ratio.

  - Six of these samples (75%), had a calculated acid potential and carbonate net potential ratio based on a below detection sulphide sulphur and carbonate carbon result.
  - One sample (MW23-16-1 SA2) had a calculated acid potential of 2.2, and no carbonate neutralization potential resulting in a carbonate net potential ratio of 0.2.
  - The sample that was classified as potentially acid generating by bulk net potential ratio (MW23-16-1 SA3), was the only sample that contained any carbonate neutralization potential.

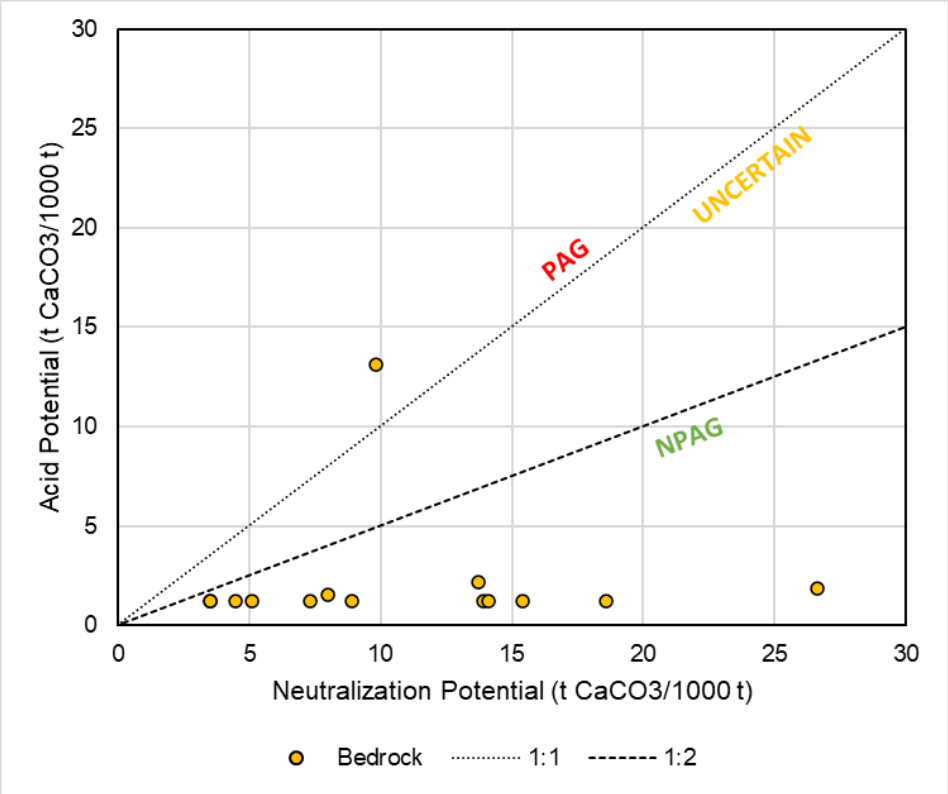
- Overall, the bedrock is classified as low; and
- Loss on Ignition measured on 13 samples ranged from 0.05 to 0.5%, with an average of 0.21%.

Table 6-5: Bedrock Acid Based Accounting Summary

Parameter	Unit	Non-Potentially Acid Generating				Potentially Acid Generating
		Minimum	Maximum	Average	75-Percentile	
Paste pH	no unit	6.8	10	9.7	10	9.6
Neutralization Potential	kg $CaCO_3$/t	3.5	27	11	14	9.8
Acid Potential	kg $CaCO_3$/t	1.3	2.2	1.4	1.3	13
Neutralization Potential Ratio	Ratio	2.8	15	7.8	11	0.75
Carbonate Neutralization Potential	kg $CaCO_3$/t	0.33	14	2.4	2.3	0.67
Carbonate Neutralization Potential Ratio	ratio	0.15	7.2	1.6	1.9	0.051
Total Sulphur	%	0.0025	0.21	0.044	0.064	0.72
Sulphate Sulphur	%	0.02	0.21	0.045	0.02	0.72
Sulphide Sulphur	%	0.02	0.07	0.031	0.04	0.42

Notes: kg $CaCO_3$/t = kilogram calcium carbonate per tonne; % = percent.

Figure 6-3:Neutralization Potential vs Acid Potential in Bedrock Samples



Notes: PAG = Potentially Acid Generating; NPAG = Non-Potentially Acid Generating; t $CaCO_3$/1000 t = tonne calcium carbonate per 1,000 tonnes.

6.3.2 Elemental Analysis

The results of elemental analysis bedrock samples are presented in **Annex D** and are summarized as follows:

- Antimony concentrations were below detection limit of 3.0 in all samples. This value is greater than at least ten times the average crustal abundance;
- Bismuth concentrations ranged from 0.045 to 0.40 ppm and were greater than at least ten times the average crustal abundance in four of 14 samples;
- Potassium concentrations ranged from 2,300 to 21,000 ppm and were greater than at least ten times the average crustal abundance in one of 14 samples; and
- Magnesium concentrations ranged from 890 to 30,000 ppm and were greater than at least ten times the average crustal abundance in one of 14 samples.

All other elements analyzed had solid-phase concentrations less than ten times their average crustal abundance.

6.3.3 Short-Term Leach Testing

The results of the Shake Flask Extraction test are presented in **Annex D and Annex E** and summarized in the following sections.

6.3.3.1 Samples Classified as Non-Potentially Acid Generating:

- The initial pH for non-potentially acid generating bedrock samples ranged from 9.0 to 9.8 and was outside of the Canadian Council of Ministers of the Environment range of 6.5 to 9.0 for 12 of 13 samples, and the Provincial Water Quality Objectives range of 6.5 to 8.5 in all 13 samples;
    - The 75-percentile was 9.5 and was outside the Canadian Council of Ministers of the Environment and Provincial Water Quality Objectives guidelines.
    - pH ranges for surface water and groundwater were 6.4 to 7.9 and 6.8 to 8.4 respectively. The 75-percentile for initial pH was outside the naturally occurring range.
- The final pH for non-potentially acid generating bedrock samples ranged from 7.3 to 7.8 and was within the Canadian Council of Ministers of the Environment range of 6.5 to 9.0 and Provincial Water Quality Objectives guidelines range of 6.5 to 8.5 in all 13 samples;
    - The 75-percentile was 7.7 and was within the Canadian Council of Ministers of the Environment and Provincial Water Quality Objectives guidelines.
    - pH ranges for surface water and groundwater were 6.4 to 7.9 and 6.8 to 8.4 respectively. The 75-percentile for final pH was within the naturally occurring range.
- Sulphate leachate concentrations ranged from <2 to 25 mg/L; the 75-percentile was 6 mg/L, which was within the range of naturally occurring groundwater 0.3 to 17 mg/L;
- Total chromium ranged from 0.00012 to 0.0069 mg/L. The 75-percentile was 0.0014 mg/L and was within the range of naturally occurring groundwater (0.0005 to 0.0025 mg/L). Total chromium was not speciated and was therefore not compared with chromium VI Canadian Council of Ministers of the Environment and Provincial Water Quality Objectives guideline; and
- The 75-percentile for fluoride, silver, aluminum, copper, iron, and vanadium were greater than the Canadian Council of Ministers of the Environment or Provincial Water Quality Objectives guideline (**Table 6-6**).
    - Of these samples only fluoride, silver, aluminum, and vanadium leachate concentrations existed outside the range of naturally occurring groundwater and surface water sampling.

- Fluoride leachate concentrations were greater than the Canadian Council of Ministers of the Environment guideline of 0.12 mg/L and outside of the range for the associated monitoring well in five of 13 samples (38%).
  - Only one sample (8%) had a fluoride leachate concentration greater than five times the maximum measured groundwater concentration in the associated monitoring well (**Annex E**). This sample was equivalent to the Canadian Council of Ministers of the Environment guideline of 0.12 mg/L.
- Silver leachate concentrations ranged from 0.000025 to 0.00074 mg/L and were greater than the Canadian Council of Ministers of the Environment guideline of 0.00025 mg/L and the range for the associated monitoring well in five of 13 samples (38%).
- Aluminum leachate concentrations ranged from 0.32 to 6.5 mg/L and were greater than the Canadian Council of Ministers of the Environment guideline of 0.1 mg/L in all 13 samples. Leachate concentrations were also greater than the range for their associated monitoring well at all sites.
- Vanadium leachate concentrations ranged from 0.0012 to 0.040 mg/L and were greater than the Provincial Water Quality Objectives guideline of 0.006 mg/L and greater than the range for the associated monitoring well in seven of 13 samples (54%).
  - Only three samples (8%) had a vanadium leachate concentration greater than ten times the maximum measured groundwater concentration in the associated monitoring well (**Annex E**).

6.3.3.2 Sample Classified as Potentially Acid Generating:

- The initial pH for the potentially acid generating bedrock sample was 9.5 and was outside of the Canadian Council of Ministers of the Environment range of 6.5 to 9.0 and Provincial Water Quality Objectives range of 6.5 to 8.5;
  - The initial pH was outside the naturally occurring range for surface water and groundwater of 6.4 to 7.9 and 6.8 to 8.4 respectively.
- The final pH for the potentially acid generating bedrock sample was 7.7 and was within the Canadian Council of Ministers of the Environment range of 6.5 to 9.0, and the Provincial Water Quality Objectives range of 6.5 to 8.5;
  - The final pH was within the naturally occurring range for surface water and groundwater of 6.4 to 7.9 and 6.8 to 8.4 respectively.
- The reported sulphate leachate concentration was 4.0 mg/L, which was within the range of naturally occurring groundwater 0.3 to 17 mg/L;
- Total chromium was 0.00067 mg/L and was within the range of naturally occurring groundwater (0.0005 to 0.0025 mg/L). Total chromium was not speciated and was

therefore not compared with chromium VI Canadian Council of Ministers of the Environment and Provincial Water Quality Objectives guideline; and

- The reported leachate concentrations for fluoride, silver, aluminum, and vanadium were greater than the Canadian Council of Ministers of the Environment or Provincial Water Quality Objectives guideline (**Table 6-6**).
    - Of these samples, only silver and vanadium leachate concentrations existed outside the range of naturally occurring groundwater and surface water sampling (**Table 6-6**).

Table 6-6: Bedrock Shake Flask Extraction Result Summary

Parameter	Unit	Canadian Council of Ministers of the Environment[a]	Provincial Water Quality Objectives	Surface Water		Groundwater[b]		Non-Potentially Acid Generating			Potentially Acid Generating
				Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	75-Percentile	n=1
pH Initial	No unit	6.5 - 9.0	6.5 - 8.5	6.4	7.9	6.8	8.2	**9.0**	**9.8**	**9.4**	**9.5**
pH Final	No unit	6.5 - 9.0	6.5 - 8.5	6.4	7.9	6.8	8.2	7.3	7.8	7.6	7.7
Fluoride	mg/L	0.12	N/A	0.1	0.1	<0.02	0.15	<0.06	**0.22**	**0.18**	**0.14**
Mercury	mg/L	0.000026	0.0002	N/A	N/A	<0.000005	<0.000005	<0.00001	**0.00004**	0.000005	<0.00001
Silver	mg/L	0.00025	0.0001	0.00009	0.00009	0.00001	0.00014	<0.00005	**0.00074**	0.00022	**0.00064**
Aluminum	mg/L	0.01	0.075	0.0099	0.25	0.0014	0.42	**0.32**	**6.5**	**1.0**	**0.48**
Arsenic	mg/L	0.005	0.005	0.001	0.0027	0.00022	0.0012	0.0002	**0.0065**	0.0024	0.0023
Boron	mg/L	1.5	0.2	0.01	0.029	0.01	0.043	0.005	0.02	0.015	0.016
Cadmium	mg/L	0.00031	0.0001	0.00009	0.00009	0.000005	0.000035	<0.000003	0.000024	0.000004	<0.000003
Cobalt	mg/L	N/A	0.0009	0.0005	0.0005	0.0001	0.0027	0.000015	0.0069	0.00056	0.000093
Copper	mg/L	0.004	0.001	0.0009	0.0024	0.0002	0.02	0.0003	**0.1**	0.0018	0.0004
Iron	mg/L	0.3	0.3	0.1	1.2	0.01	4.2	0.023	**10**	**0.68**	0.046
Molybdenum	mg/L	0.073	0.04	0.0005	0.0005	0.00043	0.014	0.00019	0.0047	0.0018	0.0011
Lead	mg/L	0.007	0.01	0.0005	0.0005	0.00005	0.00026	<0.00009	0.007	0.00023	<0.00009
Selenium	mg/L	0.001	0.1	0.002	0.002	0.00005	0.00066	<0.00004	0.00091	0.00021	0.0001
Uranium	mg/L	0.015	0.005	0.0001	0.0001	0.00047	0.0034	0.00012	0.0034	0.0015	0.00024
Vanadium	mg/L	N/A	0.006	0.0005	0.00072	0.0005	0.0048	0.0012	0.048	0.02	0.0064
Zinc	mg/L	0.016	0.02	0.005	0.0054	0.001	0.032	<0.002	0.04	0.002	0.002

Notes:
a) Where Canadian Council of Ministers of the Environment guideline is a calculated value, hardness, and pH was based on the average groundwater result.
b) Groundwater range is calculated from monitoring wells installed in bedrock.
Classification is based on Modified Sobek Net Potential Ratio.
Bold indicates value exceeds the Canadian Council of Ministers of the Environment guideline, underlined indicates value exceeds the Provincial Water Quality Objectives guideline, highlighted indicates that the value is outside the range for naturally occurring groundwater and surface water.
mg/L = milligram per litre; < = less than.

7. Summary

7.1 Classification of Samples

Sampling conducted by WSP Canada Inc. between 2022 and 2023 evaluated the characteristics of the soil, organic material, and bedrock in the vicinity of the proposed Community Access Road. This includes both proposed routes alternatives.

Analysis of soil samples indicates that these materials have low acid rock drainage potential. With the exception of one sample (M22S011), soil samples were classified as non-potentially acid generating. Based on the acid rock drainage assessment classifications laid out in **Section 5.1.1 Acid Base Accounting**, soil samples were classified as negligible.

Analysis of the organic samples indicates that these materials have low acid rock drainage potential. Four of the 13 organic samples analyzed were classified as potentially acid generating (M22S154, M22S156, M22S283, MW22-20-01-SA1), with the remaining nine samples classified as non-potentially acid generating. Based on the acid rock drainage assessment classifications laid out in **Section 5.1.1**, organic samples were classified as low to moderate.

Analysis of bedrock samples indicated that all but one bedrock sample was classified as non-potentially acid generating. The sole bedrock sample that indicated a potential for acid generation occurred around bore-hole site MW22-16. Based on the acid rock drainage assessment classifications laid out in **Section 5.1.1**, bedrock samples were classified as low.

Leach testing within the non-potentially acid generating soil samples indicated that fluoride and copper were the only parameters that were greater than the Provincial Water Quality Objectives and Canadian Council of Ministers of the Environment guidelines, and outside of the naturally occurring groundwater and surface water range.

Leachate results from the non-potentially acid generating organic samples indicated that boron was the only parameter that was greater than the Provincial Water Quality Objectives and Canadian Council of Ministers of the Environment guidelines, and was outside of the naturally occurring groundwater and surface water range. The 75-percentile for boron leachate was 0.74 mg/L which was greater than the Provincial Water Quality Objectives guideline of 0.2 mg/L but less than the Canadian Council of Ministers of the Environment guideline of 1.5 mg/L.

Leach testing within the non-potentially acid generating bedrock samples indicated that silver, aluminum, and vanadium were the only parameters that were greater than the Provincial Water Quality Objectives and Canadian Council of Ministers of the Environment guidelines, and outside of the naturally occurring groundwater and surface water range.

7.2 Mitigation and Monitoring

Mitigation of effects from samples classified as having metal leaching / acid rock drainage potential by avoiding disturbance is the preferred option as listed:

- The sole potentially acid generating soil sample M22S011 is not within the Construction Disturbance Area boundary of the approved route (Figure 4-1);
- Of the four organic samples classified as potentially acid generating, only M22S154 and M22S156 are within the Construction Disturbance Area boundary of the approved route (Figure 4-1). Both samples had sulphate sulphur and sulphide sulphur content below detection of 0.04 wt% as S, indicating no geochemical acid potential; and
- The sole potentially acid generating bedrock sample (MW22-16 SA3) is not within the Construction Disturbance Area boundary of the approved route (Figure 4-1). This sample will therefore be avoided in the route planning for this Community Access Road and will be excluded as a prospective quarry to mitigate potential for acid mine drainage.

Once the samples outlined previously are removed from consideration due to their location outside the Construction Disturbance Area, the overall classification of all material types within the Construction Disturbance Area is negligible based on the criteria outlined in **Section 5.1.1**.

Due to the non-potentially acid generating classification indicated by samples within the Construction Disturbance Area of the approved route, and the low metal leaching potential indicated by the tests described in **Section 5.1.4 Short-Term Leach Testing**, additional testing (i.e., mineralogy / kinetic) was not deemed necessary for this Environmental Assessment.

During development of the Community Access Road and / or aggregate excavation locations, a monitoring program will be needed to help ensure further geochemical testing is completed on exposed bedrock and soils to confirm the potential for acid rock drainage and / or metal leaching.

8. References

AECOM (AECOM Canada ULC). 2020. Environmental Assessment and Preliminary Design Services for Marten Falls Community Access Road Aggregate Resources Report. Report prepared for KGS Group. KGS Group Project Number: 19-0194-001. November 27, 2020. 575 p.

CCME (Canadian Council of Ministers of the Environment). 2014. Canadian Water Quality Guidelines for the Protection of Aquatic Life. Available at: https://ccme.ca/en/summary - table. Accessed: February 2024.

Golder (Golder Associates Inc.). 2010. 2010 Geology and Terrain Unit Geotechnical Data Report. Report prepared for Canada Chrome Corporation. Duluth, MN: Golder Associates Inc. Document No. 093-81042. December 2010. 20 p.

Golder (Golder Associates Ltd.). 2013a. Cliffs Chromite Project Environmental Assessment: Geology and Hydrogeology Technical Supporting Document Part 1: Mine Site. Report prepared for Cliffs Ferroalloys. Thunder Bay, ON: Golder Associated Ltd. Document No. GAL-006-TSD-V3.1 GOL10CLF-0826-07-124-0006-001_B. September 2013. 668 p.

Golder (Golder Associates Ltd.). 2013b. Cliffs Chromite Project Environmental Assessment: Geology and Hydrogeology Technical Supporting Document Part 2: Integrated Transportation System. Report prepared for Cliffs Ferroalloys. Thunder Bay, ON: Golder Associated Ltd. Document No. GAL-006-TSD-V3.1 GOL10CLF-0826-07-124-0006-002_B. September 2013. 184 p.

Golder (Golder Associates Ltd.). 2013c. Cliffs Chromite Project Environmental Assessment: Geology and Hydrogeology Technical Supporting Document Part 3: Ferrochrome Production Facility. Report prepared for Cliffs Ferroalloys. Thunder Bay, ON: Golder Associated Ltd. Document No. GAL-005-TSD-V3.1 GOL10CLF-0826-07-124-0006-003_B. September 2013. 222 p.

Golder (Golder Associates Ltd.). 2013d. Cliffs Chromite Project Environmental Assessment: Water and Sediment Quality Technical Supporting Document Part 1: Mine Site. Report prepared for Cliffs Ferroalloys. Thunder Bay, ON: Golder Associated Ltd. Document No. GAL-009-TSD-V3.1 GOL10CLF-0826-07-124-0009-001_B. September 2013. 858 p.

Golder (Golder Associates Ltd.). 2013e. Cliffs Chromite Project Environmental Assessment: Water and Sediment Quality Technical Supporting Document Part 2: Integrated Transportation System. Report prepared for Cliffs Ferroalloys. Thunder Bay, ON: Golder Associated Ltd. Document No. GAL-009-TSD-V3.1 GOL10CLF-0826-07-124-0009-002_B. September 2013. 256 p.

Golder (Golder Associates Ltd.). 2013f. Cliffs Chromite Project Environmental Assessment: Water and Sediment Quality Technical Supporting Document Part 3: Ferrochrome Production Facility. Report prepared for Cliffs Ferroalloys. Thunder Bay, ON: Golder Associated Ltd. Document No. GAL-009-TSD-V3.1 GOL10CLF-0826-07-124-0009-003_B. September 2013. 554p.

MEND (Mine Environment Neutral Drainage). 2009. Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. MEND Report 1.20.1. December 2009.

OGS (Ontario Geological Survey). 2011. 1:250,000 scale Bedrock Geology of Ontario. Ontario Geological Survey, Miscellaneous Release – Data 126, Revision 1. Available at: http://www.geologyontario.mndm.gov.on.ca/ogsearth.html

OGS (Ontario Geological Survey). 2018. Far North Predictive Mapping. Available at: https://www.geologyontario.mndm.gov.on.ca/ogsearth.html#nont

Price, WL. 1997. Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia. British Columbia Ministry of Employment and Investment, Energy and Minerals Division: Victoria, BC, Canada.

MICON (MICON International Ltd.). 2009. KWG Chrome Preliminary Scoping Study Report prepared for KWG (KWG Resources Inc.). Toronto, ON. February 2009. 27 p.

Ministry of the Environment, Conservation and Parks (MECP), “Provincial Water Quality Objectives (PWQO); Water management: policies, guidelines, provincial water quality objectives,” Updated March 28, 2019, Published September 28, 2016, 2019.

Rajnovich L. 2011. Geology and Terrain Unit Geotechnical report “Infrastructure Corridor Property”. Report prepared by Canada Chrome Corporation. Toronto, ON. March 16, 2011. 50 p.

Sobek, A.A., Schuller, W.A., Freeman, J.R., Smith, R.M. 1978. Field and Laboratory Methods Applicable to Over burdens and Minesoils. Report EPA - 600/2 - 78 - 054, U.S. National Technical Information Report PB - 280 495.

WSP. (WSP Canada Inc.). 2024a. Physiography, Terrain and Soils Technical Support Document: Existing Conditions and Effects Assessment Report. Report prepared for AECOM Canada ULC.

WSP. (WSP Canada Inc.). 2024b. Groundwater Technical Support Document: Existing Conditions and Effects Assessment Report. Report prepared for AECOM Canada ULC.

Annex A – Soil Sampling Locations

Annex A - Soil Sampling Locations

Sample ID	Sampling Program	Northing	Easting	Depth (ft)	Sample Type
M22S008	Soil	5740056	528853	1'8"-1'12"	Organic
M22S011	Soil	5740980	513878	0'-0'11"	Soil
M22S028	Soil	5619112	524057	1'3"-4'9"	Soil
M22S032	Soil	5639735	511407	1'10"-2'6"	Organic
M22S044	Soil	5741000	531928	0'2"-0'	Soil
M22S055	Soil	5726044	577460	2'7"-3'11"	Soil
M22S096	Soil	5736895	562829	0'-2'11"	Organic
M22S127	Soil	5689124	522440	0'2"-0'	Soil
M22S154	Soil	5665568	519882	3'3"-7'3"	Organic
M22S156	Soil	5665283	519542	5'11"-7'3"	Organic
M22S161	Soil	5657962	520210	1'5"-2'2"	Soil
M22S258	Soil	5719784	524118	0'2"-0'	Soil
M22S283	Soil	5742945	519489	4'11"-5'1"	Organic
M22SAD1	Soil	5724899	527330	0'4"-0'	Soil
MW22-01-1 SS8	Groundwater	5635835	533861	25'-27'	Soil
MW22-01-2 SS4	Groundwater	5635835	533859	7'5"-12'	Soil
MW22-01-2 SS6	Groundwater	5635835	533859	15'-17'	Soil
MW22-02-1 SS5	Groundwater	5643153	532825	10'-12'	Soil
MW22-02-1 SS6	Groundwater	5643153	532825	15'-17'	Soil
MW22-02-1 SS7	Groundwater	5643153	532825	20'-22'	Soil
MW22-02-1 SS8	Groundwater	5643153	532825	25'-27'	Soil
MW22-03-1 SS3	Groundwater	5649637	534655	5'-7'	Soil
MW22-03-1 SS4	Groundwater	5649637	534655	7'5"-9'5"	Soil
MW22-03-1 SS5	Groundwater	5649637	534655	10'-12'	Soil
MW22-03-1 SS6	Groundwater	5649637	534655	15'-17'	Soil
MW22-04-1 SS6	Groundwater	5688255	522411	15'-17'	Soil
MW22-04-1 SS7	Groundwater	5688255	522411	20'-22'	Soil
MW22-04-1 SS8	Groundwater	5688255	522411	25'-27'	Soil
MW22-04-1 SS10	Groundwater	5688255	522411	35'-37'	Soil
MW22-05 SA-1	Groundwater	5719318	524958	0'-2'	Soil
MW22-05 SA-2	Groundwater	5719318	524958	2'5"-4'5"	Soil
MW22-05 SA-4	Groundwater	5719318	524958	7'5"-9'5"	Soil
MW22-05 SA-6	Groundwater	5719318	524958	12'5"-14'5"	Soil
MW22-05 SA-7	Groundwater	5719318	524958	15'-17'	Soil

Annex A - Soil Sampling Locations

MW22-06 SA-1	Groundwater	5722155	518931	0'-2'	Soil
MW22-06 SA-4	Groundwater	5722155	518931	7'5"-9'5"	Soil
MW22-06 SA-7	Groundwater	5722155	518931	20'-22'	Soil
MW22-06 SA-8	Groundwater	5722155	518931	25'-27'	Soil
MW22-06 SA-9	Groundwater	5722155	518931	30'-32'	Soil
MW22-07 SA-1	Groundwater	5725692	577429	0'-2'	Soil
MW22-07 SA-2	Groundwater	5725692	577429	2'5"-4'5"	Soil
MW22-07 SA-4	Groundwater	5725692	577429	7'5"-9'5"	Soil
MW22-07 SA-6	Groundwater	5725692	577429	15'-17'	Soil
MW22-07 SA-8	Groundwater	5725692	577429	25'-26'	Soil
MW22-08 SA-2	Groundwater	5733329	573304	2'5"-4'5"	Organic
MW22-08 SA-3	Groundwater	5733329	573304	5'-7'	Soil
MW22-08 SA-4	Groundwater	5733329	573304	7'5"-9'5"	Soil
MW22-08 SA-6	Groundwater	5733329	573304	12'5"-14'5"	Soil
MW22-08 SA-8	Groundwater	5733329	573304	17'5"-19'5"	Soil
MW22-09 SA-1	Groundwater	5737153	562644	0'-2'	Organic
MW22-09 SA-4	Groundwater	5737153	562644	7'5"-9'5"	Organic
MW22-09 SA-5	Groundwater	5737153	562644	10'-12'	Soil
MW22-09 SA-6	Groundwater	5737153	562644	12'5"-14'5"	Soil
MW22-09 SA-7	Groundwater	5737153	562644	15'-17'	Soil
MW22-10 SA-2	Groundwater	5745601	520238	2'5-4'5	Organic
MW22-10 SA-3	Groundwater	5745601	520238	5'-7'	Soil
MW22-10 SA-4	Groundwater	5745601	520238	7'5"-9'5"	Soil
MW22-10 SA-5	Groundwater	5745601	520238	10'-12'	Soil
MW22-10 SA-6	Groundwater	5745601	520238	12'-14'	Soil
MW22-11-1 SS5	Groundwater	5739754	513512	10'-12'	Soil
MW22-11-1 SS3	Groundwater	5739754	513512	5'-7'	Organic
MW22-11-1 SS4	Groundwater	5739754	513512	7'5"-9'5"	Soil
MW22-12-1 SS4	Groundwater	5706266	525053	7'5"-9'5"	Soil

Annex A - Soil Sampling Locations

MW22-12-1 SS6	Groundwater	5706266	525053	15'-17'	Soil
MW22-12-1 SS11	Groundwater	5706266	525053	30'-32'	Soil
MW22-12-1 SS12	Groundwater	5706266	525053	32'5"-33'5"	Soil
MW22-13-1 SS5	Groundwater	5688222	522424	10'-12'	Soil
MW22-13-1 SS6	Groundwater	5688222	522424	12'5"-14'5"	Soil
MW22-13-1 SS8	Groundwater	5688222	522424	17'5"-19'5"	Soil
MW22-13-1 SS10	Groundwater	5688222	522424	22'5"-24'5"	Soil
MW22-14-1 SS3	Groundwater	5670394	520343	5'-7'	Soil
MW22-14-1 SS5	Groundwater	5670394	520343	10'-12'	Soil
MW22-14-1 SS7	Groundwater	5670394	520343	15'-17'	Soil
MW22-14-1 SS8	Groundwater	5670394	520343	17'5"-19'5"	Soil
MW22-15-1 SS2	Groundwater	5642700	519178	2'5"-4'5"	Soil
MW22-15-1 SS4	Groundwater	5642700	519178	7'5"-8'9"	Soil
MW22-15-1 SS5	Groundwater	5642700	519178	10'-11'	Soil
MW23-15-1 SA1	Groundwater	5642700	519178	13'6"-15'3"	Bedrock
MW23-15-1 SA2	Groundwater	5642700	519178	16'-18'1"	Bedrock
MW23-15-1 SA3	Groundwater	5642700	519178	18'1"-19'7"	Bedrock
MW22-15-2 SS6	Groundwater	5642699	519179	12'5"-13'4"	Soil
MW22-15-4 SS1	Groundwater	5642740	519177	0'-3'	Organic
MW22-15-4 SS2	Groundwater	5642740	519177	5'-7'	Soil
MW23-16-1 SA1	Groundwater	5622159	523068	10'10"-12'10"	Bedrock
MW23-16-1 SA2	Groundwater	5622159	523068	15'-17'	Bedrock
MW23-16-1 SA3	Groundwater	5622159	523068	19'7"-21'7"	Bedrock
MW22-16-02 SA2	Groundwater	5622158	523066	2'6"-4'6"	Soil
MW22-16-02 SA4	Groundwater	5622158	523066	7'6"-9'6"	Soil
MW23-17-1 SA3	Groundwater	5639873	511829	5'-6'6"	Soil
MW23-17-1 SA4	Groundwater	5639873	511829	7'6"-9'	Soil
MW23-17-1 SA5	Groundwater	5639873	511829	10'-11'16"	Soil
MW23-17-1 SA7	Groundwater	5639873	511829	14'6"-15'2"	Bedrock
MW23-17-1 SA8	Groundwater	5639873	511829	15'2"-19'2"	Bedrock
MW23-17-1 SA9	Groundwater	5639873	511829	19'2"-20'8"	Bedrock
MW23-18-1 SA1	Groundwater	5627099	519832	1'6"-2'	Soil
MW23-18-1 SA2	Groundwater	5627099	519832	2'6"-3'9"	Soil
MW23-18-1 SA3	Groundwater	5627099	519832	4'-5'	Bedrock
MW23-18-1 SA4	Groundwater	5627099	519832	8'-10'	Bedrock
MW23-18-1 SA5	Groundwater	5627099	519832	16'-18'	Bedrock

Annex A - Soil Sampling Locations

MW23-18-1 SA6	Groundwater	5627099	519832	19'-20'8"	Bedrock
MW22-19-01-AS1	Groundwater	5663323	519839	0'-2'6"	Soil
MW22-19-01-SA2B	Groundwater	5663323	519839	2'6"-4'6"	Soil
MW22-19-01-SA3	Groundwater	5663323	519839	5'-7'	Soil
MW22-19-01-SA4	Groundwater	5663323	519839	10'-11'6"	Soil
MW22-19-01-SA5	Groundwater	5663323	519839	15'-16'6"	Soil
MW22-20-01-SA1	Groundwater	5658524	519829	0'-2'6"	Organic
MW22-20-01-SA3	Groundwater	5658524	519829	5'-6'6"	Soil
MW22-20-01	Groundwater	5658524	519829	12'5"-13'1"	Bedrock

Annex A - Soil Sampling Locations

Sample Description

Surficial Material: Organic, Soil Subgroup: Terric Mesisol, Soil Horizon: Oh
Surficial Material: Lacustrine, Soil Subgroup: Reg Gleysol, Soil Horizon: Ah
Surficial Material: Glaciolacustrine, Soil Subgroup: Dark Gray Luvisol, Soil Horizon: C
Surficial Material: Organic, Soil Subgroup: Terric Fibric Mesisol, Soil Horizon: Om
Surficial Material: Fluvial, Soil Subgroup: Rego Gleysol, Soil Horizon: L
Surficial Material: Fluvial, Soil Subgroup: Gleyed Gray Luvisol, Soil Horizon: IICkgj
Surficial Material: Organic, Soil Subgroup: Terric Mesisol, Soil Horizon: Om
Surficial Material: Glaciolacustrine, Soil Subgroup: Orthic Gray Luvisol, Soil Horizon: F
Surficial Material: Organic, Soil Subgroup: Fibric Mesisol, Soil Horizon: Of
Surficial Material: Organic, Soil Subgroup: Typic Fibrisol, Soil Horizon: Oco
Surficial Material: Glaciolacustrine, Soil Subgroup: Solonetzin Gray Luvisol, Soil Horizon: Ck
Surficial Material: Glaciolacustrine, Soil Subgroup: Orthic Gray Luvisol, Soil Horizon: F
Surficial Material: Organic, Soil Subgroup: Mesic Fibrisol, Soil Horizon: C
Surficial Material: Glaciofluvial, Soil Subgroup: Eluviated Dystric Brunisol, Soil Horizon: F
Grey to beige, silty-sand, some gravel, trace clay, compact.
Grey silty-clay to clay, trace sand, high plasticity, wet.
Grey to beige, silty-sand, some gravel, trace clay, wet, water bearing layer.
Beige, silty-sand, some clay, moist, with some organic matter.
Grey silty clay with sand some pebbles, moist, loose, grey silty sand some clay, oxidised, moist
Grey silty-sand, some clay, medium to coarse sand, wet compact; fine sand some clay, wet.
Silty clay with sand, grey, wet; grey silty sand, some clay, coarse to medium, wet, hard.
Silty clay with sand, coarse grain, moist, soft.
Grey to beige silty clay, trace sand, moist, firm.
Grey clay, some silt, trace sand, moist, soft.
Grey clay, some silt, trace sand.
Silty-sand, beige, moist, compact, moist to wet.
Silty sand, beige, moist, compact, wet.
Silty sand, beige, moist, compact, wet.
Silty sand, beige, moist, compact, wet.
Silty sand, gravel, light brown, compact, moist.
Silty sand, till, trace clay, gravel. Once wetted had a grey/brown colour with with reddish brown, moist, compact.
Silty sand, becoming sandier with depth, fine sand with some red sand at the bottom with fine gravel, grey brown, moist, compact to dense.
Sandy silt till, trace gravel, light brown-grey moist, dense, trace fine red sand thick laminations.
Silt with some fine sand, trace clay light brown-grey, moist compact.

Annex A - Soil Sampling Locations

Fine to medium sand with silt, trace gravel, trace rootlets/organics, light brown to reddish-brown, dry to moist, loose.

Fine to medium sand, trace gravel, trace silt, red, brown, moist, loose, poorly sorted sand with trace gravel, trace silt, grey-brown, moist, compact.

Poorly sorted sand, trace to some gravel, trace silt, medium grey brown, wet, dense.

Poorly sorted sand, trace to some gravel, trace silt, med grey-brown, wet, compact to dense.

Poorly sorted sand, trace gravel, trace silt, medium grey-brown, wet, dense, lower 8" are finer grained.

Fine sand with silt, trace to some gravel, trace rootlets, light grey to red brown, coarser with depth, dry, loose.

Sandy silt, trace gravel, light brown-grey, moist, loose to compact.

Fine sand, some silt, trace silty beds (within), moist, loose to compact.

Fine sandy silt, trace gravel/coarse sand, light grey-brown, trace fine sand laminations, wet, compact to dense.

Clayey silt, (till), trace gravel, light to medium brown-grey, thin laminations in places, moist, stiff to unstiff.

Organic material, dark brown with tan wood chips; tan clay, trace gravel, sub angular; dark brown silt, soft, trace organics.

Tan clay, medium plasticity, trace gravel, subangular, stiff, wet.

Tan clay, medium plasticity, dense, trace silt, trace gravel, subangular, wet.

Tan silt, trace clay, not too low plasticity, wet; tan clay med plasticity, stiff, little gravel, wet

Tan clay, medium plasticity, little gravel, subangular, stiff, trace silt, wet.

Dark brown organic matter, silt with some roots, moist, loose, no plasticity.

Dark brown organic matter with some roots, silt, loose, no plasticity, moist; dark tan clay, medium plasticity, trace gravel, sub-rounded, moist; tan silt, no plasticity, stiff, few gravel, sub rounded, wet; tan clay, med plasticity, firm, trace gravel, sub-rounded, dark brown staining bands.

Tan silt with gravel, soft, no plasticity, sub angular, wet; tan clay, med plasticity, stiff to very stiff, few gravel, sub-angular, moist; tan brown silt with gravel, compacted, very dense, sub angular, no plasticity, dry.

Tan brown silt with gravel, compacted, very dense, sub angular, no plasticity, dry.

Tan silt with gravel, sub-angular, compacted, no plasticity, wet-moist.

Brown silt, mottled dark brown/black throughout, trace clay, no plasticity, soft 'crumbly' texture, moist; light tan clay, med plasticity, few gravel, sub-angular, stiff, moist.

Brown silt, mottled dark brown/black throughout, trace clay, no plasticity, soft 'crumbly' texture, moist; light tan clay, med plasticity, few gravel, sub-angular, stiff, moist.

Brown silt, mottled dark brown/black throughout, trace clay, no plasticity, soft 'crumbly' texture, moist; light tan clay, med plasticity, few gravel, sub-angular, stiff, moist.

Light tan silt, no plasticity, few gravel, subangular, stiff, wet at top, moist afterwards; tan clay, medium plasticity, mottled dark brown, yellowish brown, few gravel, subangular, moist/wet; tan silt, few gravel subangular, no plasticity, trace clay, few dark yellowish brown striations, wet, stiff, slightly compacted.

Sand, coarse grained with gravel, sub-angular, loose, wet; tan silty clay, low plasticity, stiff, trace gravel, sub-angular, wet.

Silty sand, with gravel, grey coarse to fine sand, wet.

Dark brown organic, some sand and silt.

Silty sand, low plasticity, wet.

Grey silty clay, very plastic, wet.

Annex A - Soil Sampling Locations

Silty clay, grey trace sand, wet, very plastic.
Silty sand, grey trace clay, wet, slightly plastic.
Silty sand, till-like, grey, wet, slightly plastic.
Silty sand, some organics, trace clay, dark brown to grey, cohesive slight plasticity, soft, moist.
Sand, trace silt, trace clay, grey, cohesive, slight plasticity, soft, wet.
Sand, trace silt, trace clay, grey, cohesive, slight plasticity, soft, wet.
Sand, trace silt, trace clay, grey, cohesive, slight plasticity, soft, wet.
Sand trace clay, trace silt, trace cobbles, brown, no odour, no staining, till-like at 6'10", moist.
Silty sand, till-like, trace gravel, brown, no odour, no staining, wet.
Clayey sand, some silt, trace gravel, brown, no odour, no staining, cohesive.
Gravelly sand, trace silt, brown, no odour, no staining, loose, wet.
Light brown, moist, comp. sisagr (till), no odour, no staining, not frozen.
Auger refusal, light brown dense, moist sisagr (till), no odour, no staining.
Light brown, moist, dense, sisagr are till, refusal on cobbles, no odour, no staining.
Granitic with Quartz
Granitic with Quartz
Granitic with Quartz
Light brown, moist, dense sisagr till, no staining.
Dark brown, frozen, then loose peat/organics.
Becoming denser with cobbles/boulders.
Grey-granitic bedrock, fractured.
Grey-granitic bedrock, fractured.
Quartz, with green and pink.
Silt and clay, 1" sand seam, light brown transitioning to grey.
Medium black and some gravel, lots of nice flakes, moist, getting more compacted.
Silty sand , trace gravel, brown, wet.
Gravelly sand, some silt, brown, wet.
Sandy gravel, some silt, brown, wet.
No desctription available.
No desctription available.
No desctription available.
Sandy, silt, trace clay.
Silty sand, trace gravel.
Fractured bed rock, possible cobbles/weathered bedrock into bedrock.
Fractured bedrock, driller noted easier drillings.
Core more competent, granitic with quartz/pink.

Annex A - Soil Sampling Locations

Core more competent, granitic with quartz/pink.
Brown clayey silt, some sand, moist.
Medium to coarse sand, wet, some gravel, brown.
Coarse sand and gravel, wet, some silt, brown/grey.
Medium sandy-silt to clay, some compact gravel, till, wet.
Medium to coarse gravel, trace sand, angular to sub-rounded, wet.
Wet organic top soil, dark brown to black.
Grey, wet, silty clay, soft.
Sandy, weathered infill with quartz and mica, some rusting in fracture. Granodiorite (?), fine to medium grained, becoming more coarse and darker grey with depth.

Annex B – Sample Photos

Sample ID: M22S008

Soil Sample Photos

Sample ID: M22S011

Soil Sample Photos

Sample ID: M22S028

Soil Sample Photos

Sample ID: M22S028

Soil Sample Photos

Sample ID: M22S028

Soil Sample Photos

Sample ID: M22S028

Soil Sample Photos

Sample ID: M22S032

Soil Sample Photos

Sample ID: M22S032

Soil Sample Photos

Sample ID: M22S032

Soil Sample Photos

Sample ID: M22S055

Soil Sample Photos

Sample ID: M22S096

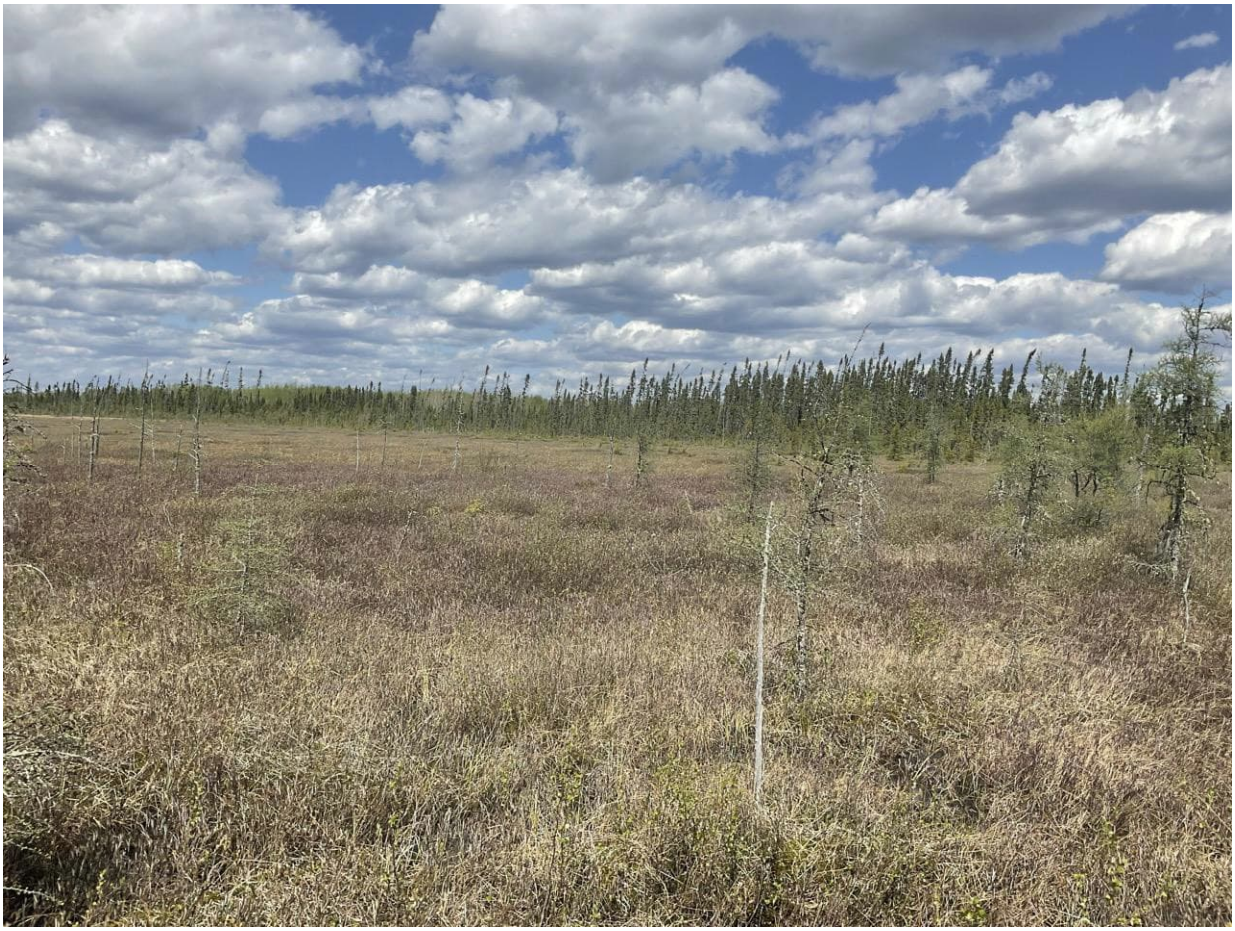
Soil Sample Photos

Sample ID: M22S096

Soil Sample Photos

Sample ID: M22S096

Soil Sample Photos

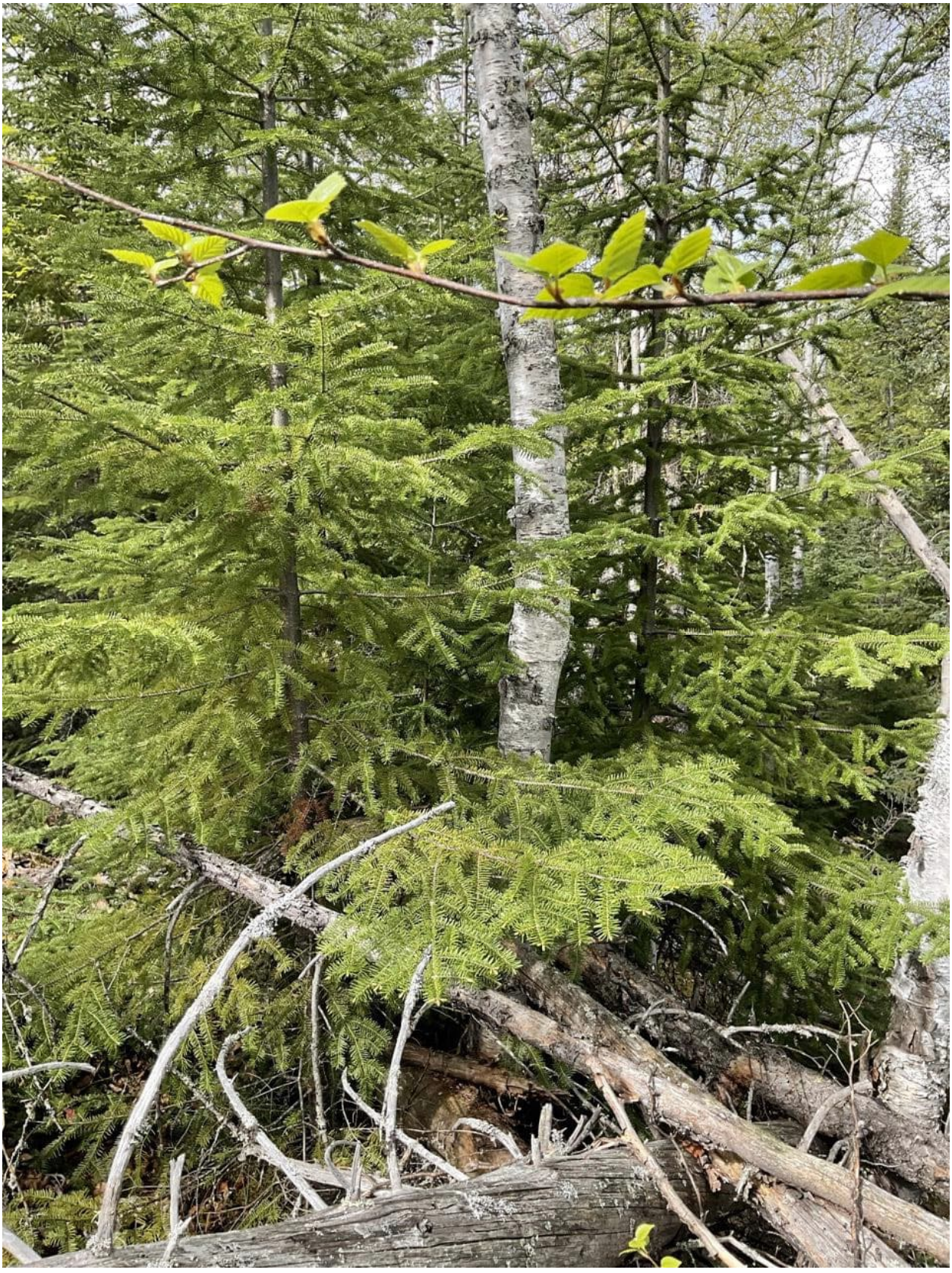


Sample ID: M22SAD1

Soil Sample Photos

Sample ID: M22SAD1

Soil Sample Photos



Sample ID: M22SAD1

Soil Sample Photos

Sample ID: M22SAD1

Soil Sample Photos

Sample ID: M22SAD1

Soil Sample Photos

2145515
MW01-01
0-2.0
Sep 09, 2022

2145515
MW01-01
2.5'-4.5'
Sep 09, 2022

2145515
MW01-
5 7.0' SS3
Sep 09, 2022

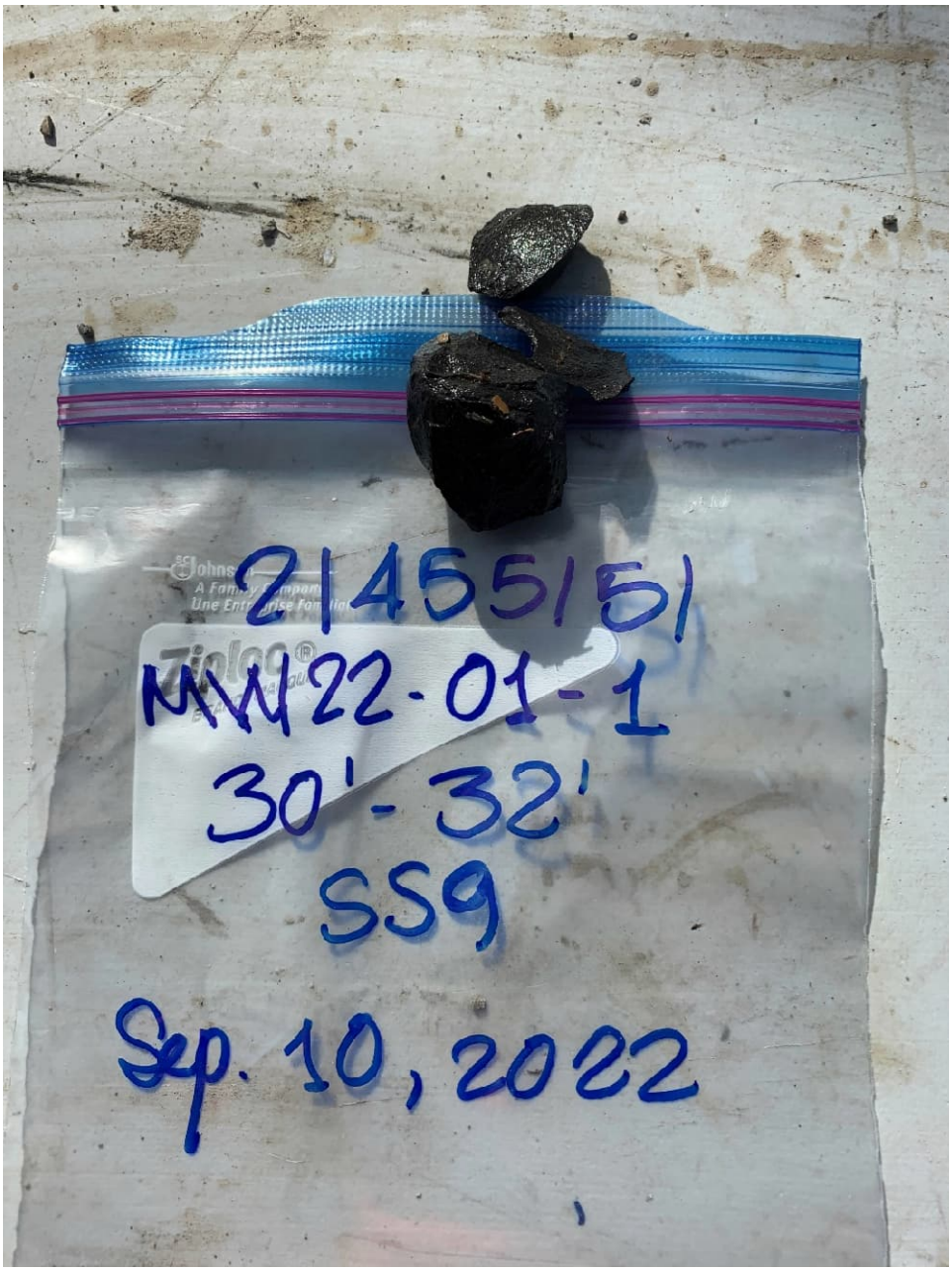
2145515
MW01-
7.5-9.0' SS4
Sep 09, 2022

2145515/
MW01-1
10'-12'
SS5
Sep09, 2022

21455151
MW01-1
15'-17'
SS6
Sep09, 2022

2145515
MW22-01-1
20'-22'
SS7
Sep.10,2022

21455151
MW22-01-1
25'-27'
SS8
Sep.10,2022


2145151
MW22-01-1
30'-32'
SS9
Sep. 10, 2022

21455151
MW22-02-2
0 - 2'
SS1
Sep. 12, 2022

21455151
MW22-02-1
5.0' - 7.0'
SS3
Sep. , 2022

21455151
MW22-02-1
2.5'-4.5'
SS2
Sep. 11, 2022

21455151
MW22-02-1
7.5'-9.5'
SS4
Sep. 12, 2022

2145515
MW22-02-1
10'-12'
SS5
Sep. 12, 2022

2145515
MW22-02-1
15'-17'
SS6
Sep. 12, 2022

21455151
MW22-02-1
20'-22'
SS7
Sep. 12, 2022

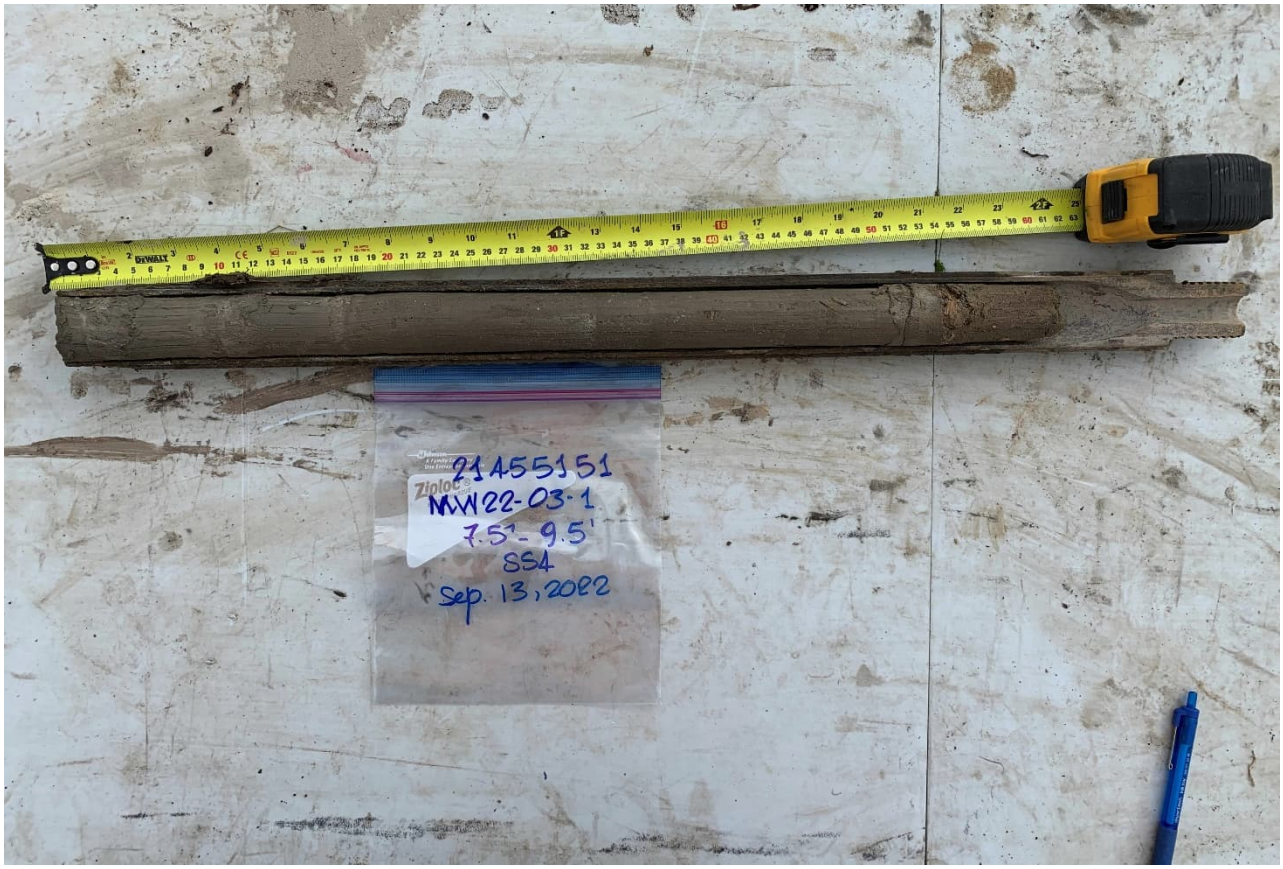
21455151
MW22-02-1
25'-27'
SS8
Sep. 12, 2022

21455151
MW22-03-2
0-2'
SS1
Sep. 14, 2022

21455151
MW22-03-1
0-2'
SS1
Sep. 13, 2022

21455151
MW22-03-1
2.5'-4.5'
SS2
Sep. 13, 2022

21455151
MW22-03-1
5.0'-7.0'
SS3
Sep. 13, 2022


2145515 1
MW22-03-1
7.5'-9.5'
SS4
Sep. 13, 2022

2145515 1
MW22-03-1
10'-12'
SS5
Sep. 13, 2022

21455151
MW22-04-1
0-2'
SS1
Sep. 16, 2022

DEWALT
A Family Company
Une Entreprise Familiale
21455157

21455151
MW22-04-1
2.5'-4.5'
SS2
Sep. 16, 2022

DEWALT

21455151
MW22-04-1
5.0'-7.0'
SS3
Sep. 16, 2022

21455151
MW22-04-1
5.0'-7.0'
SS3
Sep. 16, 2022

2145151
MW22-04-1
7.5'-9.5'
SS4
Sep. 16, 2022

2145151
MW22-04-1
10'-12'
SS5
Sep. 16, 2022

21455151
MW22-04-1
15'-17'
SS6
Sep. 16, 2022

21455151
MW22-04-1
20'-22'
SS7
Sep. 16, 2022

21455151
MW22-04-1
25'-27'
SS8
Sep. 16, 2022

21455151
MW22-04-1
30'-32'
SS9
Sep. 16, 2022

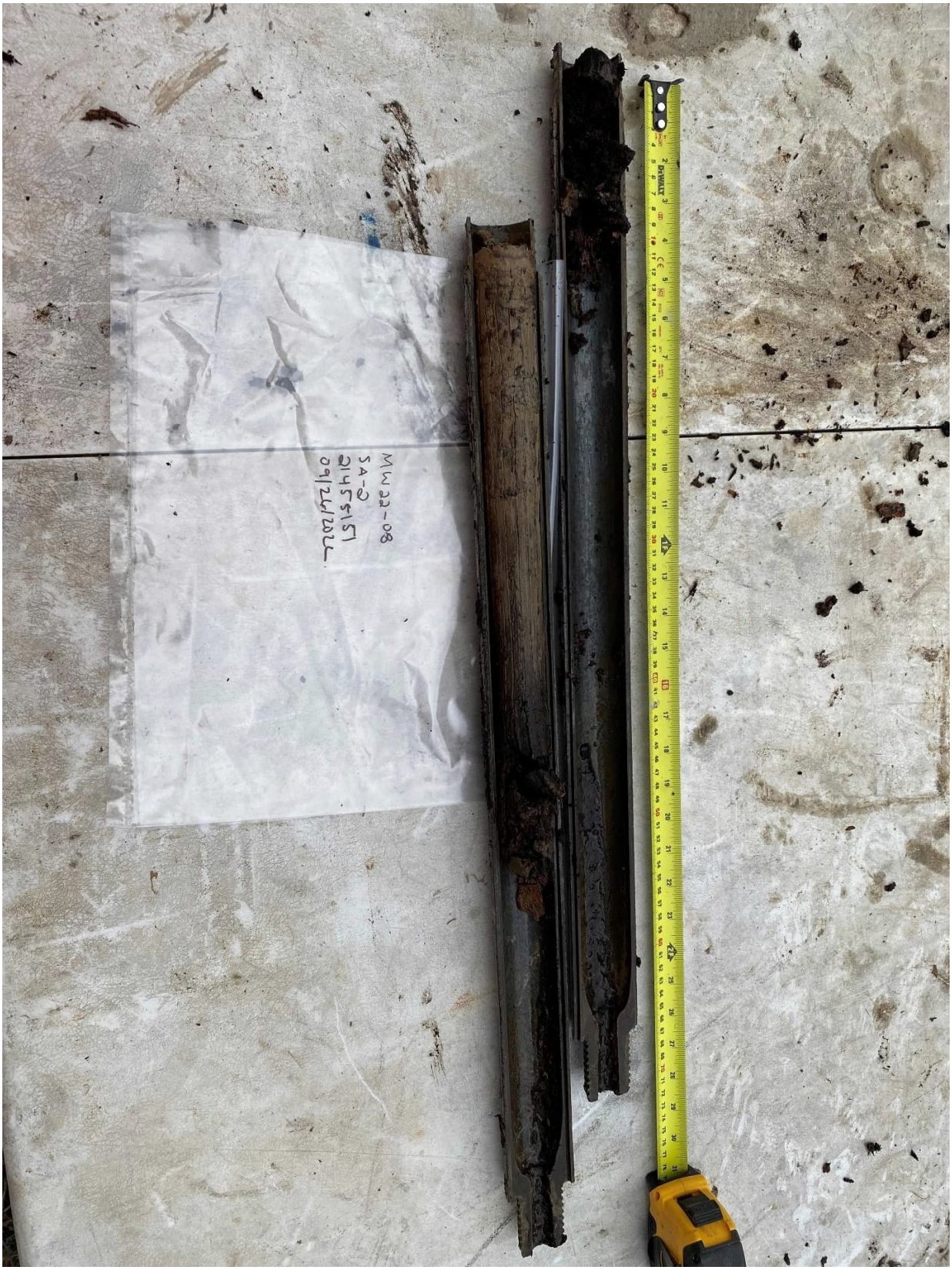
Sample ID: MW22-07 (Site 1A)

Groundwater Borehole Sample Photos

Sample ID: MW22-07 (Site 1A)

Groundwater Borehole Sample Photos

MW22-08
SA-1
21455151
09/26/2022


MW22-08
SA-2
21455151
09/24/2024

Sample ID: MW22-08 (Site 21)

Groundwater Borehole Sample Photos

MW22-08
SA-4
21-45151
09/26/2022

MW22-08
SA-5
2145-151
09/26/2022

Sample ID: MW22-08 (Site 21)

Groundwater Borehole Sample Photos

Sample ID: MW22-08 (Site 21)

Groundwater Borehole Sample Photos

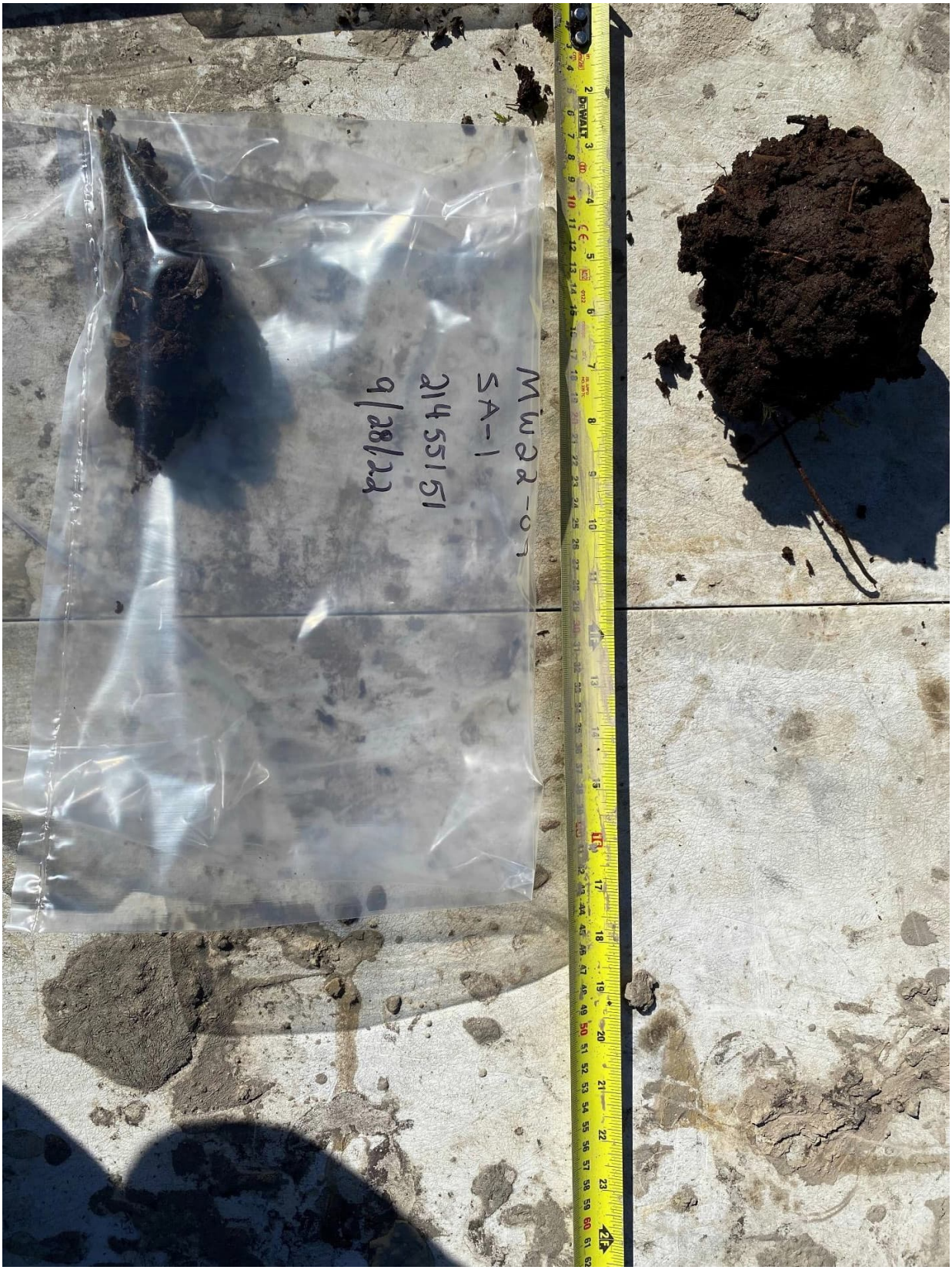
MW22-08
SA-7
9145151
9/26/2022

Sample ID: MW22-08 (Site 21)

Groundwater Borehole Sample Photos

Sample ID: MW22-09 (Site 25)

Groundwater Borehole Sample Photos


MW22-09
SA-1
2145151
9/28/22

MW22-09
SA-2
2145515
9/28/22

MW22-09
SA-3
21455151
9/28/22

MW22-09
SA-4
9/26/22

MW22-09
SA-5
2455151
4/08/22

MW22-09
SA-6
2,457,571
9/22/2022

MW22-09
SA-7
21455151
9/20/2022

Sample ID: MW22-09 (Site 25)

Groundwater Borehole Sample Photos

MW22-10
-
2145151
SA-1
-
10/2/22

MW22-10
SA-2
10/7/22

MW22-10
SA-3
214551-51
10/2/22

MW22-10
SA-4
10/12/22
1515hrs

Sample ID: MW22-10 (Site 23)

Groundwater Borehole Sample Photos

Sample ID: MW22-10 (Site 23)

Groundwater Borehole Sample Photos

Sample ID: MW22-11 (Site 20)

Groundwater Borehole Sample Photos

Sample ID: MW22-11 (Site 20)

Groundwater Borehole Sample Photos

13'6"
18' 1"
DEWALT

N41 10'

MW22-11
19'7"
19'7"

28 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154
51 52 53 54 55 56 57 58 59

#HAULER

WASAYA

MW22-11-1
50.70
SS3
Oct. 14, 2022

Sample ID: MW22-11 (Site 20)

Groundwater Borehole Sample Photos

MW22-11-1
7.5-9.5'
SS4
Oct. 14, 2022

Sample ID: MW22-11 (Site 20)

Groundwater Borehole Sample Photos

MW22-11
SS5
Oct. 14, 2022

Sample ID: MW22-11 (Site 20)

Groundwater Borehole Sample Photos

Sample ID: MW22-12 (Site 2)

Groundwater Borehole Sample Photos

Sample ID: MW22-12 (Site 2)

Groundwater Borehole Sample Photos

2145515
MW22-12-1
SS12
32.5'-37.5'

Sample ID: MW22-12 (Site 2)

Groundwater Borehole Sample Photos

Ziploc
21455151
MW22-13-1
0.0' - 2.0'
Nov 21, 2022
SSI
DEWALT

Ziploc
21455151
MW22-13-2
2.5'-4.5'
SS2
Nov 21, 2022

Ziploc
2145551
MW22-13-1
5.0' - 7.0'
Nov 21, 202
SS3

Ziploc
2145515
MW22-13-1
7.5' - 9.5'
SS4
Nov 21, 2022

Ziploc
2145515
MW22-13-1
12.5'-14.5'
SS6
Nov. 21 2022

Ziploc
21455151
MW22-14-1
0.0'-2.0'
Nov 2022
SS1

2145515I
MW22-14-1
2.5'-4.5'
SS2
NOV 2022

21455151
MW22-14-1
5.0'-7.0'
SS3
Nov. 2022

21455151
MW22-14-1
7.5'-9.5'
SS4
Nov. 2022

21455151
MW22-14-1
7.5'-9.5'
SS4
Nov. 2022

21455151
MW22-14-1
10.0'-12.0'
SS5
Nov. 2022

21455151
MW22-14-1
12.5'-14.5'
SS6
Nov. 2022

21455151
MW22-14-1
15.0'-17.0'
SS7
Nov. 2022

21455151
MW22-14-1
17.5'-19.5'
SS8
Nov. 2022

Sample ID: MW22-14 (Site 10)

Groundwater Borehole Sample Photos

Sample ID: MW22-16-1 (Site 6)

Groundwater Borehole Sample Photos

Sample ID: MW22-16-1 (Site 6)

Groundwater Borehole Sample Photos

Sample ID: MW22-16-1 (Site 6)

Groundwater Borehole Sample Photos

Sample ID: MW22-16-1 (Site 6)

Groundwater Borehole Sample Photos

Sample ID: MW22-16-1 (Site 6)

Groundwater Borehole Sample Photos

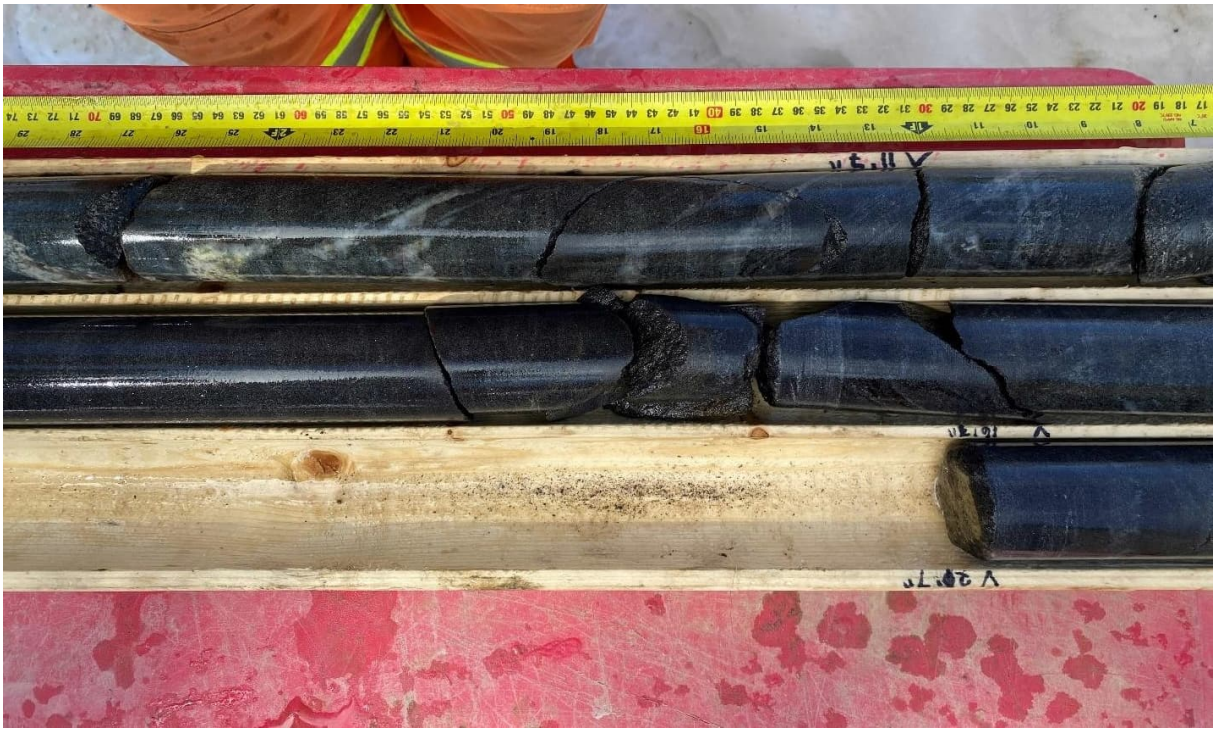
DEWALT

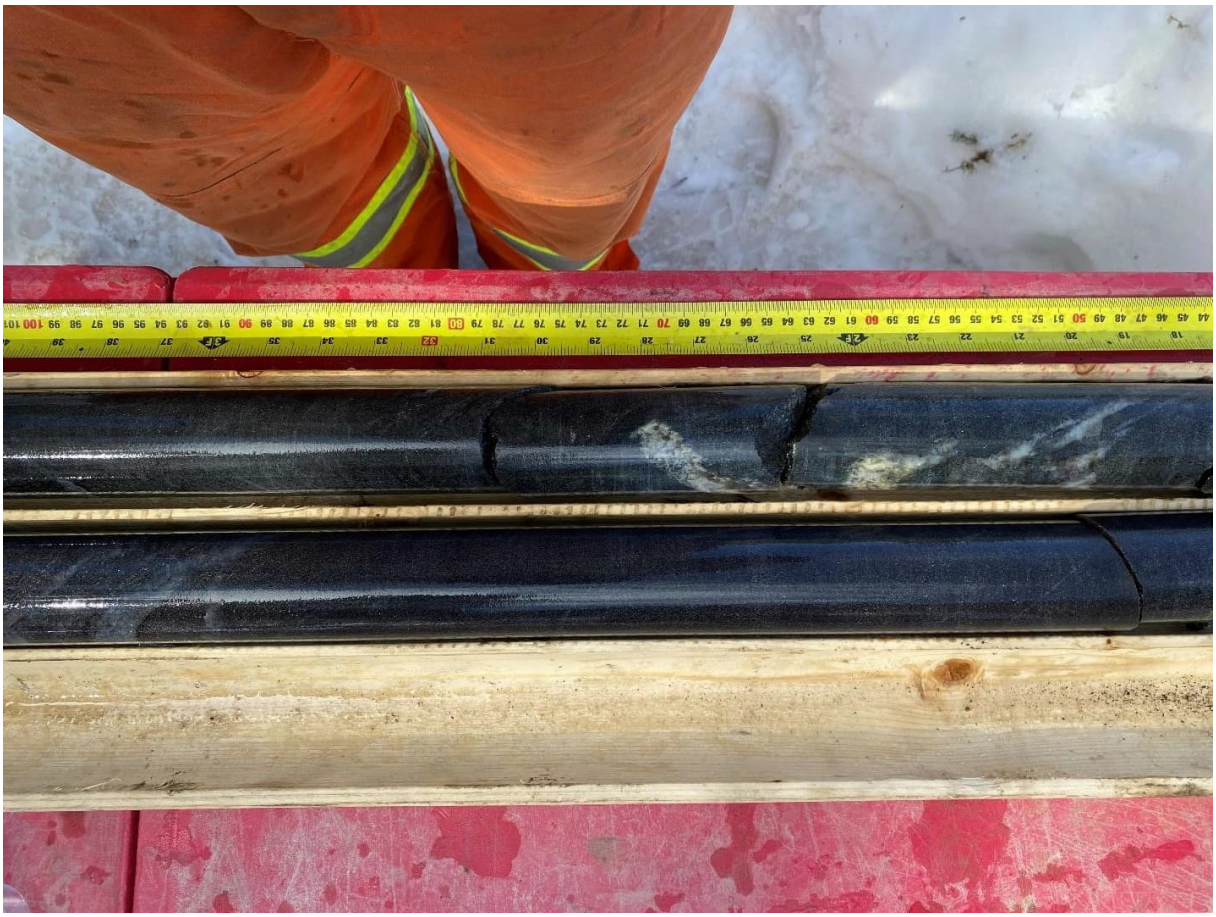
Sample ID: MW22-16-1 (Site 6)

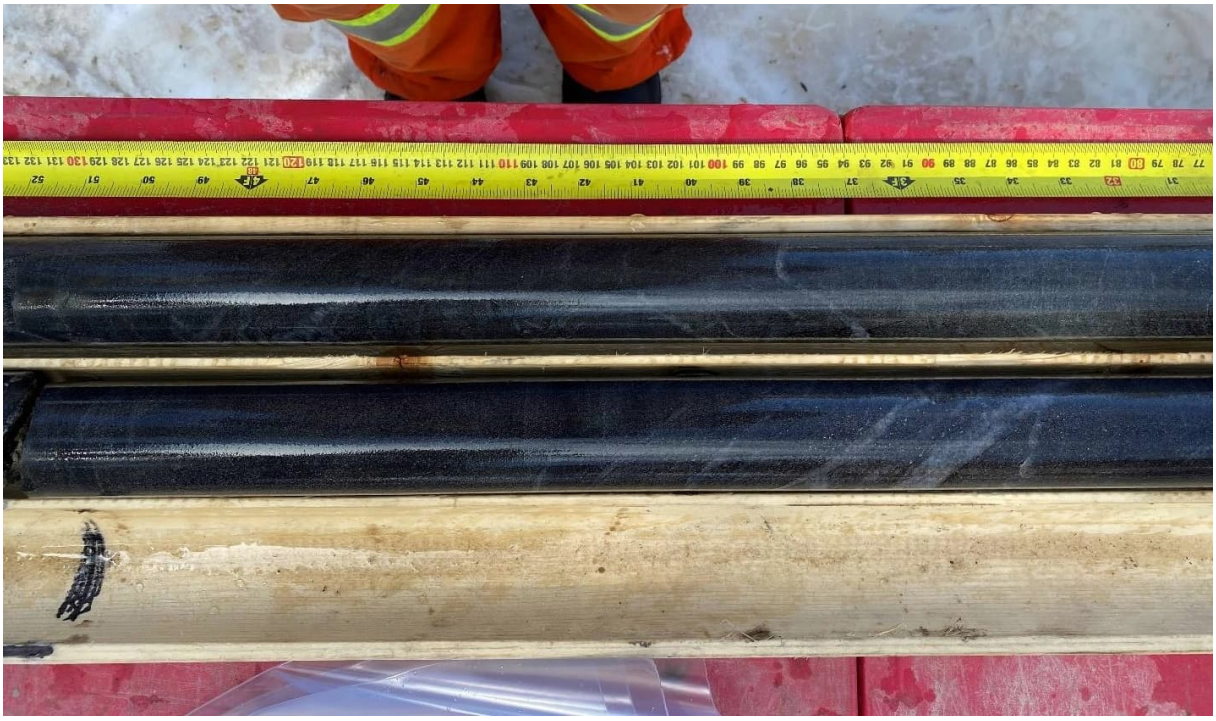
Groundwater Borehole Sample Photos

Sample ID: MW22-16-1 (Site 6)

Groundwater Borehole Sample Photos







10'10"
16'
20'11"

MFFN- MW22-16-1
21455151 26/04/23
SA3
19'7" to 21'7"
MW22-16-1 MFFN
21455151 26/04/23
SA2
15' to 17'
MW22-16-1 MFFN
21455151 26/04/23
SA1
10'10" to 12'10"

DEWALT

DEWALT

13'6"
18'1"
DEWALT

1'4" long

Sample ID: MW23-15-1 (Site 16)

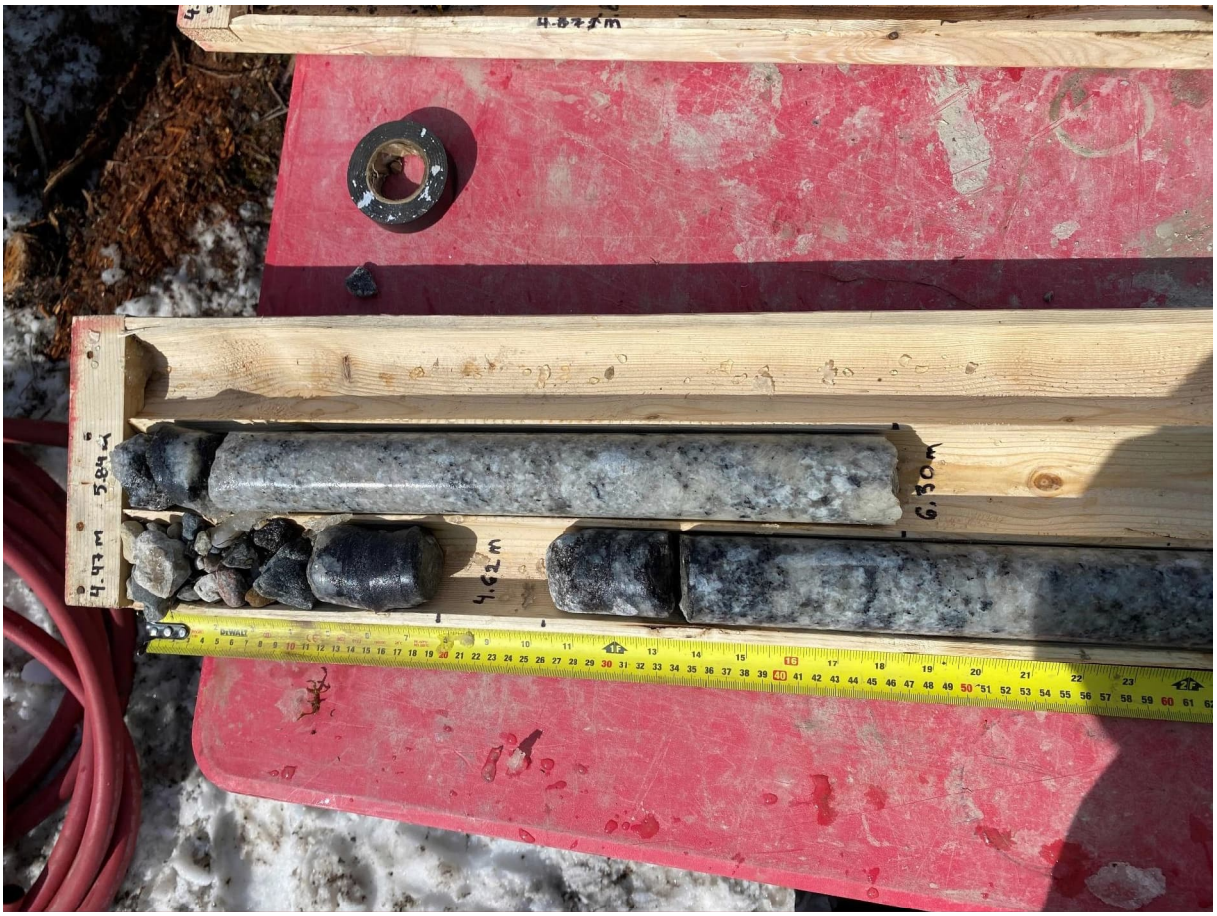
Groundwater Borehole Sample Photos

MW15-1 MFFN
20/04/23 SA3
MW 15-1 MFFN
20/04/23 SA1
13'6" to 15'3"
MW15-1 MFFN
20/04/23 SA2
16'8" to 18'1"

4.72
5.03m

Sample ID: MW23-17-1 (Site 27)

Groundwater Borehole Sample Photos

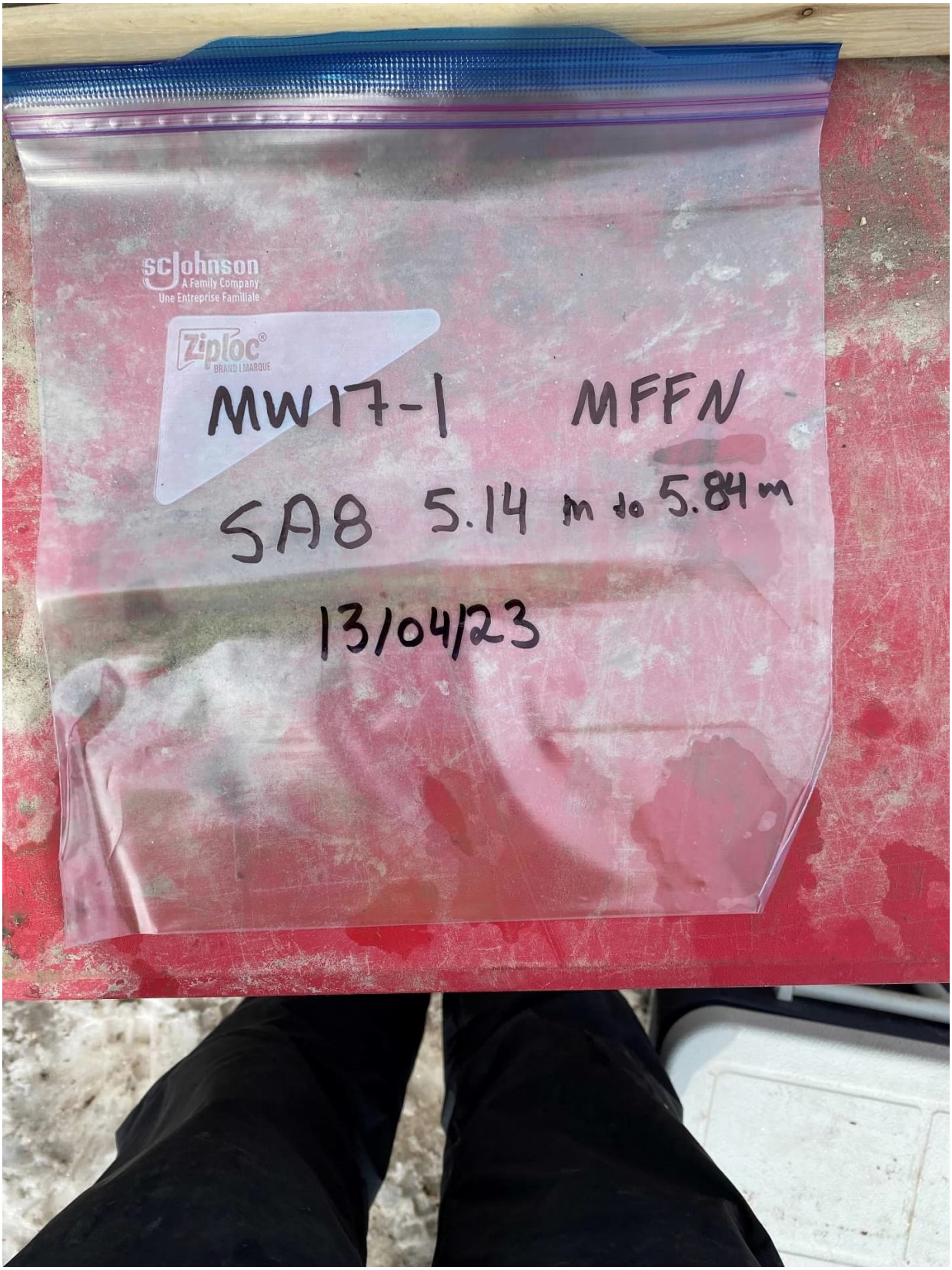


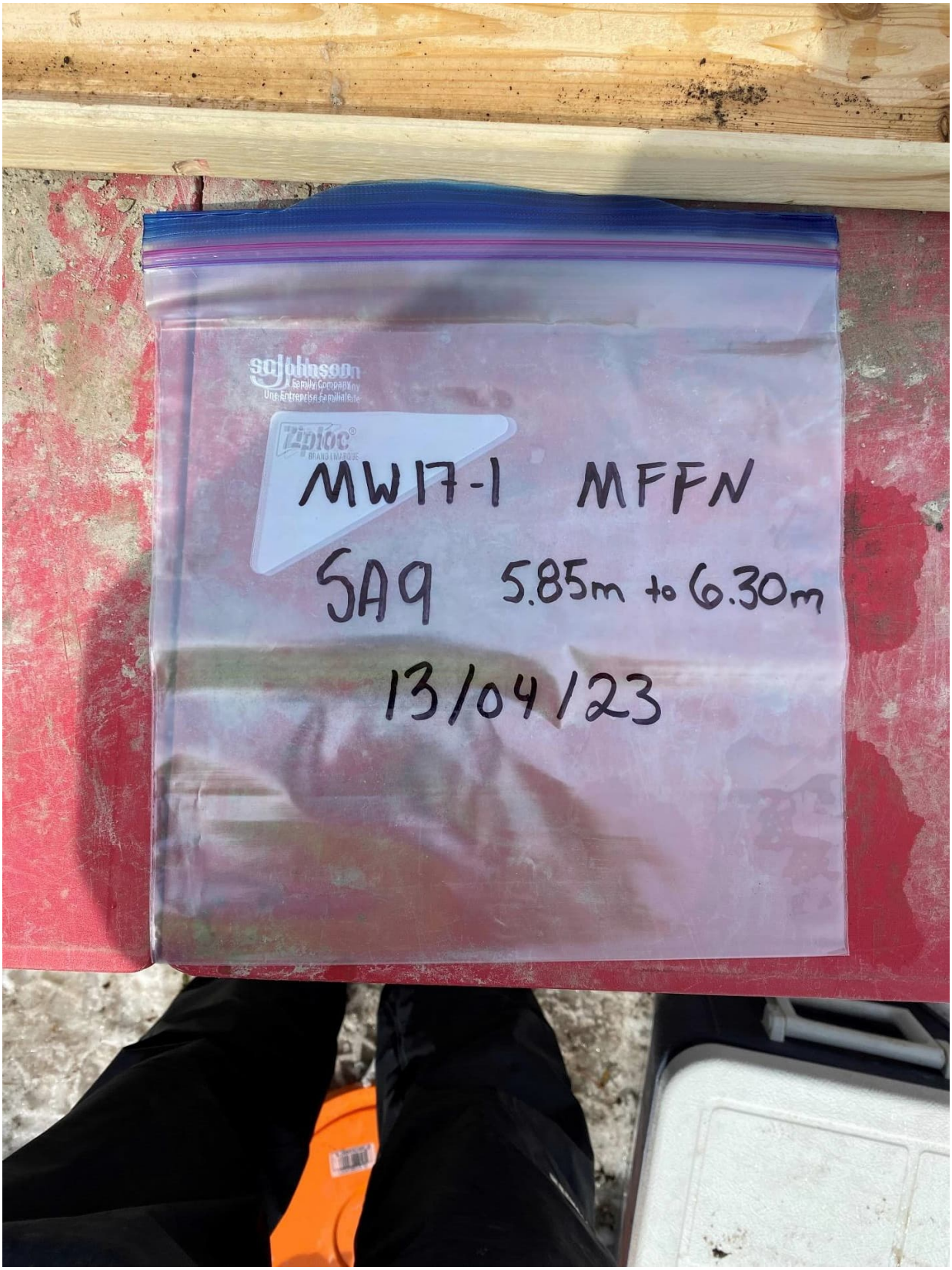
Sample ID: MW23-17-1 (Site 27)

Groundwater Borehole Sample Photos

Sample ID: MW23-17-1 (Site 27)

Groundwater Borehole Sample Photos


scJohnson
A Family Company
Une Entreprise Familiale
Ziploc
BRAND | MARQUE
MW17-1 MFFN
SA8 5.14 m to 5.84 m
13/04/23


MW17-1 MFFN
SAQ 5.85m to 6.30m
13/04/23

Sample ID: MW23-17-1 (Site 27)

Groundwater Borehole Sample Photos

MW17-1 SA2
2'6" to 4'
12/04/23

MW 17-1 SA3
MFFN 5'6"6"
12/04/23

MW17-1 SA4
MFFN 7'6" to 9'
12/04/23

MW17-1 MFFN
SA5 10' to 11'6"
12/04/23

MW17-1 MFFN
SA6 15' to 16'6"
12/04/23

Sample ID: MW23-18-1 (Site 15)

Groundwater Borehole Sample Photos

Sample ID: MW23-18-1 (Site 15)

Groundwater Borehole Sample Photos

Sample ID: MW23-18-1 (Site 15)

Groundwater Borehole Sample Photos

Sample ID: MW23-18-1 (Site 15)

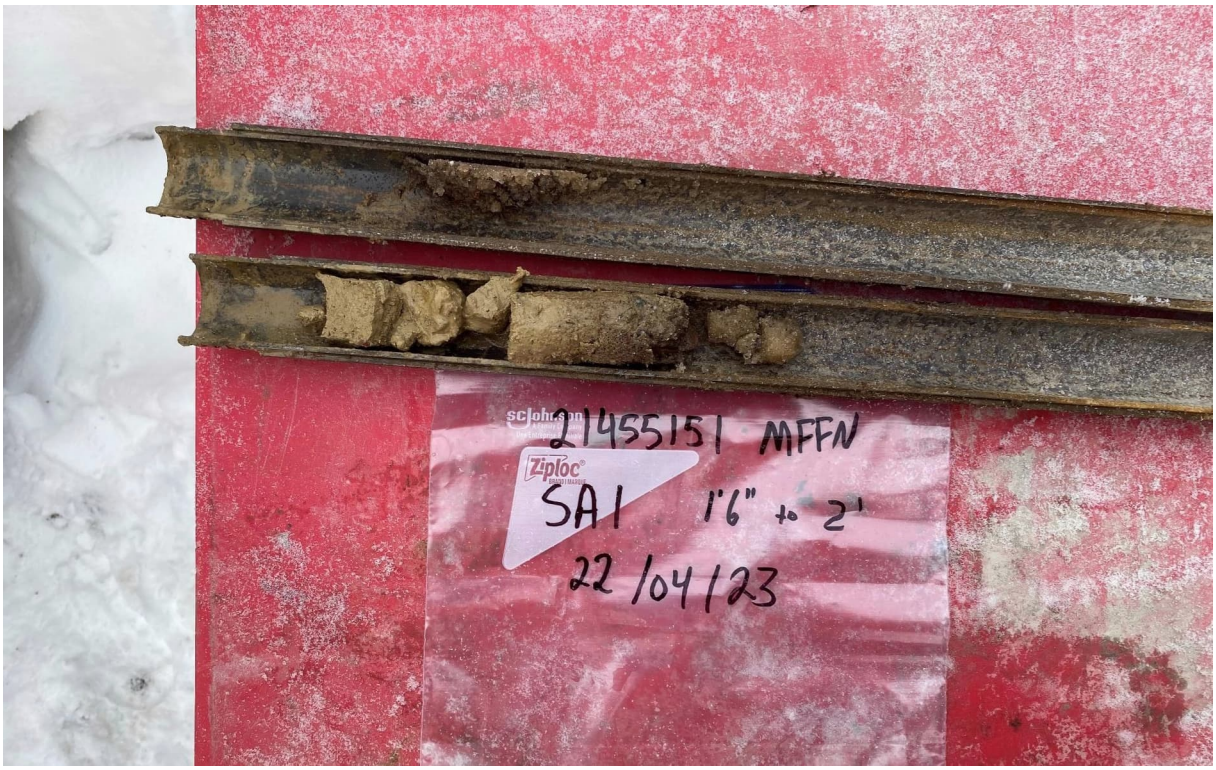
Groundwater Borehole Sample Photos

Sample ID: MW23-18-1 (Site 15)

Groundwater Borehole Sample Photos

Sample ID: MW23-18-1 (Site 15)

Groundwater Borehole Sample Photos



Sample ID: MW23-18-2 (Site 15)

Groundwater Borehole Sample Photos

Sample ID: MW23-19 (Site 6)

Groundwater Borehole Sample Photos

Sample ID: MW23-19 (Site 6)

Groundwater Borehole Sample Photos

Sample ID: MW23-20 (Site 7)

Groundwater Borehole Sample Photos

Sample ID: MW23-20 (Site 7)

Groundwater Borehole Sample Photos

Sample ID: MW23-20 (Site 7)

Groundwater Borehole Sample Photos

Sample ID: MW23-20 (Site 7)

Groundwater Borehole Sample Photos

Sample ID: MW23-20 (Site 7)

Groundwater Borehole Sample Photos

Sample ID: MW23-20 (Site 7)

Groundwater Borehole Sample Photos

Annex C – Certificates of Analysis

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Laura Colgrove

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

ABA - Modified Sobek

Project : PO# 2200-2207

22-July-2022

Date Rec. : 28 June 2022
LR Report: **CA19115-JUN22**
Reference: Marten Falls 21455151

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: M225258-GE OCHEM	6: M225011-GE OCHEM	7: M225044-GE OCHEM	8: M225283-GE OCHEM	9: M225028-GE OCHEM
Sample Date & Time					N/A	N/A	N/A	N/A	N/A
Paste pH [no unit]	04-Jul-22	08:30	05-Jul-22	13:44	7.27	5.64	6.64	5.70	7.81
Fizz Rate [no unit]	04-Jul-22	08:30	05-Jul-22	13:44	4	2	1	1	4
Sample weight [g]	04-Jul-22	08:30	05-Jul-22	13:44	1.98	1.99	2.02	2.00	2.01
HCl_add [mL]	05-Jul-22	06:30	05-Jul-22	13:44	75.00	20.00	20.00	20.00	145.00
HCl [Normality]	04-Jul-22	08:30	05-Jul-22	13:44	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	04-Jul-22	08:30	05-Jul-22	13:44	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	05-Jul-22	08:37	05-Jul-22	13:44	25.09	19.68	16.86	20.55	48.62
Final pH [no unit]	05-Jul-22	08:37	05-Jul-22	13:44	1.87	1.50	1.43	1.65	1.65
NP [t CaCO3/1000 t]	05-Jul-22	08:37	05-Jul-22	13:44	126	0.8	7.8	-1.4	240
AP [t CaCO3/1000 t]	07-Jul-22	16:26	07-Jul-22	16:27	1.25	1.25	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	07-Jul-22	16:26	07-Jul-22	16:27	125	-0.45	6.55	-2.65	239
NP/AP [ratio]	07-Jul-22	16:26	07-Jul-22	16:27	101	0.64	6.24	-1.12	192
S [%]	07-Jul-22	08:34	07-Jul-22	16:26	0.012	0.018	0.019	0.047	< 0.005
Acid Leachable SO4-S [%]	07-Jul-22	16:26	07-Jul-22	16:26	<0.04	<0.04	<0.04	0.05	<0.04
Sulphide [%]	07-Jul-22	02:55	07-Jul-22	16:26	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04

OnLine LIMS

0002985782

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO# 2200-2207

LR Report : **CA19115-JUN22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M225258-GE OCHEM	6: M225011-GE OCHEM	7: M225044-GE OCHEM	8: M225283-GE OCHEM	9: M225028-GE OCHEM
C [%]	07-Jul-22	08:34	07-Jul-22	16:26	1.97	1.27	1.53	23.2	3.41
CO3 (HCl) [%]	08-Jul-22	09:42	08-Jul-22	12:39	8.34	3.28	2.17	15.6	15.2

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.02 will be calculated using a 0.02 value.

Method Descriptions

Units	Description	SGS Method Code	Reference Method Code
%	Acid Leachable SO4 by ECS	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
t CaCO3/1000 t	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
%	Total Carbon by ECS	ME-CA-[ENV]ARD-LAK-AN-019	ASTM E1915-07A
%	CO3 by ECS	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
no unit	Final pH - Glass Electrode	NA	SM 4500
no unit	Fizz test rating 1-4	NA	MEND PROJECT 1.16.1B
Normality	ABA	NA	MEND PROJECT 1.16.1B
mL	HCl volume added @ 6 Hr. check.		MEND PROJECT 1.16.1B
Normality	Normality of NaOH used for ABA Titration	NA	MEND PROJECT 1.16.1B
mL	NaOH to pH=8.3 for back titration curve	NA	MEND PROJECT 1.16.1B
t CaCO3/1000 t	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
t CaCO3/1000 t	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
ratio	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
no unit	10g sample/20mL D.I.	ME-CA-[ENV]ARD-LAK-AN-005	ARD Predicition Manual, 2009
g	Weight of Sample used.	NA	Sample weight
%	Sulphide-S by ECS	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
%	Total Sulphur by ECS	ME-CA-[ENV]ARD-LAK-AN-019	ASTM E1915-07A

OnLine LIMS

00029857B2

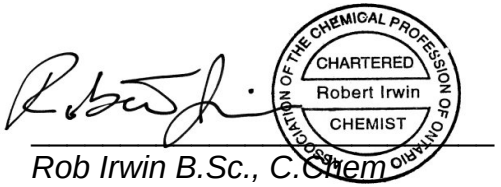
Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO# 2200-2207

LR Report : **CA19115-JUN22**



Rob Irwin B.Sc., C.Chem
Technical Manager, Inorganic Chemistry,
Environment, Health & Safety

OnLine LIMS

0002985782

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO# 2200-2207

LR Report : **CA19115-JUN22**

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0004-JUL22														
Sulphide	0.04	%	< 0.04			ND	20	106	80	120				
Carbon/Sulphur - QCBatchID: ECS0019-JUL22														
Carbon (total)	0.005	%	<0.005			0	20				99	70	130	
Sulphur (total)	0.005	%	<0.005			0	20				99	70	130	
Carbon/Sulphur - QCBatchID: ECS0023-JUL22														
Carbonate (HCl)	0.04	%	<0.04			1	20	98	80	120				

OnLine LIMS

00029857B2

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

22-July-2022

Golder Associates Limited
Attn : Laura Colgrove

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 28 June 2022
LR Report: **CA19116-JUN22**
Reference: PO# 2200-2207 - Marten Falls 21455151

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: M225258-GEO CHEM	6: M225011-GEO CHEM	7: M225044-GEO CHEM	8: M225283-GEO CHEM	9: M225028-GEO CHEM
Sample Date & Time					N/A	N/A	N/A	N/A	N/A
Hg MS [ug/g]	11-Jul-22	12:00	13-Jul-22	14:48	0.06	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	< 1	< 1	< 1	< 1	< 1
As [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	11	30	5.7	3.3	5.7
Al [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	33000	19000	11000	4700	20000
Ba [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	140	54	61	27	91
Be [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	1.0	0.40	0.22	0.12	0.61
Bi [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	0.30	0.17	0.11	< 0.09	0.21
Ca [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	51000	2800	4200	5000	91000
Cd [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	0.08	0.08	0.21	0.20	0.09
Co [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	21	8.0	8.5	1.6	13
Cr [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	83	43	26	11	50
Cu [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	39	10	5.0	4.3	22
Fe [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	44000	25000	22000	5100	29000
K [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	4800	2600	930	350	2900
Li [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	30	17	10	2	19
Mg [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	21000	6400	4100	990	23000

OnLine LIMS

00029858111

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA19116-JUN22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M225258-GEO CHEM	6: M225011-GEO CHEM	7: M225044-GEO CHEM	8: M225283-GEO CHEM	9: M225028-GEO CHEM
Mn [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	820	450	1800	56	560
Mo [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	0.3	0.6	0.8	0.4	0.8
Ni [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	50	24	12	6.4	31
Pb [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	13	7.2	5.1	3.6	9.2
Sb [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	< 2	< 2	< 2	4	< 2
Sr [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	45	11	16	13	58
Ti [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	1800	1100	630	230	1200
Tl [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	0.24	0.13	0.09	0.02	0.16
U [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	0.82	0.41	0.68	0.32	0.65
V [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	77	42	29	9	51
Y [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	15	4.5	5.4	2.8	10
Zn [µg/g]	11-Jul-22	12:00	13-Jul-22	14:48	81	72	63	18	51

Method Descriptions

Units	Description	SGS Method Code	Reference Method Code
µg/g	Al by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Sb by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	As by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ba by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Be by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Bi by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Cd by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ca by ICP-MS & aqua regia digestion	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Cr by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Co by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Cu by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Fe by ICP-MS & aqua regia digestion	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Pb by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Li by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Mg by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Mn by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
ug/g	Hg pulp by ICP-MS	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/EPA 245
µg/g	Mo by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8

OnLine LIMS

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00029858111

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA19116-JUN22**

Units	Description	SGS Method Code	Reference Method Code
µg/g	Ni by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	K by ICP-OES & aqua regia digestion	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Se by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ag by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Sr by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Tl by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Sn by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ti by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	U by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	V by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Y by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Zn by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
Robert Irwin
CHEMIST

Rob Irwin B.Sc., C.Chem
Technical Manager, Inorganic Chemistry,
Environment, Health & Safety

OnLine LIMS

00029858111

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA19116-JUN22**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Mercury by CVAAS - QCBatchID: EMS0012-JUL22													
Mercury	0.05	ug/g	<0.05			3	20	106	80	120	NV	70	130
Metals in Soil - Aqua-regia/ICP-MS - QCBatchID: EMS0012-JUL22													
Aluminum	3	µg/g	<3			2	20	92	70	130	NV	70	130
Antimony	6	µg/g	<0.8			2	20	91	70	130	NV	70	130
Arsenic	0.5	µg/g	<0.5			3	20	93	70	130	104	70	130
Barium	0.01	µg/g	<0.01			1	20	101	70	130	95	70	130
Beryllium	0.02	µg/g	<0.02			3	20	91	70	130	NV	70	130
Bismuth	0.09	µg/g	<0.09			0	20	93	70	130	NV	70	130
Cadmium	0.02	µg/g	<0.02			6	20	91	70	130	NV	70	130
Calcium	3	µg/g	<3			1	20	97	70	130	NV	70	130
Chromium	0.5	µg/g	<0.5			12	20	93	70	130	99	70	130
Cobalt	0.01	µg/g	<0.01			2	20	95	70	130	115	70	130
Copper	0.1	µg/g	<0.1			0	20	91	70	130	105	70	130
Iron	3	µg/g	<3			2	20	93	70	130	116	70	130
Lead	0.05	µg/g	<0.05			2	20	97	70	130	103	70	130
Lithium	2	µg/g	<2			ND	20	92	70	130	NV	70	130
Magnesium	3	µg/g	<3			4	20	91	70	130	NV	70	130
Manganese	0.1	µg/g	<0.1			2	20	92	70	130	130	70	130
Molybdenum	0.1	µg/g	<0.1			1	20	98	70	130	NV	70	130
Nickel	0.1	µg/g	<0.1			1	20	90	70	130	109	70	130
Potassium	3	µg/g	<3			2	20	96	70	130	NV	70	130
Selenium	0.7	µg/g	<0.7			2	20	97	70	130	NV	70	130
Silver	1	µg/g	<0.01			1	20	91	70	130	127	70	130
Strontium	0.02	µg/g	<0.02			0	20	91	70	130	NV	70	130
Thallium	0.02	µg/g	<0.02			1	20	97	70	130	NV	70	130
Tin	2	µg/g	<2			2	20	101	70	130	NV	70	130
Titanium	0.1	µg/g	<0.1			1	20	92	70	130	NV	70	130
Uranium	0.002	µg/g	<0.002			4	20	94	70	130	NV	70	130
Vanadium	1	µg/g	<1			2	20	92	70	130	120	70	130
Yttrium	0.004	µg/g	<0.004			1	20	92	70	130	NV	70	130
Zinc	0.7	µg/g	<0.7			0	20	91	70	130	101	70	130

OnLine LIMS

00029858111

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

22-July-2022

Golder Associates Limited
Attn : Laura Colgrove

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 28 June 2022
LR Report: **CA19117-JUN22**
Reference: Marten Falls 21455151

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: M225258-GEO CHEM	6: M225011-GEO CHEM	7: M225044-GEO CHEM	8: M225283-GEO CHEM	9: M225028-GEO CHEM
Sample Date & Time					N/A	N/A	N/A	N/A	N/A
Sample weight [g]	04-Jul-22	01:21	05-Jul-22	13:41	250	250	250	60	250
Volume D.I. Water [mL]	04-Jul-22	01:21	05-Jul-22	13:41	750	750	750	180	750
Final pH [no unit]	05-Jul-22	12:20	05-Jul-22	13:41	7.16	5.63	6.81	5.35	7.41
pH [No unit]	05-Jul-22	15:19	06-Jul-22	11:54	8.60	8.01	8.06	8.83	9.02
Conductivity [uS/cm]	05-Jul-22	15:19	06-Jul-22	11:54	505	154	162	273	414
Alkalinity [mg/L as CaCO3]	05-Jul-22	15:19	06-Jul-22	11:54	270	67	55	78	228
SO4 [mg/L]	06-Jul-22	11:31	07-Jul-22	10:37	< 2	6	< 2	6	< 2
Hg [mg/L]	06-Jul-22	11:21	06-Jul-22	15:42	0.00001	0.00001	0.00001	< 0.00001	0.00002
Ag [mg/L]	06-Jul-22	21:15	08-Jul-22	09:27	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	06-Jul-22	21:15	08-Jul-22	09:27	0.158	1.53	0.940	1.34	0.095
As [mg/L]	06-Jul-22	21:15	08-Jul-22	09:27	0.0526	0.0084	0.303	0.0352	0.290
Ba [mg/L]	06-Jul-22	21:15	08-Jul-22	09:27	0.0193	0.0115	0.0102	0.0166	0.00991
B [mg/L]	06-Jul-22	21:15	08-Jul-22	09:27	1.42	1.56	0.546	1.17	0.725
Be [mg/L]	06-Jul-22	21:15	08-Jul-22	09:27	0.000010	0.000020	0.000030	0.000010	< 0.000007
Bi [mg/L]	06-Jul-22	21:15	08-Jul-22	09:27	0.00001	0.00001	0.00001	0.00001	< 0.00001
Ca [mg/L]	06-Jul-22	21:15	08-Jul-22	09:27	58.6	7.91	13.4	12.8	51.8

OnLine LIMS

00029858221

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19117-JUN22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M225258-GEO CHEM	6: M225011-GEO CHEM	7: M225044-GEO CHEM	8: M225283-GEO CHEM	9: M225028-GEO CHEM
Cd [mg/L]	06-Jul-22	21:15	08-Jul-22	09:27	0.000030	0.000040	0.000040	0.000030	0.000040
Co [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.000240	0.000690	0.00103	0.00113	0.000200
Cr [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.00316	0.00435	0.00259	0.00659	0.00231
Cu [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.0107	0.0094	0.0063	0.0095	0.0064
Fe [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.120	0.900	1.12	0.880	0.150
K [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	1.47	1.42	0.520	6.36	1.00
Li [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.0029	0.0016	0.0013	0.0033	0.0012
Mg [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	9.61	2.08	2.50	2.25	8.61
Mn [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.00189	0.0329	0.231	0.00758	0.00123
Mo [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.00066	0.00083	0.00050	0.00068	0.00084
Na [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	52.8	25.0	19.8	52.0	39.2
Ni [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.0025	0.0029	0.0029	0.0044	0.0014
Pb [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.00031	0.00042	0.00045	0.00040	0.00009
Sb [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	< 0.0009	< 0.0009	0.0011	0.0011	< 0.0009
Se [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.00087	0.00043	0.00096	0.00111	0.00075
Si [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	12.0	7.28	8.08	10.7	7.03
Sn [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	< 0.00006	0.00014	< 0.00006	0.00017	< 0.00006
Sr [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.06275	0.00812	0.02133	0.01752	0.04549
Ti [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.0104	0.0611	0.0384	0.0710	0.00316
Tl [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	< 0.000005	0.000010	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.00191	0.000120	0.000250	0.000150	0.00143
V [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.00178	0.00287	0.00253	0.0114	0.00092
Zn [mg/L]	06-Jul-22	21:15	08-Jul-22	09:28	0.003	0.007	0.005	0.004	0.003

OnLine LIMS

00029858221

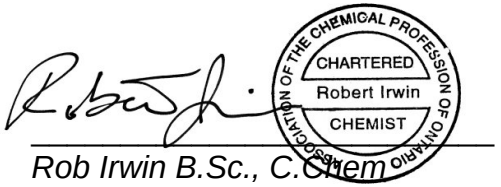
Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19117-JUN22**



Rob Irwin B.Sc., C.Chem
Technical Manager, Inorganic Chemistry,
Environment, Health & Safety

OnLine LIMS

0002985821

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Units	Description	SGS Method Code	Reference Method Code
mg/L as CaCO3	Alkalinity by Titration	ME-CA-[ENV]EWL-LAK-AN-006	SM 2320
mg/L	Aluminum by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Antimony by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Arsenic by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	Niosh7300/EPA 200.8
mg/L	Barium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Beryllium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Bismuth by ICP-MS Leach	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Boron by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Cadmium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Calcium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Chromium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Cobalt by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
uS/cm	Conductivity by Conductivity Meter	ME-CA-[ENV]EWL-LAK-AN-006	SM 2510
mg/L	Copper by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
no unit	Final pH - Glass Electrode	NA	SM 4500
mg/L	Iron by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Lead by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Lithium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Magnesium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Manganese by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Hg solutions by CVAAS	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B
mg/L	Molybdenum by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Nickel by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
No unit	pH - solution	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500
mg/L	Potassium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
g	Weight of Sample used.	NA	Sample weight
mg/L	Selenium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Silicon by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Silver by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Sodium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Strontium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Sulphate by discrete colourmetric analysis	ME-CA-[ENV]EWL-LAK-AN-026	US EPA 375.4
mg/L	Thallium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Tin by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Titanium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Uranium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Vanadium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mL	---	NA	Volume
mg/L	Zinc by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8

OnLine LIMS

00029858221

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19117-JUN22**

Quality Control Report

Inorganic Analysis													
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Alkalinity - QCBatchID: EWL0053-JUL22													
Alkalinity	2	mg/L as Ca	< 2			ND	20	102	80	120	NA		
Anions by discrete analyzer - QCBatchID: DIO5017-JUL22													
Sulphate	2	mg/L	<2			3	20	113	80	120	99	75	125
Conductivity - QCBatchID: EWL0053-JUL22													
Conductivity	2	uS/cm	< 2			0	20	100	90	110	NA		
Inorganics-General - QCBatchID: EHG0005-JUL22													
Mercury	0.00001	mg/L	< 0.00001			ND	20	NV	80	120	102	70	130
Metals - QCBatchID: EMS0039-JUL22													
Cobalt	0.000004	mg/L	<0.000004			1	20	100	90	110	96	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0039-JUL22													
Aluminum	0.001	mg/L	<0.001			9	20	96	90	110	75	70	130
Antimony	0.0009	mg/L	<0.0009			7	20	108	90	110	108	70	130
Arsenic	0.0002	mg/L	<0.0002			2	20	99	90	110	106	70	130
Barium	0.00008	mg/L	<0.00002			2	20	94	90	110	95	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	93	90	110	86	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	92	90	110	70	70	130
Boron	0.002	mg/L	<0.002			6	20	96	90	110	93	70	130
Cadmium	0.000003	mg/L	<0.000003			ND	20	97	90	110	109	70	130
Calcium	0.01	mg/L	<0.01			4	20	102	90	110	97	70	130
Chromium	0.00008	mg/L	<0.00008			ND	20	103	90	110	124	70	130
Copper	0.0002	mg/L	<0.0002			5	20	96	90	110	72	70	130
Iron	0.007	mg/L	<0.007			2	20	103	90	110	125	70	130
Lead	0.00009	mg/L	<0.00001			ND	20	97	90	110	91	70	130
Lithium	0.0001	mg/L	<0.0001			4	20	94	90	110	78	70	130
Magnesium	0.001	mg/L	<0.001			2	20	103	90	110	102	70	130
Manganese	0.00001	mg/L	<0.00001			1	20	97	90	110	94	70	130
Molybdenum	0.00004	mg/L	<0.00004			2	20	100	90	110	98	70	130
Nickel	0.0001	mg/L	<0.0001			3	20	97	90	110	105	70	130
Potassium	0.003	mg/L	<0.009			5	20	101	90	110	95	70	130
Selenium	0.00004	mg/L	<0.00004			6	20	101	90	110	125	70	130
Silicon	0.02	mg/L	<0.02			2	20	95	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			6	20	94	90	110	85	70	130
Sodium	0.01	mg/L	<0.01			2	20	104	90	110	100	70	130
Strontium	0.00008	mg/L	<0.00002			1	20	99	90	110	98	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	90	90	110	87	70	130

OnLine LIMS

00029858821

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19117-JUN22**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Tin	0.00006	mg/L	<0.00006			13	20	97	90	110	NV	70	130
Titanium	0.00005	mg/L	<0.00005			ND	20	103	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			1	20	92	90	110	85	70	130
Vanadium	0.00001	mg/L	<0.00001			0	20	98	90	110	111	70	130
Zinc	0.002	mg/L	<0.002			6	20	99	90	110	95	70	130
pH - QCBatchID: EWL0053-JUL22													
pH	0.05	No unit	NA			0		100			NA		

OnLine LIMS

00029858821

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Laura Colgrove

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

ABA - Modified Sobek

Project : PO#2200-2207

22-July-2022

Date Rec. : 28 June 2022
LR Report: **CA19118-JUN22**
Reference: Marten Falls 21455151

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: M223055-GEO CHEM	6: M225161-GEO CHEM	7: M225032-GEO CHEM	8: M225154-GEO CHEM	9: M225096-GEO CHEM
Sample Date & Time					N/A	N/A	N/A	N/A	N/A
Paste pH [no unit]	06-Jul-22	08:00	07-Jul-22	09:58	8.24	8.07	6.22	5.56	7.58
Fizz Rate [no unit]	06-Jul-22	08:00	07-Jul-22	09:58	4	4	1	1	4
Sample weight [g]	06-Jul-22	08:00	07-Jul-22	09:58	2.00	2.00	1.99	2.00	2.01
HCl_add [mL]	07-Jul-22	06:07	07-Jul-22	09:58	185.00	170.00	62.60	32.50	164.10
HCl [Normality]	06-Jul-22	08:00	07-Jul-22	09:58	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	06-Jul-22	08:00	07-Jul-22	09:58	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	07-Jul-22	08:02	07-Jul-22	09:58	83.18	68.38	54.66	36.21	71.79
Final pH [no unit]	07-Jul-22	08:02	07-Jul-22	09:58	1.56	1.57	1.53	1.53	1.54
NP [t CaCO3/1000 t]	07-Jul-22	08:02	07-Jul-22	09:58	255	254	19.9	-9.3	230
AP [t CaCO3/1000 t]	07-Jul-22	16:27	07-Jul-22	16:28	1.25	1.25	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	07-Jul-22	16:27	07-Jul-22	16:28	253	253	18.6	-10.55	228
NP/AP [ratio]	07-Jul-22	16:27	07-Jul-22	16:28	204	203	15.9	-7.44	184
S [%]	07-Jul-22	08:34	07-Jul-22	16:27	0.015	0.012	0.063	0.047	0.010
Acid Leachable SO4-S [%]	07-Jul-22	16:27	07-Jul-22	16:27	<0.04	<0.04	<0.04	<0.04	<0.04
Sulphide [%]	07-Jul-22	02:55	07-Jul-22	16:27	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
C [%]	07-Jul-22	08:34	07-Jul-22	16:27	3.49	3.32	19.3	44.1	9.84

OnLine LIMS

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0002985846

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO#2200-2207

LR Report : **CA19118-JUN22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M223055-GEO CHEM	6: M225161-GEO CHEM	7: M225032-GEO CHEM	8: M225154-GEO CHEM	9: M225096-GEO CHEM
CO3 (HCl) [%]	08-Jul-22	09:42	21-Jul-22	11:42	16.1	15.5	7.26	21.2	15.4

*NP (Neutralization Potential)

$$= 50 \times \frac{(N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.02 will be calculated using a 0.02 value.

Method Descriptions

Units	Description	SGS Method Code	Reference Method Code
%	Acid Leachable SO4 by ECS	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
t CaCO3/1000 t	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
%	Total Carbon by ECS	ME-CA-[ENV]ARD-LAK-AN-019	ASTM E1915-07A
%	CO3 by ECS	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
no unit	Final pH - Glass Electrode	NA	SM 4500
no unit	Fizz test rating 1-4	NA	MEND PROJECT 1.16.1B
Normality	ABA	NA	MEND PROJECT 1.16.1B
mL	HCl volume added @ 6 Hr. check.		MEND PROJECT 1.16.1B
Normality	Normality of NaOH used for ABA Titration	NA	MEND PROJECT 1.16.1B
mL	NaOH to pH=8.3 for back titration curve	NA	MEND PROJECT 1.16.1B
t CaCO3/1000 t	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
t CaCO3/1000 t	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
ratio	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
no unit	10g sample/20mL D.I.	ME-CA-[ENV]ARD-LAK-AN-005	ARD Predicition Manual, 2009
g	Weight of Sample used.	NA	Sample weight
%	Sulphide-S by ECS	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
%	Total Sulphur by ECS	ME-CA-[ENV]ARD-LAK-AN-019	ASTM E1915-07A

OnLine LIMS

00029858 46

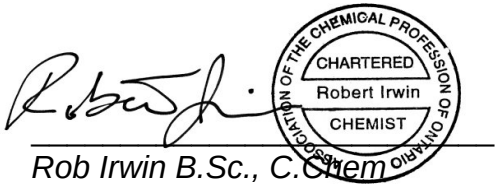
Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO#2200-2207

LR Report : **CA19118-JUN22**



Rob Irwin B.Sc., C.Chem
Technical Manager, Inorganic Chemistry,
Environment, Health & Safety

OnLine LIMS

0002985846

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO#2200-2207

LR Report : **CA19118-JUN22**

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0004-JUL22														
Sulphide	0.04	%	< 0.04			ND	20	106	80	120				
Carbon/Sulphur - QCBatchID: ECS0019-JUL22														
Carbon (total)	0.005	%	<0.005			0	20				99	70	130	
Sulphur (total)	0.005	%	<0.005			0	20				99	70	130	
Carbon/Sulphur - QCBatchID: ECS0023-JUL22														
Carbonate (HCl)	0.04	%	<0.04			1	20	98	80	120				
Carbon/Sulphur - QCBatchID: ECS0027-JUL22														
Carbonate (HCl)	0.04	%	<0.04			1	20	99	80	120				

OnLine LIMS

00029858 46

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Laura Colgrove

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Project : PO# 2200-2207

22-July-2022

Date Rec. : 28 June 2022
LR Report: **CA19119-JUN22**
Reference: Marten Falls 21455151

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: M223055-GEO CHEM	6: M225161-GEO CHEM	7: M225032-GEO CHEM	8: M225154-GEO CHEM	9: M225096-GEO CHEM
Sample Date & Time					N/A	N/A	N/A	N/A	N/A
Hg MS [ug/g]	08-Jul-22	20:00	11-Jul-22	13:10	< 0.05	< 0.05	0.06	0.07	< 0.05
Ag [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	< 1	< 1	< 1	< 1	< 1
As [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	3.6	3.8	2.0	1.1	3.4
Al [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	21000	22000	15000	1400	14000
Ba [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	100	120	69	25	96
Be [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	0.79	0.80	0.19	0.06	0.50
Bi [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	0.22	0.27	0.13	< 0.09	0.16
Ca [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	100000	100000	22000	21000	110000
Cd [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	0.07	0.06	0.27	0.13	0.12
Co [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	12	14	9.7	1.3	9.2
Cr [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	51	59	69	2.2	41
Cu [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	24	29	20	4.3	20
Fe [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	30000	35000	29000	3900	25000
K [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	4000	4000	2100	210	3500
Li [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	22	25	17	< 2	17
Mg [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	25000	25000	8200	1600	22000

OnLine LIMS

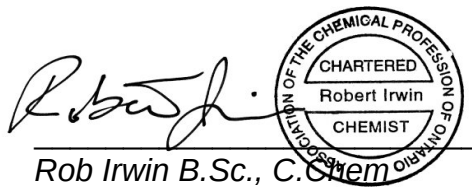
Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

1685862000

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO# 2200-2207
LR Report : **CA19119-JUN22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M223055-GEO CHEM	6: M225161-GEO CHEM	7: M225032-GEO CHEM	8: M225154-GEO CHEM	9: M225096-GEO CHEM
Mn [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	510	540	360	160	580
Mo [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	0.2	0.2	0.8	0.2	1.4
Ni [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	31	36	28	1.8	24
Pb [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	8.6	9.6	5.9	1.2	6.2
Sb [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	< 2	< 2	< 2	< 2	< 2
Sr [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	63	65	21	24	91
Ti [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	1400	1500	1600	40	1300
Tl [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	0.17	0.19	0.21	< 0.02	0.13
U [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	0.62	0.65	1.7	0.085	0.80
V [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	53	57	47	2	41
Y [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	13	13	4.2	0.71	8.2
Zn [µg/g]	08-Jul-22	20:00	11-Jul-22	13:10	51	58	54	14	54



Rob Irwin B.Sc., C.Chem
Technical Manager, Inorganic Chemistry,
Environment, Health & Safety

OnLine LIMS

1685862000

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO# 2200-2207
LR Report : **CA19119-JUN22**

Method Descriptions

Units	Description	SGS Method Code	Reference Method Code
µg/g	Al by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Sb by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	As by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ba by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Be by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Bi by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Cd by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ca by ICP-MS & aqua regia digestion	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Cr by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Co by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Cu by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Fe by ICP-MS & aqua regia digestion	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Pb by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Li by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Mg by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Mn by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
ug/g	Hg pulp by ICP-MS	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/EPA 245
µg/g	Mo by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ni by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	K by ICP-OES & aqua regia digestion	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Se by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ag by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Sr by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Tl by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Sn by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ti by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	U by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	V by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Y by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Zn by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8

OnLine LIMS

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

1685862000

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO# 2200-2207

LR Report : **CA19119-JUN22**

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Mercury by CVAAS - QCBatchID: EMS0028-JUL22														
Mercury	0.05	ug/g	<0.05			ND	20	108	80	120	NV	70	130	
Metals in Soil - Aqua-regia/ICP-MS - QCBatchID: EMS0028-JUL22														
Aluminum	3	µg/g	<3			2	20	94	70	130	NV	70	130	
Antimony	6	µg/g	<0.8			ND	20	96	70	130	NV	70	130	
Arsenic	0.5	µg/g	<0.5			2	20	91	70	130	100	70	130	
Barium	0.01	µg/g	<0.01			0	20	99	70	130	97	70	130	
Beryllium	0.02	µg/g	<0.02			3	20	95	70	130	NV	70	130	
Bismuth	0.09	µg/g	<0.09			4	20	92	70	130	NV	70	130	
Cadmium	0.02	µg/g	<0.02			17	20	91	70	130	NV	70	130	
Calcium	3	µg/g	<3			1	20	107	70	130	NV	70	130	
Chromium	0.5	µg/g	<0.5			1	20	93	70	130	100	70	130	
Cobalt	0.01	µg/g	<0.01			1	20	93	70	130	114	70	130	
Copper	0.1	µg/g	<0.1			1	20	93	70	130	105	70	130	
Iron	3	µg/g	<3			0	20	104	70	130	127	70	130	
Lead	0.05	µg/g	<0.05			1	20	96	70	130	104	70	130	
Lithium	2	µg/g	<2			1	20	91	70	130	NV	70	130	
Magnesium	3	µg/g	<3			2	20	100	70	130	NV	70	130	
Manganese	0.1	µg/g	<0.1			1	20	90	70	130	129	70	130	
Molybdenum	0.1	µg/g	<0.1			5	20	97	70	130	NV	70	130	
Nickel	0.1	µg/g	<0.1			1	20	91	70	130	112	70	130	
Potassium	3	µg/g	<3			2	20	105	70	130	NV	70	130	
Selenium	0.7	µg/g	<0.7			ND	20	98	70	130	NV	70	130	
Silver	1	µg/g	<0.01			3	20	93	70	130	123	70	130	
Strontium	0.02	µg/g	<0.02			1	20	93	70	130	NV	70	130	
Thallium	0.02	µg/g	<0.02			3	20	95	70	130	NV	70	130	
Tin	2	µg/g	<2			ND	20	104	70	130	NV	70	130	
Titanium	0.1	µg/g	<0.1			2	20	94	70	130	NV	70	130	
Uranium	0.002	µg/g	<0.002			2	20	91	70	130	NV	70	130	
Vanadium	1	µg/g	<1			1	20	93	70	130	121	70	130	
Yttrium	0.004	µg/g	<0.004			1	20	93	70	130	NV	70	130	
Zinc	0.7	µg/g	<0.7			1	20	93	70	130	106	70	130	

OnLine LIMS

T6858620000

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

22-July-2022

Golder Associates Limited
Attn : Laura Colgrove

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 28 June 2022
LR Report: **CA19120-JUN22**
Reference: Marten Falls 21455151

CERTIFICATE OF ANALYSIS

Final Report-Simple Leach

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M223055-GEO CHEM	6: M225161-GEO CHEM	7: M225032-GEO CHEM	8: M225154-GEO CHEM	9: M225096-GEO CHEM
Sample Date & Time					N/A	N/A	N/A	N/A	N/A
Sample weight [g]	06-Jul-22	12:00	07-Jul-22	11:49	250	250	100	90	250
Volume D.I. Water [mL]	06-Jul-22	12:00	07-Jul-22	11:49	750	750	300	270	750
Final pH [no unit]	07-Jul-22	10:10	07-Jul-22	11:49	7.43	8.00	5.99	5.53	8.08
pH [No unit]	07-Jul-22	15:55	08-Jul-22	16:28	8.12	9.25	8.14	8.31	9.45
Conductivity [uS/cm]	07-Jul-22	15:55	08-Jul-22	16:28	734	321	451	208	323
Alkalinity [mg/L as CaCO3]	07-Jul-22	15:55	08-Jul-22	16:28	94	110	57	82	159
SO4 [mg/L]	08-Jul-22	10:16	08-Jul-22	13:59	310	60	170	< 50	8
Hg [mg/L]	08-Jul-22	13:14	11-Jul-22	15:28	0.00003	0.00002	0.00003	0.00003	0.00002
Ag [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	< 0.00005	< 0.00005	0.00008	0.00007	< 0.00005
Al [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.016	0.200	0.179	0.237	0.423
As [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.0591	0.0605	0.259	0.0193	0.0167
Ba [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.0205	0.00569	0.0158	0.0176	0.0110
B [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.009	0.503	0.816	1.93	0.473
Be [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.000008	0.000011	0.000008	0.000020	0.000020
Bi [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	< 0.00001	< 0.00001	0.00001	0.00003	< 0.00001
Ca [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	139	33.5	54.0	17.3	26.2
Cd [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.000019	0.000010	0.000055	0.000090	0.000033

OnLine LIMS

00002985933

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19120-JUN22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M223055-GEO CHEM	6: M225161-GEO CHEM	7: M225032-GEO CHEM	8: M225154-GEO CHEM	9: M225096-GEO CHEM
Co [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.000414	0.000124	0.000264	0.000540	0.000193
Cr [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.00031	0.00162	0.00252	0.00277	0.00374
Cu [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.0083	0.0058	0.0035	0.0037	0.0077
Fe [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.015	0.130	0.277	0.370	0.286
K [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.845	0.547	2.59	2.41	1.34
Li [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.0005	0.0019	0.0030	< 0.0001	0.0043
Mg [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	16.4	4.47	8.24	3.48	3.12
Mn [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.131	0.00176	0.0255	0.0187	0.00889
Mo [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.00141	0.00116	0.00201	0.00105	0.0413
Na [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	1.84	32.7	26.4	34.7	53.1
Ni [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.0026	0.0011	0.0017	0.0019	0.0012
Pb [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	< 0.00009	0.00027	0.00295	0.00026	0.00030
Sb [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.0013	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.00229	0.00092	0.00027	0.00063	0.00066
Si [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	4.91	9.76	9.27	12.7	8.87
Sn [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	< 0.00006	0.00008	< 0.00006	0.00015	< 0.00006
Sr [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.119	0.0286	0.0410	0.0157	0.0582
Ti [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.00204	0.00991	0.0203	0.00847	0.0244
Tl [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	< 0.000005	< 0.000005	0.000015	< 0.000005	0.000007
U [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.00221	0.000364	0.000342	0.000090	0.000741
V [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	0.00083	0.00230	0.00256	0.00106	0.00773
Zn [mg/L]	08-Jul-22	12:59	12-Jul-22	14:57	< 0.002	0.004	< 0.002	0.004	0.004

OnLine LIMS

00029859333

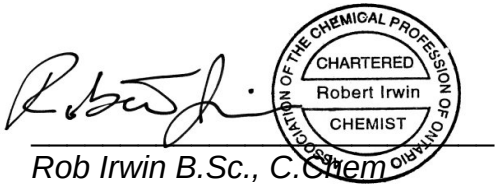
Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19120-JUN22**



Rob Irwin B.Sc., C.Chem
Technical Manager, Inorganic Chemistry,
Environment, Health & Safety

OnLine LIMS

0002985933

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Units	Description	SGS Method Code	Reference Method Code
mg/L as CaCO3	Alkalinity by Titration	ME-CA-[ENV]EWL-LAK-AN-006	SM 2320
mg/L	Aluminum by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Antimony by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Arsenic by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	Niosh7300/EPA 200.8
mg/L	Barium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Beryllium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Bismuth by ICP-MS Leach	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Boron by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Cadmium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Calcium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Chromium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Cobalt by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
uS/cm	Conductivity by Conductivity Meter	ME-CA-[ENV]EWL-LAK-AN-006	SM 2510
mg/L	Copper by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
no unit	Final pH - Glass Electrode	NA	SM 4500
mg/L	Iron by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Lead by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Lithium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Magnesium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Manganese by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Hg solutions by CVAAS	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B
mg/L	Molybdenum by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Nickel by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
No unit	pH - solution	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500
mg/L	Potassium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
g	Weight of Sample used.	NA	Sample weight
mg/L	Selenium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Silicon by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Silver by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Sodium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Strontium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Sulphate by discrete colourmetric analysis	ME-CA-[ENV]EWL-LAK-AN-026	US EPA 375.4
mg/L	Thallium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Tin by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Titanium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Uranium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Vanadium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mL	---	NA	Volume
mg/L	Zinc by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8

OnLine LIMS

00029859333

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19120-JUN22**

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Alkalinity - QCBatchID: EWL0117-JUL22														
Alkalinity	2	mg/L as Ca	< 2			0	20	98	80	120	NA			
Anions by discrete analyzer - QCBatchID: DIO5022-JUL22														
Sulphate	2	mg/L	<2			0	20	113	80	120	110	75	125	
Anions by discrete analyzer - QCBatchID: DIO5024-JUL22														
Sulphate	2	mg/L	<2			ND	20	113	80	120	114	75	125	
Conductivity - QCBatchID: EWL0117-JUL22														
Conductivity	2	uS/cm	< 2			1	20	99	90	110	NA			
Inorganics-General - QCBatchID: EHG0012-JUL22														
Mercury	0.00001	mg/L	< 0.00001			0	20	NV	80	120	113	70	130	
Metals - QCBatchID: EMS0064-JUL22														
Cobalt	0.000004	mg/L	<0.000004			2	20	103	90	110	97	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0064-JUL22														
Aluminum	0.001	mg/L	<0.001			9	20	102	90	110	101	70	130	
Antimony	0.0009	mg/L	<0.0009			ND	20	102	90	110	105	70	130	
Arsenic	0.0002	mg/L	<0.0002			1	20	103	90	110	106	70	130	
Barium	0.00008	mg/L	<0.00002			2	20	101	90	110	97	70	130	
Beryllium	0.000007	mg/L	<0.000007			ND	20	105	90	110	100	70	130	
Bismuth	0.00001	mg/L	<0.00001			17	20	104	90	110	89	70	130	
Boron	0.002	mg/L	<0.002			6	20	110	90	110	99	70	130	
Cadmium	0.000003	mg/L	<0.000003			ND	20	104	90	110	101	70	130	
Calcium	0.01	mg/L	<0.01			3	20	97	90	110	96	70	130	
Chromium	0.00008	mg/L	<0.00008			ND	20	104	90	110	95	70	130	
Copper	0.0002	mg/L	<0.0002			1	20	99	90	110	98	70	130	
Iron	0.007	mg/L	<0.007			4	20	92	90	110	100	70	130	
Lead	0.00009	mg/L	<0.00001			1	20	105	90	110	106	70	130	
Lithium	0.0001	mg/L	<0.0001			3	20	108	90	110	88	70	130	
Magnesium	0.001	mg/L	<0.001			2	20	99	90	110	99	70	130	
Manganese	0.00001	mg/L	<0.00001			3	20	102	90	110	99	70	130	
Molybdenum	0.00004	mg/L	<0.00004			1	20	104	90	110	108	70	130	
Nickel	0.0001	mg/L	<0.0001			5	20	101	90	110	96	70	130	
Potassium	0.003	mg/L	<0.009			5	20	94	90	110	89	70	130	
Selenium	0.00004	mg/L	<0.00004			15	20	107	90	110	97	70	130	
Silicon	0.02	mg/L	<0.02			3	20	95	90	110	NV	70	130	
Silver	0.00005	mg/L	<0.00005			ND	20	102	90	110	85	70	130	
Sodium	0.01	mg/L	<0.01			2	20	100	90	110	100	70	130	

OnLine LIMS

00029859333

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19120-JUN22**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Strontium	0.00008	mg/L	<0.00002			4	20	103	90	110	99	70	130
Thallium	0.000005	mg/L	<0.000005			11	20	104	90	110	103	70	130
Tin	0.00006	mg/L	<0.00006			5	20	102	90	110	NV	70	130
Titanium	0.00005	mg/L	<0.00005			ND	20	105	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			2	20	102	90	110	105	70	130
Vanadium	0.00001	mg/L	<0.00001			4	20	100	90	110	95	70	130
Zinc	0.002	mg/L	<0.002			3	20	103	90	110	104	70	130
pH - QCBatchID: EWL0117-JUL22													
pH	0.05	No unit	NA			0		100			NA		

OnLine LIMS

0002985933

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Laura Colgrove

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

ABA - Modified Sobek

Project : PO# 2200-2207

22-July-2022

Date Rec. : 28 June 2022
LR Report: **CA19121-JUN22**
Reference: Marten Falls 21455151

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: M225156-GEO CHEM	6: M225008-GEO CHEM	7: M225127-GEO CHEM	8: M225AD1-GEO CHEM
Sample Date & Time					N/A	N/A	N/A	N/A
Paste pH [no unit]	05-Jul-22	09:00	07-Jul-22	16:29	5.74	7.97	7.76	7.90
Fizz Rate [no unit]	05-Jul-22	09:00	07-Jul-22	16:29	1	4	4	4
Sample weight [g]	05-Jul-22	09:00	07-Jul-22	16:29	1.98	2.03	1.98	1.99
HCl_add [mL]	06-Jul-22	06:59	07-Jul-22	16:29	20.00	170.00	62.50	100.00
HCl [Normality]	05-Jul-22	09:00	07-Jul-22	16:29	0.10	0.10	0.10	0.10
NaOH [Normality]	05-Jul-22	09:00	07-Jul-22	16:29	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	06-Jul-22	09:02	07-Jul-22	16:29	42.31	52.81	24.64	41.06
Final pH [no unit]	06-Jul-22	09:02	07-Jul-22	16:29	1.44	1.60	1.66	1.50
NP [t CaCO3/1000 t]	06-Jul-22	09:02	07-Jul-22	16:29	-56.3	289	95.6	148
AP [t CaCO3/1000 t]	07-Jul-22	16:28	07-Jul-22	16:29	1.25	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	07-Jul-22	16:28	07-Jul-22	16:29	-57.55	287	94.4	147
NP/AP [ratio]	07-Jul-22	16:28	07-Jul-22	16:29	-45.04	231	76.5	118
S [%]	07-Jul-22	08:34	07-Jul-22	16:28	0.028	0.011	0.006	< 0.005
Acid Leachable SO4-S [%]	07-Jul-22	16:28	07-Jul-22	16:28	<0.04	<0.04	<0.04	<0.04
Sulphide [%]	07-Jul-22	02:55	07-Jul-22	16:28	< 0.04	< 0.04	< 0.04	< 0.04
C [%]	07-Jul-22	08:34	07-Jul-22	16:28	42.2	6.18	2.19	2.16

OnLine LIMS

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

00002985973

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO# 2200-2207

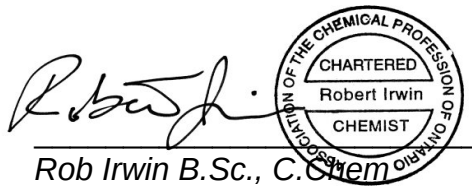
LR Report : **CA19121-JUN22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M225156-GEO CHEM	6: M225008-GEO CHEM	7: M225127-GEO CHEM	8: M225AD1-GEO CHEM
CO3 (HCl) [%]	08-Jul-22	09:42	08-Jul-22	12:40	23.8	19.5	7.52	9.75

*NP (Neutralization Potential)

$$= \frac{50 \times (\text{N of HCL} \times \text{Total HCL added} - \text{N NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.02 will be calculated using a 0.02 value.



Rob Irwin B.Sc., C.Chem
Technical Manager, Inorganic Chemistry,
Environment, Health & Safety

OnLine LIMS

00002985973

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Units	Description	SGS Method Code	Reference Method Code
%	Acid Leachable SO4 by ECS	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
t CaCO3/1000 t	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
%	Total Carbon by ECS	ME-CA-[ENV]ARD-LAK-AN-019	ASTM E1915-07A
%	CO3 by ECS	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
no unit	Final pH - Glass Electrode	NA	SM 4500
no unit	Fizz test rating 1-4	NA	MEND PROJECT 1.16.1B
Normality	ABA	NA	MEND PROJECT 1.16.1B
mL	HCl volume added @ 6 Hr. check.		MEND PROJECT 1.16.1B
Normality	Normality of NaOH used for ABA Titration	NA	MEND PROJECT 1.16.1B
mL	NaOH to pH=8.3 for back titration curve	NA	MEND PROJECT 1.16.1B
t CaCO3/1000 t	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
t CaCO3/1000 t	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
ratio	ABA	ME-CA-[ENV]ARD-LAK-AN-001/003	MEND PROJECT 1.16.1B
no unit	10g sample/20mL D.I.	ME-CA-[ENV]ARD-LAK-AN-005	ARD Predicition Manual, 2009
g	Weight of Sample used.	NA	Sample weight
%	Sulphide-S by ECS	ME-CA-[ENV]ARD-LAK-AN-020	ASTM E1915-07A
%	Total Sulphur by ECS	ME-CA-[ENV]ARD-LAK-AN-019	ASTM E1915-07A

OnLine LIMS

00002985973

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO# 2200-2207

LR Report : **CA19121-JUN22**

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Carbon/Sulphur - QCBatchID: ECS0004-JUL22														
Sulphide	0.04	%	< 0.04			ND	20	106	80	120				
Carbon/Sulphur - QCBatchID: ECS0019-JUL22														
Carbon (total)	0.005	%	<0.005			0	20				99	70	130	
Sulphur (total)	0.005	%	<0.005			0	20				99	70	130	
Carbon/Sulphur - QCBatchID: ECS0023-JUL22														
Carbonate (HCl)	0.04	%	<0.04			1	20	98	80	120				

OnLine LIMS

00029859 73

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO# 2200-2207

22-July-2022

Golder Associates Limited
Attn : Laura Colgrove

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 28 June 2022
LR Report: **CA19122-JUN22**
Reference: Marten Falls 21455151

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: M225156-GEO CHEM	6: M225008-GEO CHEM	7: M225127-GEO CHEM	8: M225AD1-GEO CHEM
Sample Date & Time					N/A	N/A	N/A	N/A
Hg MS [ug/g]	11-Jul-22	12:00	13-Jul-22	14:51	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	< 1	< 1	< 1	< 1
As [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	7.3	10	6.1	6.4
Al [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	610	6600	13000	9200
Ba [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	15	35	63	27
Be [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	0.03	0.20	0.36	0.22
Bi [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	< 0.09	< 0.09	0.15	< 0.09
Ca [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	13000	110000	32000	60000
Cd [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	0.09	0.10	0.19	0.06
Co [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	0.35	5.3	9.1	7.0
Cr [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	1.4	21	29	28
Cu [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	3.3	12	8.0	6.8
Fe [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	1900	14000	19000	18000
K [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	160	1200	1400	990
Li [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	< 2	7	11	9
Mg [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	1000	23000	15000	11000

OnLine LIMS

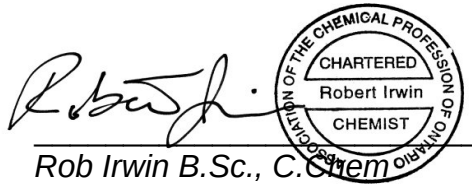
0002986014

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO# 2200-2207
LR Report : **CA19122-JUN22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M225156-GEO CHEM	6: M225008-GEO CHEM	7: M225127-GEO CHEM	8: M225AD1-GEO CHEM
Mn [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	24	280	630	290
Mo [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	0.3	0.7	0.5	0.9
Ni [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	2.8	12	17	16
Pb [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	1.5	3.5	7.3	3.6
Sb [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	< 6	< 6	< 6	< 6
Se [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	< 2	< 2	< 2	< 2
Sr [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	21	63	23	39
Ti [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	11	620	850	780
Tl [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	< 0.02	0.07	0.09	0.04
U [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	0.072	0.84	0.47	0.36
V [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	1	23	35	29
Y [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	0.44	6.0	7.6	4.4
Zn [µg/g]	11-Jul-22	12:00	13-Jul-22	14:51	9.9	22	39	23



Rob Irwin B.Sc., C.Chem
Technical Manager, Inorganic Chemistry,
Environment, Health & Safety

OnLine LIMS

0002986014

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO# 2200-2207
LR Report : **CA19122-JUN22**

Method Descriptions

Units	Description	SGS Method Code	Reference Method Code
µg/g	Al by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Sb by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	As by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ba by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Be by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Bi by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Cd by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ca by ICP-MS & aqua regia digestion	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Cr by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Co by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Cu by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Fe by ICP-MS & aqua regia digestion	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Pb by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Li by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Mg by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Mn by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
ug/g	Hg pulp by ICP-MS	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/EPA 245
µg/g	Mo by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ni by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	K by ICP-OES & aqua regia digestion	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Se by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ag by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Sr by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Tl by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Sn by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Ti by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	U by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	V by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Y by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8
µg/g	Zn by ICP-MS & aqua regia digest	ME-CA-[ENV]SPE-LAK-AN-005	EPA 3050/EPA 200.8

OnLine LIMS

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0002986014

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO# 2200-2207

LR Report : **CA19122-JUN22**

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Mercury by CVAAS - QCBatchID: EMS0012-JUL22														
Mercury	0.05	ug/g	<0.05			3	20	106	80	120	NV	70	130	
Metals in Soil - Aqua-regia/ICP-MS - QCBatchID: EMS0012-JUL22														
Aluminum	3	µg/g	<3			2	20	92	70	130	NV	70	130	
Antimony	6	µg/g	<0.8			2	20	91	70	130	NV	70	130	
Arsenic	0.5	µg/g	<0.5			3	20	93	70	130	104	70	130	
Barium	0.01	µg/g	<0.01			1	20	101	70	130	95	70	130	
Beryllium	0.02	µg/g	<0.02			3	20	91	70	130	NV	70	130	
Bismuth	0.09	µg/g	<0.09			0	20	93	70	130	NV	70	130	
Cadmium	0.02	µg/g	<0.02			6	20	91	70	130	NV	70	130	
Calcium	3	µg/g	<3			1	20	97	70	130	NV	70	130	
Chromium	0.5	µg/g	<0.5			12	20	93	70	130	99	70	130	
Cobalt	0.01	µg/g	<0.01			2	20	95	70	130	115	70	130	
Copper	0.1	µg/g	<0.1			0	20	91	70	130	105	70	130	
Iron	3	µg/g	<3			2	20	93	70	130	116	70	130	
Lead	0.05	µg/g	<0.05			2	20	97	70	130	103	70	130	
Lithium	2	µg/g	<2			ND	20	92	70	130	NV	70	130	
Magnesium	3	µg/g	<3			4	20	91	70	130	NV	70	130	
Manganese	0.1	µg/g	<0.1			2	20	92	70	130	130	70	130	
Molybdenum	0.1	µg/g	<0.1			1	20	98	70	130	NV	70	130	
Nickel	0.1	µg/g	<0.1			1	20	90	70	130	109	70	130	
Potassium	3	µg/g	<3			2	20	96	70	130	NV	70	130	
Selenium	0.7	µg/g	<0.7			2	20	97	70	130	NV	70	130	
Silver	1	µg/g	<0.01			1	20	91	70	130	127	70	130	
Strontium	0.02	µg/g	<0.02			0	20	91	70	130	NV	70	130	
Thallium	0.02	µg/g	<0.02			1	20	97	70	130	NV	70	130	
Tin	2	µg/g	<2			2	20	101	70	130	NV	70	130	
Titanium	0.1	µg/g	<0.1			1	20	92	70	130	NV	70	130	
Uranium	0.002	µg/g	<0.002			4	20	94	70	130	NV	70	130	
Vanadium	1	µg/g	<1			2	20	92	70	130	120	70	130	
Yttrium	0.004	µg/g	<0.004			1	20	92	70	130	NV	70	130	
Zinc	0.7	µg/g	<0.7			0	20	91	70	130	101	70	130	

OnLine LIMS

00029860l4

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

22-July-2022

Golder Associates Limited
Attn : Laura Colgrove

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 28 June 2022
LR Report: **CA19123-JUN22**
Reference: Marten Falls 21455151

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: M225156-GEO CHEM	6: M225008-GEO CHEM	7: M225127-GEO CHEM	8: M225AD1-GEO CHEM
Sample Date & Time					N/A	N/A	N/A	N/A
Sample weight [g]	07-Jul-22	13:23	08-Jul-22	17:00	30	250	250	250
Volume D.I. Water [mL]	07-Jul-22	13:23	08-Jul-22	17:00	270	750	750	750
Final pH [no unit]	08-Jul-22	11:30	08-Jul-22	17:00	6.19	7.59	7.29	7.64
pH [No unit]	05-Jul-22	15:19	11-Jul-22	13:29	8.85	8.53	8.42	8.99
Conductivity [uS/cm]	05-Jul-22	15:19	11-Jul-22	13:29	301	251	316	254
Alkalinity [mg/L as CaCO3]	05-Jul-22	15:19	11-Jul-22	13:29	123	120	163	128
SO4 [mg/L]	06-Jul-22	11:31	11-Jul-22	15:50	< 50	< 20	< 20	< 20
Hg [mg/L]	13-Jul-22	13:52	06-Jul-22	15:42	< 0.00001	< 0.00001	0.00002	0.00001
Ag [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.177	0.136	0.123	0.348
As [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.183	0.0142	0.0024	0.162
Ba [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00632	0.0151	0.0188	0.00983
B [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	1.61	0.289	0.330	0.408
Be [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.000080	0.000010	0.000020	< 0.000007
Bi [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00001	0.00001	0.00001	< 0.00001
Ca [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	19.0	44.1	50.3	40.3

OnLine LIMS

00029860 24

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19123-JUN22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: M225156-GEO CHEM	6: M225008-GEO CHEM	7: M225127-GEO CHEM	8: M225AD1-GEO CHEM
Cd [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.000220	0.000100	0.000180	0.000060
Co [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.000510	0.000610	0.000260	0.000450
Cr [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.0168	0.00078	0.00240	0.00244
Cu [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.0030	0.0090	0.0051	0.0042
Fe [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.220	0.590	0.100	0.370
K [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	3.47	1.56	1.89	0.900
Li [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.0030	0.0014	0.0004	0.0008
Mg [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	3.47	3.57	8.38	2.17
Mn [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00215	0.0226	0.0122	0.00758
Mo [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00132	0.00726	0.00119	0.00135
Na [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	45.8	8.43	7.32	18.9
Ni [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.0056	0.0029	0.0023	0.0015
Pb [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00016	0.00037	0.00010	0.00036
Sb [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	< 0.0009	0.0014	< 0.0009	< 0.0009
Se [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00118	0.00044	0.00075	0.00085
Si [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	16.6	2.74	2.45	2.56
Sn [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00035	0.00037	< 0.00006	< 0.00006
Sr [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.0240	0.0448	0.0380	0.0310
Ti [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00980	0.00707	0.00498	0.0292
Tl [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.000090	0.00211	0.000560	0.000320
V [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.00116	0.00186	0.00067	0.00148
Zn [mg/L]	06-Jul-22	21:15	12-Jul-22	13:11	0.017	0.027	< 0.002	0.005

Tag 5: sample highly absorbent so shifted sample to DI ratio to 1:9 from 1:3

SO4 RL raised due to sample matrix

OnLine LIMS

0002986024

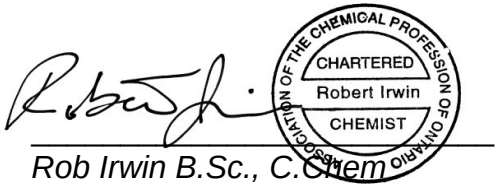
Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19123-JUN22**



Rob Irwin B.Sc., C.Chem
Technical Manager, Inorganic Chemistry,
Environment, Health & Safety

OnLine LIMS

0002986024

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Method Descriptions

Units	Description	SGS Method Code	Reference Method Code
mg/L as CaCO3	Alkalinity by Titration	ME-CA-[ENV]EWL-LAK-AN-006	SM 2320
mg/L	Aluminum by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Antimony by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Arsenic by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	Niosh7300/EPA 200.8
mg/L	Barium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Beryllium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Bismuth by ICP-MS Leach	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Boron by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Cadmium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Calcium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Chromium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Cobalt by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
uS/cm	Conductivity by Conductivity Meter	ME-CA-[ENV]EWL-LAK-AN-006	SM 2510
mg/L	Copper by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
no unit	Final pH - Glass Electrode	NA	SM 4500
mg/L	Iron by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Lead by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Lithium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Magnesium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Manganese by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Hg solutions by CVAAS	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B
mg/L	Molybdenum by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Nickel by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
No unit	pH - solution	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500
mg/L	Potassium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
g	Weight of Sample used.	NA	Sample weight
mg/L	Selenium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Silicon by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Silver by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Sodium by ICP-MS Leachates	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Strontium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Sulphate by discrete colourmetric analysis	ME-CA-[ENV]EWL-LAK-AN-026	US EPA 375.4
mg/L	Thallium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Tin by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Titanium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Uranium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mg/L	Vanadium by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8
mL	---	NA	Volume
mg/L	Zinc by ICP-MS Leachates 10x cut	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8

OnLine LIMS

0002986024

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19123-JUN22**

Quality Control Report

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
							%		Low	High		Low	High	
Alkalinity - QCBatchID: EWL0053-JUL22														
Alkalinity	2	mg/L as Ca	< 2			ND	20	102	80	120	NA			
Alkalinity - QCBatchID: EWL0149-JUL22														
Alkalinity	2	mg/L as Ca	< 2			1	20	98	80	120	NA			
Anions by discrete analyzer - QCBatchID: DIO5015-JUL22														
Sulphate	2	mg/L	<2			4	20	113	80	120	95	75	125	
Anions by discrete analyzer - QCBatchID: DIO5031-JUL22														
Sulphate	2	mg/L	<2			ND	20	114	80	120	116	75	125	
Conductivity - QCBatchID: EWL0053-JUL22														
Conductivity	2	uS/cm	< 2			0	20	100	90	110	NA			
Conductivity - QCBatchID: EWL0149-JUL22														
Conductivity	2	uS/cm	< 2			1	20	102	90	110	NA			
Inorganics-General - QCBatchID: EHG0005-JUL22														
Mercury	0.00001	mg/L	< 0.00001			ND	20	NV	80	120	102	70	130	
Inorganics-General - QCBatchID: EHG0015-JUL22														
Mercury	0.00001	mg/L	< 0.00001			ND	20	104	80	120	121	70	130	
Metals - QCBatchID: EMS0039-JUL22														
Cobalt	0.000004	mg/L	<0.000004			1	20	100	90	110	96	70	130	
Metals - QCBatchID: EMS0078-JUL22														
Cobalt	0.000004	mg/L	<0.000004			9	20	106	90	110	93	70	130	
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0039-JUL22														
Aluminum	0.001	mg/L	<0.001			9	20	96	90	110	75	70	130	
Antimony	0.0009	mg/L	<0.0009			7	20	108	90	110	108	70	130	
Arsenic	0.0002	mg/L	<0.0002			2	20	99	90	110	106	70	130	
Barium	0.00008	mg/L	<0.00002			2	20	94	90	110	95	70	130	
Beryllium	0.000007	mg/L	<0.000007			ND	20	93	90	110	86	70	130	
Bismuth	0.00001	mg/L	<0.00001			ND	20	92	90	110	70	70	130	
Boron	0.002	mg/L	<0.002			6	20	96	90	110	93	70	130	
Cadmium	0.000003	mg/L	<0.000003			ND	20	97	90	110	109	70	130	
Calcium	0.01	mg/L	<0.01			4	20	102	90	110	97	70	130	
Chromium	0.00008	mg/L	<0.00008			ND	20	103	90	110	124	70	130	
Copper	0.0002	mg/L	<0.0002			5	20	96	90	110	72	70	130	
Iron	0.007	mg/L	<0.007			2	20	103	90	110	125	70	130	
Lead	0.00009	mg/L	<0.00001			ND	20	97	90	110	91	70	130	
Lithium	0.0001	mg/L	<0.0001			4	20	94	90	110	78	70	130	
Magnesium	0.001	mg/L	<0.001			2	20	103	90	110	102	70	130	

OnLine LIMS

00029860024

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19123-JUN22**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Manganese	0.00001	mg/L	<0.00001			1	20	97	90	110	94	70	130
Molybdenum	0.00004	mg/L	<0.00004			2	20	100	90	110	98	70	130
Nickel	0.0001	mg/L	<0.0001			3	20	97	90	110	105	70	130
Potassium	0.003	mg/L	<0.009			5	20	101	90	110	95	70	130
Selenium	0.00004	mg/L	<0.00004			6	20	101	90	110	125	70	130
Silicon	0.02	mg/L	<0.02			2	20	95	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			6	20	94	90	110	85	70	130
Sodium	0.01	mg/L	<0.01			2	20	104	90	110	100	70	130
Strontium	0.00008	mg/L	<0.00002			1	20	99	90	110	98	70	130
Thallium	0.000005	mg/L	<0.000005			ND	20	90	90	110	87	70	130
Tin	0.00006	mg/L	<0.00006			13	20	97	90	110	NV	70	130
Titanium	0.00005	mg/L	<0.00005			ND	20	103	90	110	NV	70	130
Uranium	0.000002	mg/L	<0.000002			1	20	92	90	110	85	70	130
Vanadium	0.00001	mg/L	<0.00001			0	20	98	90	110	111	70	130
Zinc	0.002	mg/L	<0.002			6	20	99	90	110	95	70	130
Metals in aqueous samples - ICP-MS - QCBatchID: EMS0078-JUL22													
Aluminum	0.001	mg/L	<0.001			1	20	105	90	110	114	70	130
Antimony	0.0009	mg/L	<0.0009			1	20	108	90	110	106	70	130
Arsenic	0.0002	mg/L	<0.0002			0	20	110	90	110	114	70	130
Barium	0.00008	mg/L	<0.00002			1	20	105	90	110	100	70	130
Beryllium	0.000007	mg/L	<0.000007			ND	20	98	90	110	92	70	130
Bismuth	0.00001	mg/L	<0.00001			ND	20	96	90	110	94	70	130
Boron	0.002	mg/L	<0.002			8	20	104	90	110	92	70	130
Cadmium	0.000003	mg/L	<0.000003			17	20	106	90	110	94	70	130
Calcium	0.01	mg/L	<0.01			3	20	96	90	110	97	70	130
Chromium	0.00008	mg/L	<0.00008			2	20	110	90	110	86	70	130
Copper	0.0002	mg/L	<0.0002			4	20	103	90	110	93	70	130
Iron	0.007	mg/L	<0.007			ND	20	104	90	110	100	70	130
Lead	0.00009	mg/L	<0.00001			1	20	101	90	110	98	70	130
Lithium	0.0001	mg/L	<0.0001			1	20	102	90	110	88	70	130
Magnesium	0.001	mg/L	<0.001			3	20	94	90	110	91	70	130
Manganese	0.00001	mg/L	<0.00001			15	20	103	90	110	127	70	130
Molybdenum	0.00004	mg/L	<0.00004			1	20	105	90	110	101	70	130
Nickel	0.0001	mg/L	<0.0001			4	20	101	90	110	76	70	130
Potassium	0.003	mg/L	<0.009			2	20	93	90	110	88	70	130
Selenium	0.00004	mg/L	<0.00004			4	20	105	90	110	95	70	130
Silicon	0.02	mg/L	<0.02			1	20	95	90	110	NV	70	130
Silver	0.00005	mg/L	<0.00005			ND	20	106	90	110	81	70	130
Sodium	0.01	mg/L	<0.01			3	20	96	90	110	97	70	130

OnLine LIMS

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0002986024

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO# 2200-2207

LR Report : **CA19123-JUN22**

Inorganic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material			
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Strontium	0.00008	mg/L	<0.00002			2	20	105	90	110	96	70	130
Thallium	0.000005	mg/L	<0.000005			6	20	100	90	110	99	70	130
Tin	0.00006	mg/L	<0.00006			0	20	101	90	110	NV	70	130
Titanium	0.00005	mg/L	<0.00005			11	20	110	90	110	NV	70	130
Uranium	0.000002	mg/L	2e-006			2	20	97	90	110	94	70	130
Vanadium	0.00001	mg/L	<0.00001			5	20	102	90	110	94	70	130
Zinc	0.002	mg/L	<0.002			ND	20	102	90	110	98	70	130
pH - QCBatchID: EWL0053-JUL22													
pH	0.05	No unit	NA			0		100			NA		
pH - QCBatchID: EWL0149-JUL22													
pH	0.05	No unit	NA			1		100			NA		

OnLine LIMS

0002986024

Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19071-OCT22**
Reference: Marten Falls 21455151

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: SA-1 MW22-09(SA-1) Depth: 0-2	6: SA-4 MW22-09(SA-4) Depth: 7.5-9.5
Sample Date & Time					28-Sep-22 12:50	28-Sep-22 13:00
Paste pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:27	6.86	8.08
Fizz Rate [rating]	01-Nov-22	16:00	02-Nov-22	22:27	1	4
Sample weight [g]	01-Nov-22	16:00	02-Nov-22	22:27	1.90	2.00
HCl_add [mL]	01-Nov-22	16:00	02-Nov-22	22:27	35.00	190.00
HCl [Normality]	01-Nov-22	16:00	02-Nov-22	22:27	0.10	0.10
NaOH [Normality]	01-Nov-22	16:00	02-Nov-22	22:27	0.10	0.10
Vol NaOH to pH=8.3 [mL]	01-Nov-22	16:00	02-Nov-22	22:27	32.70	58.77
Final pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:27	1.58	1.64
NP [t CaCO3/1000 t]	01-Nov-22	16:00	02-Nov-22	22:27	6.1	328
AP [t CaCO3/1000 t]	15-Nov-22	12:10	15-Nov-22	12:10	1.25	1.25
Net NP [t CaCO3/1000 t]	15-Nov-22	12:10	15-Nov-22	12:10	4.85	327
NP/AP [ratio]	15-Nov-22	12:10	15-Nov-22	12:10	4.88	262
S [%]	31-Oct-22	11:08	15-Nov-22	12:10	0.096	0.018
Acid Leachable SO4-S [%]	07-Nov-22	13:17	15-Nov-22	12:10	0.06	< 0.04
Sulphide [%]	07-Nov-22	13:17	15-Nov-22	12:10	0.04	< 0.04
C [%]	31-Oct-22	11:08	03-Nov-22	17:08	41.0	5.65
CO3 (HCl) [%]	03-Nov-22	14:31	03-Nov-22	17:08	21.4	19.6

Analysis	7: SA-5 MW22-09(SA-5) Depth: 10-12	8: SA-6 MW22-09(SA-6) Depth: 12.5-14.5	9: SA-7 MW22-09(SA-7) Depth 15-17
Sample Date & Time	28-Sep-22 13:10	28-Sep-22 13:30	28-Sep-22 13:40
Paste pH [no unit]	8.42	8.34	8.36
Fizz Rate [rating]	4	4	4
Sample weight [g]	1.89	1.85	1.98
HCl_add [mL]	250.00	250.00	250.00

OnLine LIMS

0003140178

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

LR Report : **CA19071-OCT22**

Analysis	7: SA-5 MW22-09(SA-5) Depth: 10-12	8: SA-6 MW22-09(SA-6) Depth: 12.5-14.5	9: SA-7 MW22-09(SA-7) Depth 15-17
HCl [Normality]	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	90.22	89.71	79.18
Final pH [no unit]	1.53	1.53	1.60
NP [t CaCO3/1000 t]	423	433	431
AP [t CaCO3/1000 t]	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	421	432	430
NP/AP [ratio]	338	347	345
S [%]	0.019	0.036	0.036
Acid Leachable SO4-S [%]	< 0.04	< 0.04	< 0.04
Sulphide [%]	< 0.04	< 0.04	< 0.04
C [%]	5.30	5.23	5.13
CO3 (HCl) [%]	24.9	24.9	24.8

*NP (Neutralization Potential)
= 50 x (N of HCL x Total HCL added - N NaOH x NaOH added)

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140178

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

30-November-2022

Date Rec. : 06 October 2022
LR Report: **CA19072-OCT22**
Reference: Marten Falls 21455151

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: SA-1 MW22-09(SA-1) Depth: 0-2	6: SA-4 MW22-09(SA-4) Depth: 7.5-9.5	7: SA-5 MW22-09(SA-5) Depth: 10-12	8: SA-6 MW22-09(SA-6) Depth: 12.5-14.5	9: SA-7 MW22-09(SA-7) Depth 15-17
Sample Date & Time					28-Sep-22 12:50	28-Sep-22 13:00	28-Sep-22 13:10	28-Sep-22 13:30	28-Sep-22 13:40
Hg [ug/g]	03-Nov-22	07:06	03-Nov-22	10:24	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	< 1	< 1	< 1	< 1	< 1
As [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	2.1	2.8	2.2	2.5	2.3
Al [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	1500	9200	6000	5600	5900
Ba [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	27	47	33	29	32
Be [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	0.07	0.35	0.27	0.24	0.26
Bi [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	0.11	0.17	0.11	0.10	0.11
Ca [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	23000	100000	130000	130000	130000
Cd [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	0.11	0.06	0.07	0.07	0.06
Co [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	1.4	7.3	5.3	5.1	5.3
Cr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	111	69	60	51	41
Cu [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	6.1	15	11	11	11
Fe [µg/g]	03-Nov-22	19:56	04-Nov-22	16:38	5100	16000	13000	13000	13000
K [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	300	1800	1400	1200	1300
Li [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	< 2	16	12	12	12
Mg [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	2500	21000	23000	23000	25000

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140186

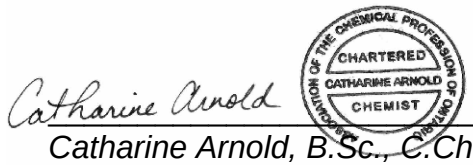
SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

LR Report : **CA19072-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: SA-1 MW22-09(SA-1) Depth: 0-2	6: SA-4 MW22-09(SA-4) Depth: 7.5-9.5	7: SA-5 MW22-09(SA-5) Depth: 10-12	8: SA-6 MW22-09(SA-6) Depth: 12.5-14.5	9: SA-7 MW22-09(SA-7) Depth 15-17
Mn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	118	275	259	320	274
Mo [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	4.0	3.4	1.9	2.9	1.1
Ni [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	8.0	19	14	13	13
P [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	350	380	330	310	310
Pb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	2.7	5.5	3.9	3.6	4.0
Sb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	< 2	3	< 2	< 2	< 2
Sr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	52	77	90	89	88
Ti [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	73	706	556	513	583
Tl [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	< 0.02	0.09	0.06	0.05	0.05
U [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	0.18	0.84	0.62	0.64	0.65
V [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	4	28	21	22	23
Y [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	1.1	7.4	6.0	5.5	5.8
Zn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:39	15	35	24	23	24



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140186

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O# 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19073-OCT22**
Reference: Marten Falls 21455151

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: SA-1 MW22-09(SA-1) Depth: 0-2	6: SA-4 MW22-09(SA-4) Depth: 7.5-9.5
Sample Date & Time					28-Sep-22 12:50	28-Sep-22 13:00
Sample weight [g]	31-Oct-22	11:00	04-Nov-22	15:58	200	250
Volume D.I. Water [mL]	31-Oct-22	11:00	04-Nov-22	15:58	600	750
Final pH [no unit]	01-Nov-22	11:00	04-Nov-22	15:58	6.53	7.71
pH [No unit]	03-Nov-22	08:04	07-Nov-22	13:36	8.55	8.09
Conductivity [uS/cm]	03-Nov-22	08:04	07-Nov-22	13:36	473	236
Alkalinity [mg/L as CaCO3]	03-Nov-22	08:04	07-Nov-22	13:36	243	112
SO4 [mg/L]	08-Nov-22	13:57	19-Nov-22	11:48	3	3
Cl [mg/L]	08-Nov-22	13:30	19-Nov-22	11:48	4	< 1
F [mg/L]	03-Nov-22	09:02	08-Nov-22	11:43	0.42	1.00
NO2 [as N mg/L]	17-Nov-22	19:44	29-Nov-22	09:46	<0.3	<0.3
NO3 [as N mg/L]	17-Nov-22	19:44	29-Nov-22	09:46	<0.6	<0.6
NO2+NO3 [as N mg/L]	17-Nov-22	19:44	29-Nov-22	09:46	<0.6	<0.6
NH3+NH4 [as N mg/L]	02-Nov-22	20:43	07-Nov-22	13:34	4.0	0.7
Hg [mg/L]	08-Nov-22	07:47	08-Nov-22	16:35	< 0.00001	< 0.00001
Ag [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	< 0.00005	< 0.00005
Al [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.073	0.049
As [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.0065	0.0017
Ba [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.0256	0.0391
B [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.781	0.037
Be [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.000034	0.000035
Bi [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	< 0.00001	< 0.00001
Ca [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	45.2	37.0
Cd [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.000084	0.000092
Co [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.000223	0.000133
Cr [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.00330	0.00057
Cu [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.0025	0.0036
Fe [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.051	0.027

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140206

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: SA-1 MW22-09(SA-1) Depth: 0-2	6: SA-4 MW22-09(SA-4) Depth: 7.5-9.5
K [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	3.21	2.21
Li [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.0040	0.0040
Mg [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	9.50	4.09
Mn [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.0182	0.0524
Mo [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.00074	0.0148
Na [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	36.5	1.94
Ni [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.0027	0.0017
P [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.059	0.027
Pb [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.00027	< 0.00009
Sb [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	< 0.0009	0.0010
Se [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.00117	0.00106
Si [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	4.79	0.90
Sn [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.00012	0.00009
Sr [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.104	0.111
Ti [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.00475	0.00402
Tl [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.000011	0.000021
U [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.000057	0.00132
V [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.00107	0.00250
Zn [mg/L]	07-Nov-22	08:40	11-Nov-22	12:49	0.004	< 0.002

Analysis	7: SA-5 MW22-09(SA-5) Depth: 10-12	8: SA-6 MW22-09(SA-6) Depth: 12.5-14.5	9: SA-7 MW22-09(SA-7) Depth 15-17
Sample Date & Time	28-Sep-22 13:10	28-Sep-22 13:30	28-Sep-22 13:40
Sample weight [g]	250	250	50
Volume D.I. Water [mL]	750	750	150
Final pH [no unit]	8.29	8.29	8.14
pH [No unit]	8.09	8.06	8.23
Conductivity [uS/cm]	179	210	246
Alkalinity [mg/L as CaCO3]	78	82	65
SO4 [mg/L]	5	17	25
Cl [mg/L]	1	3	9
F [mg/L]	1.16	0.74	0.65
NO2 [as N mg/L]	<0.3	<0.3	< 0.3
NO3 [as N mg/L]	<0.6	<0.6	< 0.6
NO2+NO3 [as N mg/L]	<0.6	<0.6	< 0.6
NH3+NH4 [as N mg/L]	0.4	0.2	0.4
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.035	0.027	0.059
As [mg/L]	0.0014	0.0018	0.0017

OnLine LIMS

00031402O6

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O# 2200-2207

LR Report : **CA19073-OCT22**

Analysis	7: SA-5 MW22-09(SA-5) Depth: 10-12	8: SA-6 MW22-09(SA-6) Depth: 12.5-14.5	9: SA-7 MW22-09(SA-7) Depth 15-17
Ba [mg/L]	0.0287	0.0304	0.0150
B [mg/L]	0.034	0.036	0.507
Be [mg/L]	0.000027	0.000021	0.000060
Bi [mg/L]	< 0.00001	< 0.00001	0.00003
Ca [mg/L]	23.1	26.6	23.6
Cd [mg/L]	0.000068	0.000033	0.000020
Co [mg/L]	0.000076	0.000131	0.000390
Cr [mg/L]	0.00044	0.00057	0.00259
Cu [mg/L]	0.0033	0.0039	0.0044
Fe [mg/L]	0.020	0.017	0.160
K [mg/L]	3.34	4.54	3.10
Li [mg/L]	0.0050	0.0060	0.0100
Mg [mg/L]	3.35	4.44	6.57
Mn [mg/L]	0.0221	0.0179	0.00400
Mo [mg/L]	0.00723	0.00832	0.0102
Na [mg/L]	2.10	2.63	20.8
Ni [mg/L]	0.0010	0.0012	< 0.0001
P [mg/L]	0.019	0.013	0.220
Pb [mg/L]	< 0.00009	< 0.00009	0.00019
Sb [mg/L]	< 0.0009	0.0010	0.0016
Se [mg/L]	0.00104	0.00117	0.00120
Si [mg/L]	0.91	1.25	5.57
Sn [mg/L]	< 0.00006	< 0.00006	0.00019
Sr [mg/L]	0.0992	0.124	0.102
Ti [mg/L]	0.00205	0.00121	0.00242
Tl [mg/L]	0.000016	0.000010	0.000030
U [mg/L]	0.00184	0.00312	0.00315
V [mg/L]	0.00219	0.00338	0.00273
Zn [mg/L]	< 0.002	< 0.002	0.014

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140206

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : P.O# 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19074-OCT22**
Reference: Marten Falls 21455151

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: SA-1 MW22-09(SA-1) Depth: 0-2	6: SA-4 MW22-09(SA-4) Depth: 7.5-9.5
Sample Date & Time					28-Sep-22 12:50	28-Sep-22 13:00
LOI [%]	03-Nov-22	20:05	09-Nov-22	15:49	86.2	4.30

Analysis	7: SA-5 MW22-09(SA-5) Depth: 10-12	8: SA-6 MW22-09(SA-6) Depth: 12.5-14.5	9: SA-7 MW22-09(SA-7) Depth 15-17
Sample Date & Time	28-Sep-22 13:10	28-Sep-22 13:30	28-Sep-22 13:40
LOI [%]	1.92	1.76	1.38

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00003140211

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

ABA - Modified Sobek

Project : P.O# 2200-2207

30-November-2022

Date Rec. : 06 October 2022
LR Report: **CA19075-OCT22**
Reference: Marten Falls 21455151

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: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	6: SA-3 MW22-08(SA-3) Depth: 5-7	7: SA-4 MW22-08 (SA-4) Depth: 7.5-9.5	8: SA-6 MW22-08(SA-6) Depth: 12.5-14.5
Sample Date & Time					27-Sep-22 15:50	27-Sep-22 16:00	27-Sep-22 16:10	27-Sep-22 16:20
Paste pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:28	7.59	8.26	8.35	8.32
Fizz Rate [rating]	01-Nov-22	16:00	02-Nov-22	22:28	4	4	4	4
Sample weight [g]	01-Nov-22	16:00	02-Nov-22	22:28	2.08	1.98	1.98	2.02
HCl_add [mL]	01-Nov-22	16:00	02-Nov-22	22:28	150.00	220.00	220.00	220.00
HCl [Normality]	01-Nov-22	16:00	02-Nov-22	22:28	0.10	0.10	0.10	0.10
NaOH [Normality]	01-Nov-22	16:00	02-Nov-22	22:28	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	01-Nov-22	16:00	02-Nov-22	22:28	58.79	77.48	77.55	66.92
Final pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:28	1.56	1.56	1.55	1.61
NP [t CaCO3/1000 t]	01-Nov-22	16:00	02-Nov-22	22:28	219	360	360	379
AP [t CaCO3/1000 t]	09-Nov-22	22:42	09-Nov-22	22:43	1.25	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	09-Nov-22	22:42	09-Nov-22	22:43	218	359	358	378
NP/AP [ratio]	09-Nov-22	22:42	09-Nov-22	22:43	175	288	288	303
S [%]	09-Nov-22	08:55	09-Nov-22	22:42	0.008	0.007	0.008	0.040

OnLine LIMS

0003140232

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

LR Report : **CA19075-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	6: SA-3 MW22-08(SA-3) Depth: 5-7	7: SA-4 MW22-08 (SA-4) Depth: 7.5-9.5	8: SA-6 MW22-08(SA-6) Depth: 12.5-14.5
Acid Leachable SO4-S [%]	09-Nov-22	22:41	09-Nov-22	22:42	<0.04	<0.04	<0.04	<0.04
Sulphide [%]	09-Nov-22	20:24	09-Nov-22	22:42	< 0.04	< 0.04	< 0.04	< 0.04
C [%]	09-Nov-22	08:55	09-Nov-22	22:42	3.56	4.33	4.34	4.59
CO3 (HCl) as %CO3 [%]	11-Nov-22	07:11	14-Nov-22	11:03	15.3	21.1	20.6	22.0

Analysis	9: SA-8 MW22-08(SA-8) Depth: 17.5-19.5	10: SA-2 MW22-10(SA-2) Depth: 2.5-4.5	11: SA-3 MW22-10(SA-3) Depth: 5-7	12: SA-4 MW22-10(SA-4) Depth: 7.5-9.5	13: SA-5 MW22-10(SA-5) Depth: 10-12	14: SA-6 MW22-10(SA-6) Depth: 12-14
Sample Date & Time	27-Sep-22 11:00		02-Oct-22 11:40	02-Oct-22 12:00	02-Oct-22 12:50	02-Oct-22 13:20
Paste pH [no unit]	8.30	7.80	8.09	8.21	8.43	8.69
Fizz Rate [rating]	4	4	4	4	4	4
Sample weight [g]	1.99	2.03	2.11	2.16	1.91	1.87
HCl_add [mL]	250.00	180.00	220.00	250.00	210.00	205.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	84.25	69.73	73.46	90.82	73.12	75.77
Final pH [no unit]	1.57	1.55	1.57	1.50	1.50	1.50
NP [t CaCO3/1000 t]	416	272	347	368	358	346
AP [t CaCO3/1000 t]	1.25	1.25	1.25	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	415	270	346	367	357	344
NP/AP [ratio]	333	217	278	295	287	276
S [%]	0.038	0.008	0.007	0.006	0.014	0.033
Acid Leachable SO4-S [%]	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Sulphide [%]	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
C [%]	4.94	5.35	4.70	4.37	4.31	4.05

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140232

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

LR Report : **CA19075-OCT22**

Analysis	9: SA-8 MW22-08(SA-8) Depth: 17.5-19.5	10: SA-2 MW22-10(SA-2) Depth: 2.5-4.5	11: SA-3 MW22-10(SA-3) Depth: 5-7	12: SA-4 MW22-10(SA-4) Depth: 7.5-9.5	13: SA-5 MW22-10(SA-5) Depth: 10-12	14: SA-6 MW22-10(SA-6) Depth: 12-14
CO3 (HCl) as %CO3 [%]	23.8	16.9	20.5	21.2	21.0	19.8

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N\ NaOH \times NaOH \text{ added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST — THE CHEMICAL PROFESSION OF ONTARIO

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140232

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

30-November-2022

Date Rec. : 06 October 2022
LR Report: **CA19076-OCT22**
Reference: Marten Falls 21455151

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: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	6: SA-3 MW22-08(SA-3) Depth: 5-7	7: SA-4 MW22-08 (SA-4) Depth: 7.5-9.5	8: SA-6 MW22-08(SA-6) Depth: 12.5-14.5
Sample Date & Time					27-Sep-22 15:50	27-Sep-22 16:00	27-Sep-22 16:10	27-Sep-22 16:20
Hg [ug/g]	03-Nov-22	07:06	03-Nov-22	10:24	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	< 1	< 1	< 1	< 1
As [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	4.0	3.4	3.0	3.5
Al [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	11000	8500	8200	6200
Ba [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	51	41	47	38
Be [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	0.51	0.39	0.36	0.30
Bi [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	0.20	0.17	0.14	0.13
Ca [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	68000	100000	110000	110000
Cd [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	0.078	0.082	0.061	0.065
Co [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	8.7	6.6	6.2	5.8
Cr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	59	34	53	35
Cu [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	16	13	12	11
Fe [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	18000	15000	14000	13000

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140237

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

LR Report : **CA19076-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	6: SA-3 MW22-08(SA-3) Depth: 5-7	7: SA-4 MW22-08 (SA-4) Depth: 7.5-9.5	8: SA-6 MW22-08(SA-6) Depth: 12.5-14.5
K [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	2100	2000	2100	1600
Li [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	21	17	16	14
Mg [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	16000	21000	20000	23000
Mn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	400	260	280	280
Mo [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	2.9	0.58	2.8	0.93
Ni [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	22	17	16	14
P [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	400	340	330	320
Pb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	7.0	5.7	5.2	4.6
Sb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	< 6	< 6	< 6	< 6
Se [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	< 2	< 2	< 2	< 2
Sr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	62	79	88	90
Ti [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	650	540	570	480
Tl [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	0.11	0.089	0.082	0.072
U [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	0.59	0.56	0.96	0.72
V [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	31	25	25	21
Y [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	8.3	7.1	6.8	6.3
Zn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:40	37	32	29	27

Analysis	9: SA-8 MW22-08(SA-8) Depth: 17.5-19.5	10: SA-2 MW22-10(SA-2) Depth: 2.5-4.5	11: SA-3 MW22-10(SA-3) Depth: 5-7	12: SA-4 MW22-10(SA-4) Depth: 7.5-9.5	13: SA-5 MW22-10(SA-5) Depth: 10-12	14: SA-6 MW22-10(SA-6) Depth: 12-14
Sample Date & Time	27-Sep-22 11:00		02-Oct-22 11:40	02-Oct-22 12:00	02-Oct-22 12:50	02-Oct-22 13:20
Hg [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 1	< 1	< 1	< 1	< 1	< 1

OnLine LIMS

0003140237

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

LR Report : **CA19076-OCT22**

Analysis	9: SA-8 MW22-08(SA-8) Depth: 17.5-19.5	10: SA-2 MW22-10(SA-2) Depth: 2.5-4.5	11: SA-3 MW22-10(SA-3) Depth: 5-7	12: SA-4 MW22-10(SA-4) Depth: 7.5-9.5	13: SA-5 MW22-10(SA-5) Depth: 10-12	14: SA-6 MW22-10(SA-6) Depth: 12-14
As [µg/g]	2.8	3.6	3.4	3.8	1.7	1.6
Al [µg/g]	6200	12000	8300	9200	4500	4300
Ba [µg/g]	34	62	46	49	21	21
Be [µg/g]	0.29	0.48	0.37	0.44	0.19	0.17
Bi [µg/g]	0.11	0.20	0.15	0.18	< 0.09	< 0.09
Ca [µg/g]	130000	87000	100000	110000	110000	100000
Cd [µg/g]	0.074	0.083	0.077	0.079	0.046	0.038
Co [µg/g]	5.8	9.2	6.6	7.5	4.3	3.8
Cr [µg/g]	40	44	44	36	50	52
Cu [µg/g]	12	19	13	14	9.2	8.7
Fe [µg/g]	13000	21000	15000	17000	11000	10000
K [µg/g]	1400	2100	1800	2200	800	840
Li [µg/g]	14	22	17	19	10	8.8
Mg [µg/g]	23000	17000	20000	21000	21000	17000
Mn [µg/g]	280	370	300	310	220	200
Mo [µg/g]	1.8	0.52	1.9	0.59	3.1	1.9
Ni [µg/g]	15	23	17	19	11	9.4
P [µg/g]	320	400	350	390	330	300
Pb [µg/g]	4.4	6.9	5.6	6.5	3.0	2.5
Sb [µg/g]	< 6	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	< 2	< 2	< 2	< 2	< 2	< 2
Sr [µg/g]	92	80	85	84	73	71
Ti [µg/g]	550	910	600	600	510	520
Tl [µg/g]	0.061	0.11	0.085	0.092	0.040	0.039
U [µg/g]	0.70	1.2	1.1	0.72	0.57	0.54
V [µg/g]	22	36	25	28	18	17

OnLine LIMS

0003140237

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

LR Report : **CA19076-OCT22**

Analysis	9: SA-8 MW22-08(SA-8) Depth: 17.5-19.5	10: SA-2 MW22-10(SA-2) Depth: 2.5-4.5	11: SA-3 MW22-10(SA-3) Depth: 5-7	12: SA-4 MW22-10(SA-4) Depth: 7.5-9.5	13: SA-5 MW22-10(SA-5) Depth: 10-12	14: SA-6 MW22-10(SA-6) Depth: 12-14
Y [µg/g]	6.1	8.6	7.2	7.5	5.4	4.8
Zn [µg/g]	26	41	31	37	19	16

Catharine Arnold

CHARTERED CHEMICAL PROFESSION OF ONTARIO ASSOCIATION CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140237

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O# 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19077-OCT22**
Reference: Marten Falls 21455151

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: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	6: SA-3 MW22-08(SA-3) Depth: 5-7	7: SA-4 MW22-08 (SA-4) Depth: 7.5-9.5	8: SA-6 MW22-08(SA-6) Depth: 12.5-14.5
Sample Date & Time					27-Sep-22 15:50	27-Sep-22 16:00	27-Sep-22 16:10	27-Sep-22 16:20
Sample weight [g]	31-Oct-22	11:00	02-Nov-22	10:01	145	250	250	250
Volume D.I. Water [mL]	31-Oct-22	11:00	02-Nov-22	10:01	435	750	750	750
Final pH [no unit]	01-Nov-22	11:00	02-Nov-22	10:01	7.25	8.18	8.03	7.96
pH [No unit]	03-Nov-22	08:04	04-Nov-22	10:51	8.47	9.01	8.79	8.56
Conductivity [uS/cm]	03-Nov-22	08:04	04-Nov-22	10:51	373	171	214	245
Alkalinity [mg/L as CaCO3]	03-Nov-22	08:04	04-Nov-22	10:51	202	86	99	97
SO4 [mg/L]	08-Nov-22	17:02	19-Nov-22	11:52	< 20	< 2	4	27
Cl [mg/L]	08-Nov-22	15:39	19-Nov-22	11:49	2	< 1	< 1	< 1
F [mg/L]	03-Nov-22	09:02	04-Nov-22	14:11	0.26	0.48	1.24	0.80
NO2 [as N mg/L]	17-Nov-22	19:44	28-Nov-22	10:16	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	17-Nov-22	19:44	28-Nov-22	10:16	0.06	< 0.06	0.06	< 0.06
NO2+NO3 [as N mg/L]	17-Nov-22	19:44	28-Nov-22	10:16	0.06	< 0.06	0.06	< 0.06
NH3+NH4 [as N mg/L]	02-Nov-22	20:43	03-Nov-22	15:27	0.1	< 0.1	0.1	0.2

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140247

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O# 2200-2207

LR Report : **CA19077-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	6: SA-3 MW22-08(SA-3) Depth: 5-7	7: SA-4 MW22-08 (SA-4) Depth: 7.5-9.5	8: SA-6 MW22-08(SA-6) Depth: 12.5-14.5
Hg [mg/L]	03-Nov-22	09:56	04-Nov-22	11:44	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.222	0.172	0.142	0.251
As [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0017	0.0017	0.0064	0.0031
Ba [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0255	0.00664	0.0147	0.0258
B [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.450	0.294	0.328	0.183
Be [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000044	0.000029	0.000010	0.000040
Bi [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	59.8	23.9	23.7	26.8
Cd [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000039	0.000084	0.000067	0.000120
Co [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000179	0.000101	0.000115	0.000205
Cr [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00172	0.00299	0.00156	0.00189
Cu [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0080	0.0028	0.0061	0.0061
Fe [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.192	0.132	0.103	0.176
K [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	1.77	1.30	2.84	3.47
Li [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0008	0.0017	0.0058	0.0062
Mg [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	6.17	2.35	3.34	3.96
Mn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00856	0.00163	0.00496	0.00919
Mo [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00162	0.00217	0.0113	0.0112
Na [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	14.2	12.8	13.0	14.6
Ni [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0020	0.0012	0.0016	0.0016
P [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.037	0.036	0.035	0.042
Pb [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00033	0.00012	< 0.00009	0.00011
Sb [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	< 0.0009	< 0.0009	0.0009	0.0014
Se [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00051	0.00092	0.00173	0.00230
Si [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	4.61	8.17	5.37	1.96
Sn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	< 0.00006	< 0.00006	< 0.00006	< 0.00006

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140247

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O# 2200-2207

LR Report : **CA19077-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	6: SA-3 MW22-08(SA-3) Depth: 5-7	7: SA-4 MW22-08 (SA-4) Depth: 7.5-9.5	8: SA-6 MW22-08(SA-6) Depth: 12.5-14.5
Sr [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0568	0.0222	0.106	0.169
Ti [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0117	0.00944	0.00633	0.0110
Tl [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000009	0.000007	< 0.000005	0.000007
U [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000409	0.000456	0.00500	0.00308
V [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00159	0.00179	0.00537	0.00550
Zn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.003	< 0.002	< 0.002	< 0.002

Analysis	9: SA-8 MW22-08(SA-8) Depth: 17.5-19.5	10: SA-2 MW22-10(SA-2) Depth: 2.5-4.5	11: SA-3 MW22-10(SA-3) Depth: 5-7	12: SA-4 MW22-10(SA-4) Depth: 7.5-9.5	13: SA-5 MW22-10(SA-5) Depth: 10-12	14: SA-6 MW22-10(SA-6) Depth: 12-14	15: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	16:BLK: $D.I. Leachate Blank
Sample Date & Time	27-Sep-22 11:00		02-Oct-22 11:40	02-Oct-22 12:00	02-Oct-22 12:50	02-Oct-22 13:20		
Sample weight [g]	250	250	250	250	250	200	145	---
Volume D.I. Water [mL]	750	750	750	750	750	600	435	750
Final pH [no unit]	8.21	7.51	7.80	8.15	8.86	8.80	7.21	5.93
pH [No unit]	8.43	8.65	8.31	8.55	8.80	8.20	8.29	6.19
Conductivity [uS/cm]	246	355	244	190	128	133	336	< 2
Alkalinity [mg/L as CaCO3]	96	186	118	90	58	50	175	2
SO4 [mg/L]	23	< 2	< 2	4	4	11	< 20	< 2
Cl [mg/L]	1	< 1	< 1	< 1	1	3	2	< 1
F [mg/L]	0.59	0.63	0.88	0.53	0.45	0.34	0.10	< 0.06
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	0.07	< 0.06
NO2+NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	0.07	< 0.06
NH3+NH4 [as N mg/L]	0.4	< 0.1	< 0.1	< 0.1	0.1	< 0.1	0.2	< 0.1
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140247

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O# 2200-2207

LR Report : **CA19077-OCT22**

Analysis	9: SA-8 MW22-08(SA-8) Depth: 17.5-19.5	10: SA-2 MW22-10(SA-2) Depth: 2.5-4.5	11: SA-3 MW22-10(SA-3) Depth: 5-7	12: SA-4 MW22-10(SA-4) Depth: 7.5-9.5	13: SA-5 MW22-10(SA-5) Depth: 10-12	14: SA-6 MW22-10(SA-6) Depth: 12-14	15: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	16:BLK: $D.I. Leachate Blank
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.134	0.075	0.157	0.214	0.249	0.083	0.155	0.002
As [mg/L]	0.0028	0.0013	0.0017	0.0026	0.0015	0.0017	0.0015	< 0.0002
Ba [mg/L]	0.0299	0.0186	0.0184	0.00844	0.00995	0.00947	0.0200	< 0.00008
B [mg/L]	0.166	0.252	0.236	0.267	0.118	0.073	0.031	< 0.002
Be [mg/L]	0.000042	0.000010	0.000033	0.000041	0.000015	0.000037	0.000062	< 0.000007
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	23.4	49.2	33.8	23.6	15.3	16.5	62.3	0.10
Cd [mg/L]	0.000062	0.000041	0.000108	0.000069	0.000086	0.000104	0.000067	< 0.000003
Co [mg/L]	0.000176	0.000173	0.000143	0.000121	0.000202	0.000123	0.000180	0.000005
Cr [mg/L]	0.00139	0.00156	0.00192	0.00298	0.00165	0.00165	0.00111	< 0.00008
Cu [mg/L]	0.0058	0.0026	0.0042	0.0041	0.0049	0.0029	0.0049	< 0.0002
Fe [mg/L]	0.096	0.063	0.125	0.151	0.191	0.087	0.103	< 0.007
K [mg/L]	4.48	1.77	1.93	1.56	1.24	1.36	1.88	0.040
Li [mg/L]	0.0077	0.0051	0.0053	0.0041	0.0038	0.0046	0.0004	< 0.0001
Mg [mg/L]	4.38	5.91	3.88	2.34	1.33	1.45	6.14	0.014
Mn [mg/L]	0.00650	0.0416	0.0141	0.00325	0.00478	0.00344	0.02006	0.00032
Mo [mg/L]	0.00858	0.00546	0.0128	0.00358	0.00508	0.00587	0.00143	0.00009
Na [mg/L]	15.1	18.9	9.38	10.9	8.60	6.16	1.04	< 0.01
Ni [mg/L]	0.0014	0.0010	0.0011	0.0011	0.0010	0.0009	0.0017	0.0002
P [mg/L]	0.022	0.022	0.034	0.038	0.037	0.023	0.035	< 0.003
Pb [mg/L]	< 0.00009	0.00013	0.00011	0.00011	0.00024	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0016	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se [mg/L]	0.00177	0.00051	0.00155	0.00140	0.00247	0.00176	0.00069	< 0.00004
Si [mg/L]	1.71	5.72	3.54	4.30	2.16	1.48	1.68	< 0.02
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00008	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.189	0.0980	0.0850	0.0274	0.0214	0.0282	0.0603	0.00013

OnLine LIMS

0003140247

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O# 2200-2207

LR Report : **CA19077-OCT22**

Analysis	9: SA-8 MW22-08(SA-8) Depth: 17.5-19.5	10: SA-2 MW22-10(SA-2) Depth: 2.5-4.5	11: SA-3 MW22-10(SA-3) Depth: 5-7	12: SA-4 MW22-10(SA-4) Depth: 7.5-9.5	13: SA-5 MW22-10(SA-5) Depth: 10-12	14: SA-6 MW22-10(SA-6) Depth: 12-14	15: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	16:BLK: $D.I. Leachate Blank
Ti [mg/L]	0.00539	0.00421	0.00866	0.00908	0.0118	0.00497	0.00522	0.00009
Tl [mg/L]	0.000008	< 0.000005	0.000005	0.000006	0.000005	0.000010	0.000019	0.000013
U [mg/L]	0.00414	0.00167	0.00223	0.00157	0.000997	0.00105	0.000421	< 0.000002
V [mg/L]	0.00565	0.00134	0.00327	0.00216	0.00458	0.00382	0.00118	< 0.00001
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.011	< 0.002	< 0.002	< 0.002

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140247

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : P.O# 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewissp

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19078-OCT22**
Reference: Marten Falls 21455151

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: SA-2 MW22-08(SA-2) Depth: 2.5-4.5	6: SA-3 MW22-08(SA-3) Depth: 5-7	7: SA-4 MW22-08 (SA-4) Depth: 7.5-9.5	8: SA-6 MW22-08(SA-6) Depth: 12.5-14.5
Sample Date & Time					27-Sep-22 15:50	27-Sep-22 16:00	27-Sep-22 16:10	27-Sep-22 16:20
LOI [%]	03-Nov-22	20:05	09-Nov-22	11:25	4.17	1.78	1.81	1.46

Analysis	9: SA-8 MW22-08(SA-8) Depth: 17.5-19.5	10: SA-2 MW22-10(SA-2) Depth: 2.5-4.5	11: SA-3 MW22-10(SA-3) Depth: 5-7	12: SA-4 MW22-10(SA-4) Depth: 7.5-9.5	13: SA-5 MW22-10(SA-5) Depth: 10-12	14: SA-6 MW22-10(SA-6) Depth: 12-14
Sample Date & Time	27-Sep-22 11:00		02-Oct-22 11:40	02-Oct-22 12:00	02-Oct-22 12:50	02-Oct-22 13:20
LOI [%]	1.49	7.50	4.13	1.96	0.92	NSS

NSS - Not sufficient sample

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140257

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19118-OCT22**
Reference: Marten Falls 21455151

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: MW22-05 SA-1	6: MW22-05 SA-2	7: MW22-05 SA-4
Sample Date & Time					22-Sep-22 11:45	22-Sep-22 12:00	22-Sep-22 12:30
Paste pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:29	8.59	8.55	8.65
Fizz Rate [rating]	01-Nov-22	16:00	02-Nov-22	22:29	4	4	4
Sample weight [g]	01-Nov-22	16:00	02-Nov-22	22:29	1.98	1.88	2.11
HCl_add [mL]	01-Nov-22	16:00	02-Nov-22	22:29	160.00	180.00	210.00
HCl [Normality]	01-Nov-22	16:00	02-Nov-22	22:29	0.10	0.10	0.10
NaOH [Normality]	01-Nov-22	16:00	02-Nov-22	22:29	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	01-Nov-22	16:00	02-Nov-22	22:29	61.38	59.35	76.75
Final pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:29	1.50	1.57	1.52
NP [t CaCO3/1000 t]	01-Nov-22	16:00	02-Nov-22	22:29	249	321	316
AP [t CaCO3/1000 t]	15-Nov-22	12:11	15-Nov-22	12:11	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	15-Nov-22	12:11	15-Nov-22	12:11	248	320	315
NP/AP [ratio]	15-Nov-22	12:11	15-Nov-22	12:11	199	257	253
S [%]	31-Oct-22	11:08	15-Nov-22	12:11	< 0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	15-Nov-22	12:11	15-Nov-22	12:11	< 0.04	< 0.04	< 0.04
Sulphide [%]	07-Nov-22	13:17	15-Nov-22	12:11	< 0.04	< 0.04	< 0.04
C [%]	31-Oct-22	11:08	03-Nov-22	17:08	3.08	3.79	3.74
CO3 (HCl) as %CO3 [%]	03-Nov-22	14:31	03-Nov-22	17:08	14.7	18.5	18.3

Analysis	8: MW22-05 SA-6	9: MW22-05 SA-7
Sample Date & Time	22-Sep-22 13:30	22-Sep-22 13:45
Paste pH [no unit]	8.64	8.69
Fizz Rate [rating]	4	4
Sample weight [g]	1.93	2.14
HCl_add [mL]	190.00	220.00
HCl [Normality]	0.10	0.10
NaOH [Normality]	0.10	0.10
Vol NaOH to pH=8.3 [mL]	56.09	73.41
Final pH [no unit]	1.62	1.56
NP [t CaCO3/1000 t]	347	342
AP [t CaCO3/1000 t]	1.25	1.25
Net NP [t CaCO3/1000 t]	346	341

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140264

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

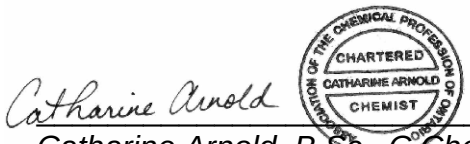
LR Report : **CA19118-OCT22**

Analysis	8: MW22-05 SA-6	9: MW22-05 SA-7
NP/AP [ratio]	278	274
S [%]	0.034	0.023
Acid Leachable SO4-S [%]	< 0.04	< 0.04
Sulphide [%]	< 0.04	< 0.04
C [%]	4.12	4.07
CO3 (HCl) as %CO3 [%]	20.2	19.9

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140264

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Trace Metals - Aqua Regia Digest, ICP-MS

Project : 2200-2207

30-November-2022

Date Rec. : 06 October 2022
LR Report: **CA19119-OCT22**
Reference: Marten Falls 21455151

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: MW22-05 SA-1	6: MW22-05 SA-2	7: MW22-05 SA-4	8: MW22-05 SA-6	9: MW22-05 SA-7
Sample Date & Time					22-Sep-22 11:45	22-Sep-22 12:00	22-Sep-22 12:30	22-Sep-22 13:30	22-Sep-22 13:45
Hg [ug/g]	03-Nov-22	07:06	03-Nov-22	10:24	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	< 1	< 1	< 1	< 1	< 1
As [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	1.5	1.9	1.9	1.7	1.6
Al [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	3200	4200	3700	3700	3300
Ba [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	16	18	17	16	16
Be [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	0.14	0.19	0.16	0.16	0.16
Bi [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	78000	99000	96000	100000	98000
Cd [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	0.032	0.044	0.044	0.044	0.060
Co [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	3.3	4.2	3.6	3.7	3.2
Cr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	57	57	46	50	43
Cu [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	7.7	8.5	8.1	8.8	7.2
Fe [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	9700	10000	9500	9500	8200
K [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	570	640	650	660	660
Li [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	6.1	8.4	7.5	7.9	7.3
Mg [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	13000	18000	17000	20000	20000
Mn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	180	290	180	210	200
Mo [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	1.7	3.9	1.3	3.2	1.0
Ni [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	8.1	11	8.7	9.8	8.0

OnLine LIMS

0003140334

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : 2200-2207

LR Report : **CA19119-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-05 SA-1	6: MW22-05 SA-2	7: MW22-05 SA-4	8: MW22-05 SA-6	9: MW22-05 SA-7
P [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	320	320	310	330	300
Pb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	2.2	2.7	2.5	2.6	2.7
Sb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	< 2	< 2	< 2	< 2	< 2
Sr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	53	64	64	69	65
Ti [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	420	460	450	470	420
Tl [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	0.028	0.067	0.045	0.038	0.038
U [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	0.41	0.43	0.43	0.86	0.71
V [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	16	17	16	16	14
Y [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	4.5	5.5	4.8	5.2	5.0
Zn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:42	14	14	14	15	14

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140334

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19120-OCT22**
Reference: Marten Falls 21455151

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: MW22-05 SA-1	6: MW22-05 SA-2
Sample Date & Time					22-Sep-22 11:45	22-Sep-22 12:00
Sample weight [g]	31-Oct-22	11:00	02-Nov-22	10:01	250	250
Volume D.I. Water [mL]	31-Oct-22	11:00	02-Nov-22	10:01	750	750
Final pH [no unit]	01-Nov-22	11:00	02-Nov-22	10:01	8.39	8.59
pH [No unit]	03-Nov-22	08:04	04-Nov-22	10:51	7.85	7.76
Conductivity [uS/cm]	03-Nov-22	08:04	04-Nov-22	10:51	103	100
Alkalinity [mg/L as CaCO3]	03-Nov-22	08:04	04-Nov-22	10:51	48	47
SO4 [mg/L]	08-Nov-22	17:02	19-Nov-22	11:54	< 2	< 2
Cl [mg/L]	08-Nov-22	15:39	19-Nov-22	11:54	1	< 1
F [mg/L]	03-Nov-22	09:02	03-Nov-22	12:51	0.23	0.29
NO2 [as N mg/L]	17-Nov-22	19:44	27-Nov-22	11:26	< 0.03	< 0.03
NO3 [as N mg/L]	17-Nov-22	19:44	27-Nov-22	11:26	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	17-Nov-22	19:44	27-Nov-22	11:26	< 0.06	< 0.06
NH3+NH4 [as N mg/L]	02-Nov-22	20:43	03-Nov-22	15:27	< 0.1	< 0.1
Hg [mg/L]	03-Nov-22	09:56	04-Nov-22	11:44	< 0.00001	< 0.00001
Ag [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	< 0.00005	< 0.00005
Al [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.053	0.042
As [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0008	0.0007
Ba [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00339	0.00380
B [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.014	0.014
Be [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000045	0.000019
Bi [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	< 0.00001	< 0.00001
Ca [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	15.7	15.3
Cd [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000031	0.000042
Co [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000065	0.000043
Cr [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00327	0.00368
Cu [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0022	0.0016
Fe [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.022	0.016

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140344

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : 2200-2207

LR Report : **CA19120-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-05 SA-1	6: MW22-05 SA-2
K [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.969	0.756
Li [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0028	0.0014
Mg [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	1.77	1.69
Mn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00825	0.00370
Mo [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0185	0.0130
Na [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.77	0.73
Ni [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0007	0.0005
P [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.023	0.009
Pb [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	< 0.00009	< 0.00009
Sb [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0009	< 0.0009
Se [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00058	0.00090
Si [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	1.46	1.55
Sn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	< 0.00006	< 0.00006
Sr [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.0157	0.0135
Ti [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00133	0.00129
Tl [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000007	< 0.000005
U [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.000331	0.000473
V [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	0.00079	0.00105
Zn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:36	< 0.002	< 0.002

Analysis	7: MW22-05 SA-4	8: MW22-05 SA-6	9: MW22-05 SA-7
Sample Date & Time	22-Sep-22 12:30	22-Sep-22 13:30	22-Sep-22 13:45
Sample weight [g]	250	250	250
Volume D.I. Water [mL]	750	750	750
Final pH [no unit]	8.76	8.28	8.38
pH [No unit]	7.75	8.28	8.25
Conductivity [uS/cm]	86	147	134
Alkalinity [mg/L as CaCO3]	36	61	46
SO4 [mg/L]	< 2	20	17
Cl [mg/L]	2	2	1
F [mg/L]	0.26	0.28	0.28
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06
NH3+NH4 [as N mg/L]	< 0.1	< 0.1	< 0.1
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.059	0.230	0.103
As [mg/L]	0.0011	0.0024	0.0024

OnLine LIMS

0003140344

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : 2200-2207

LR Report : **CA19120-OCT22**

Analysis	7: MW22-05 SA-4	8: MW22-05 SA-6	9: MW22-05 SA-7
Ba [mg/L]	0.00408	0.00859	0.00565
B [mg/L]	0.017	0.085	0.084
Be [mg/L]	0.000029	0.000016	0.000043
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	12.6	18.1	15.3
Cd [mg/L]	0.000065	0.000095	0.000119
Co [mg/L]	0.000048	0.000144	0.000113
Cr [mg/L]	0.00149	0.00190	0.00144
Cu [mg/L]	0.0014	0.0038	0.0030
Fe [mg/L]	0.024	0.151	0.090
K [mg/L]	1.07	1.86	1.42
Li [mg/L]	0.0018	0.0032	0.0025
Mg [mg/L]	1.40	2.09	1.74
Mn [mg/L]	0.00100	0.00508	0.00321
Mo [mg/L]	0.00613	0.00844	0.00626
Na [mg/L]	0.79	7.77	6.86
Ni [mg/L]	0.0006	0.0010	0.0007
P [mg/L]	0.020	0.018	0.021
Pb [mg/L]	< 0.00009	0.00014	0.00012
Sb [mg/L]	< 0.0009	0.0013	0.0011
Se [mg/L]	0.00113	0.00286	0.00276
Si [mg/L]	1.53	1.32	1.33
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.0138	0.0236	0.0196
Ti [mg/L]	0.00193	0.0165	0.00736
Tl [mg/L]	0.000006	0.000005	0.000009
U [mg/L]	0.000320	0.00893	0.00591
V [mg/L]	0.00096	0.00457	0.00302
Zn [mg/L]	< 0.002	< 0.002	< 0.002

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140344

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : 2200-2207

30-August-2023

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19121-OCT22**
Reference: Marten Falls 21455151

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	LOI %
1: Analysis Start Date		04-Nov-22
2: Analysis Start Time		20:48
3: Analysis Completed Date		08-Nov-22
4: Analysis Completed Time		09:46
5: MW22-05 SA-1	22-Sep-22 11:45	0.90
6: MW22-05 SA-2	22-Sep-22 12:00	1.12
7: MW22-05 SA-4	22-Sep-22 12:30	0.76
8: MW22-05 SA-6	22-Sep-22 13:30	0.69
9: MW22-05 SA-7	22-Sep-22 13:45	0.75

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003451092

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19122-OCT22**
Reference: Marten Falls 21455151

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: MW22-06 SA-1	6: MW22-06 SA-4
Sample Date & Time					23-Sep-22 11:35	23-Sep-22 12:10
Paste pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:29	8.24	8.54
Fizz Rate [rating]	01-Nov-22	16:00	02-Nov-22	22:29	4	4
Sample weight [g]	01-Nov-22	16:00	02-Nov-22	22:29	1.98	2.12
HCl_add [mL]	01-Nov-22	16:00	02-Nov-22	22:29	80.00	220.00
HCl [Normality]	01-Nov-22	16:00	02-Nov-22	22:29	0.10	0.10
NaOH [Normality]	01-Nov-22	16:00	02-Nov-22	22:29	0.10	0.10
Vol NaOH to pH=8.3 [mL]	01-Nov-22	16:00	02-Nov-22	22:29	24.13	78.26
Final pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:29	1.75	1.54
NP [t CaCO3/1000 t]	01-Nov-22	16:00	02-Nov-22	22:29	141	334
AP [t CaCO3/1000 t]	15-Nov-22	12:12	15-Nov-22	12:12	1.25	1.25
Net NP [t CaCO3/1000 t]	15-Nov-22	12:12	15-Nov-22	12:12	140	333
NP/AP [ratio]	15-Nov-22	12:12	15-Nov-22	12:12	113	267
S [%]	31-Oct-22	11:08	15-Nov-22	12:12	< 0.005	0.005
Acid Leachable SO4-S [%]	15-Nov-22	12:12	15-Nov-22	12:12	< 0.04	< 0.04
Sulphide [%]	07-Nov-22	13:17	15-Nov-22	12:12	< 0.04	< 0.04
C [%]	31-Oct-22	11:08	03-Nov-22	17:09	2.10	3.99
CO3 (HCl) as %CO3 [%]	03-Nov-22	14:31	03-Nov-22	17:09	8.94	19.6

Analysis	7: MW22-06 SA-7	8: MW22-06 SA-8	9: MW22-06 SA-9
Sample Date & Time	23-Sep-22 13:25	23-Sep-22 14:00	23-Sep-22 14:20
Paste pH [no unit]	8.55	8.63	8.63
Fizz Rate [rating]	4	4	4
Sample weight [g]	1.93	2.01	2.07
HCl_add [mL]	210.00	170.00	160.00

OnLine LIMS

00031404 10

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : 2200-2207

LR Report : **CA19122-OCT22**

Analysis	7: MW22-06 SA-7	8: MW22-06 SA-8	9: MW22-06 SA-9
HCl [Normality]	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	72.82	32.08	32.49
Final pH [no unit]	1.54	1.86	1.81
NP [t CaCO3/1000 t]	355	343	308
AP [t CaCO3/1000 t]	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	354	342	307
NP/AP [ratio]	284	274	246
S [%]	0.007	0.007	< 0.005
Acid Leachable SO4-S [%]	< 0.04	< 0.04	< 0.04
Sulphide [%]	< 0.04	< 0.04	< 0.04
C [%]	4.13	3.92	3.61
CO3 (HCl) as %CO3 [%]	20.3	19.3	17.8

*NP (Neutralization Potential)
= 50 x (N of HCL x Total HCL added - N NaOH x NaOH added)

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140410

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Trace Metals - Aqua Regia Digest, ICP-MS

Project : 2200-2207

30-November-2022

Date Rec. : 06 October 2022
LR Report: **CA19123-OCT22**
Reference: Marten Falls 21455151

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: MW22-06 SA-1	6: MW22-06 SA-4	7: MW22-06 SA-7	8: MW22-06 SA-8	9: MW22-06 SA-9
Sample Date & Time					23-Sep-22 11:35	23-Sep-22 12:10	23-Sep-22 13:25	23-Sep-22 14:00	23-Sep-22 14:20
Hg [ug/g]	03-Nov-22	07:06	03-Nov-22	10:24	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	< 1	< 1	< 1	< 1	< 1
As [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	2.5	2.3	2.2	2.1	2.0
Al [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	8300	5700	5300	5000	4700
Ba [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	25	18	17	19	16
Be [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	0.27	0.19	0.17	0.17	0.17
Bi [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	0.10	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	50000	110000	120000	110000	110000
Cd [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	0.050	0.032	0.042	0.036	0.048
Co [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	5.9	5.4	5.0	4.4	4.4
Cr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	170	73	67	62	66
Cu [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	10	12	11	9.9	9.7
Fe [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	16000	14000	13000	11000	11000
K [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	1200	750	650	830	640
Li [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	12	11	11	10	9.4
Mg [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	7100	14000	14000	13000	12000

OnLine LIMS

0003140428

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

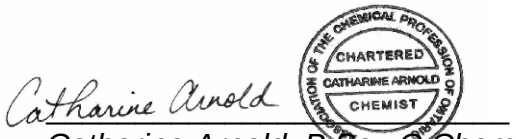
SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : 2200-2207

LR Report : **CA19123-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-06 SA-1	6: MW22-06 SA-4	7: MW22-06 SA-7	8: MW22-06 SA-8	9: MW22-06 SA-9
Mn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	220	270	250	240	230
Mo [µg/g]	03-Nov-22	19:56	04-Nov-22	16:43	13	2.8	4.1	2.5	4.4
Ni [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	19	14	14	12	13
P [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	220	250	230	220	220
Pb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	4.0	2.7	2.7	2.7	2.4
Sb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	< 2	< 2	< 2	< 2	< 2
Sr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	42	76	80	76	73
Ti [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	740	580	570	500	500
Tl [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	0.034	0.032	0.023	0.027	0.024
U [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	0.56	0.62	0.55	0.56	0.52
V [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	26	21	20	17	17
Y [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	5.9	4.6	4.2	4.0	4.0
Zn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:51	19	22	21	19	17



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140428

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19124-OCT22**
Reference: Marten Falls 21455151

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: MW22-06 SA-1	6: MW22-06 SA-4	7: MW22-06 SA-7	8: MW22-06 SA-8	9: MW22-06 SA-9
Sample Date & Time					23-Sep-22 11:35	23-Sep-22 12:10	23-Sep-22 13:25	23-Sep-22 14:00	23-Sep-22 14:20
Sample weight [g]	31-Oct-22	11:00	02-Nov-22	10:01	250	250	250	250	250
Volume D.I. Water [mL]	31-Oct-22	11:00	02-Nov-22	10:01	750	750	750	750	750
Final pH [no unit]	01-Nov-22	11:00	02-Nov-22	10:01	9.17	9.29	9.31	9.30	7.41
pH [No unit]	03-Nov-22	08:04	04-Nov-22	10:51	8.12	7.80	7.72	7.72	7.80
Conductivity [uS/cm]	03-Nov-22	08:04	04-Nov-22	10:51	267	87	75	72	73
Alkalinity [mg/L as CaCO3]	03-Nov-22	08:04	04-Nov-22	10:51	133	35	33	30	34
SO4 [mg/L]	08-Nov-22	17:02	19-Nov-22	11:54	< 2	< 2	< 2	< 2	< 2
Cl [mg/L]	08-Nov-22	15:39	19-Nov-22	11:54	1	6	3	2	2
F [mg/L]	03-Nov-22	09:02	03-Nov-22	12:51	0.11	0.17	0.14	0.14	0.14
NO2 [as N mg/L]	17-Nov-22	19:44	28-Nov-22	10:17	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	17-Nov-22	19:44	28-Nov-22	10:17	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	17-Nov-22	19:44	28-Nov-22	10:17	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
NH3+NH4 [as N mg/L]	02-Nov-22	20:43	03-Nov-22	15:27	< 0.1	< 0.1	< 0.1	0.1	< 0.1
Hg [mg/L]	03-Nov-22	09:56	04-Nov-22	11:45	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.071	0.369	0.410	0.367	0.345

OnLine LIMS

0003140434

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA19124-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-06 SA-1	6: MW22-06 SA-4	7: MW22-06 SA-7	8: MW22-06 SA-8	9: MW22-06 SA-9
As [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0016	0.0023	0.0024	0.0023	0.0020
Ba [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00628	0.00227	0.00466	0.00224	0.00254
B [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.011	0.026	0.018	0.059	0.024
Be [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000019	0.000011	0.000032	0.000037	0.000034
Bi [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	51.7	10.9	10.3	9.88	10.2
Cd [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000034	0.000087	0.000040	0.000096	0.000028
Co [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000284	0.000034	0.000026	0.000035	0.000021
Cr [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00056	0.00075	0.00086	0.00161	0.00229
Cu [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0056	0.0015	0.0020	0.0008	0.0011
Fe [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.034	< 0.007	< 0.007	< 0.007	< 0.007
K [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.912	1.42	1.30	1.12	1.06
Li [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.0001	0.0012	0.0010	0.0014	0.0013
Mg [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	2.07	1.67	1.36	1.18	1.18
Mn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.03919	0.00079	0.00079	0.00056	0.00071
Mo [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00114	0.00221	0.00386	0.00285	0.00850
Na [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.84	1.53	0.94	0.75	0.76
Ni [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0008	0.0004	0.0003	0.0004	0.0004
P [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.017	0.005	< 0.003	0.008	< 0.003
Pb [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00091	0.00065	0.00043	0.00118	0.00031
Si [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	1.53	1.84	1.28	1.76	1.23
Sn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0477	0.0193	0.0162	0.0140	0.0143
Ti [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00224	0.00120	0.00069	0.00147	0.00072
Tl [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000007	0.000011	0.000013	0.000012	0.000012
U [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000526	0.000225	0.000208	0.000165	0.000185
V [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00047	0.00342	0.00320	0.00271	0.00214
Zn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

OnLine LIMS

0003140434

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

LR Report : **CA19124-OCT22**

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140434

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19125-OCT22**
Reference: Marten Falls 21455151

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: MW22-06 SA-1	6: MW22-06 SA-4
Sample Date & Time					23-Sep-22 11:35	23-Sep-22 12:10
LOI [%]	03-Nov-22	20:05	09-Nov-22	11:25	1.45	0.47

Analysis	7: MW22-06 SA-7	8: MW22-06 SA-8	9: MW22-06 SA-9
Sample Date & Time	23-Sep-22 13:25	23-Sep-22 14:00	23-Sep-22 14:20
LOI [%]	0.49	0.57	0.68

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140443

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19126-OCT22**
Reference: Marten Falls 21455151

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: MW22-07 SA-1	6: MW22-07 SA-2
Sample Date & Time					25-Sep-22 12:50	25-Sep-22 13:05
Paste pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:30	8.33	8.63
Fizz Rate [rating]	01-Nov-22	16:00	02-Nov-22	22:30	4	4
Sample weight [g]	01-Nov-22	16:00	02-Nov-22	22:30	1.86	1.98
HCl_add [mL]	01-Nov-22	16:00	02-Nov-22	22:30	80.00	240.00
HCl [Normality]	01-Nov-22	16:00	02-Nov-22	22:30	0.10	0.10
NaOH [Normality]	01-Nov-22	16:00	02-Nov-22	22:30	0.10	0.10
Vol NaOH to pH=8.3 [mL]	01-Nov-22	16:00	02-Nov-22	22:30	25.93	83.68
Final pH [no unit]	01-Nov-22	16:00	02-Nov-22	22:30	1.83	1.50
NP [t CaCO3/1000 t]	01-Nov-22	16:00	02-Nov-22	22:30	145	395
AP [t CaCO3/1000 t]	15-Nov-22	12:03	15-Nov-22	12:03	1.25	1.25
Net NP [t CaCO3/1000 t]	15-Nov-22	12:03	15-Nov-22	12:03	144	393
NP/AP [ratio]	15-Nov-22	12:03	15-Nov-22	12:03	116	316
S [%]	31-Oct-22	11:08	15-Nov-22	12:03	0.005	< 0.005
Acid Leachable SO4-S [%]	15-Nov-22	12:03	15-Nov-22	12:03	<0.04	<0.04
Sulphide [%]	07-Nov-22	13:17	15-Nov-22	12:03	< 0.04	< 0.04
C [%]	31-Oct-22	11:08	03-Nov-22	17:09	2.09	4.57
CO3 (HCl) as %CO3 [%]	03-Nov-22	14:31	03-Nov-22	17:09	9.20	22.5

Analysis	7: MW22-07 SA-4	8: MW22-07 SA-6	9: MW22-07 SA-8
Sample Date & Time	25-Sep-22 13:25	25-Sep-22 13:40	25-Sep-22 14:40
Paste pH [no unit]	8.68	8.62	8.41
Fizz Rate [rating]	4	4	4
Sample weight [g]	2.11	2.14	2.10
HCl_add [mL]	200.00	220.00	270.00

OnLine LIMS

0003140446

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : 2200-2207

LR Report : **CA19126-OCT22**

Analysis	7: MW22-07 SA-4	8: MW22-07 SA-6	9: MW22-07 SA-8
HCl [Normality]	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	78.02	66.30	91.12
Final pH [no unit]	1.50	1.56	1.52
NP [t CaCO3/1000 t]	289	359	426
AP [t CaCO3/1000 t]	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	288	358	425
NP/AP [ratio]	231	287	341
S [%]	0.006	< 0.005	0.029
Acid Leachable SO4-S [%]	<0.04	<0.04	<0.04
Sulphide [%]	< 0.04	< 0.04	< 0.04
C [%]	3.34	4.26	5.13
CO3 (HCl) as %CO3 [%]	16.4	21.0	25.0

*NP (Neutralization Potential)

$$= \frac{50 \times (\text{N of HCL} \times \text{Total HCL added} - \text{N NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

CHARTERED CHEMIST CATHARINE ARNOLD

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140446

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19127-OCT22**
Reference: Marten Falls 21455151

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: MW22-07 SA-1	6: MW22-07 SA-2
Sample Date & Time					25-Sep-22 12:50	25-Sep-22 13:05
Hg [ug/g]	03-Nov-22	07:06	03-Nov-22	10:24	< 0.05	< 0.05
Ag [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	< 1	< 1
As [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	3.5	1.6
Al [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	13000	3400
Ba [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	38	17
Be [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	0.43	0.15
Bi [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	0.13	< 0.09
Ca [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	53000	110000
Cd [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	0.050	0.051
Co [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	8.6	3.1
Cr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	130	35
Cu [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	12	6.6
Fe [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	23000	8500
K [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	1600	650
Li [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	16	5.8
Mg [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	9000	24000
Mn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	330	200
Mo [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	4.2	2.1
Ni [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	25	7.9
P [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	250	290
Pb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	5.7	2.4
Sb [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	< 6	< 6
Se [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	< 0.7	< 0.7
Sn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	< 2	< 2
Sr [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	40	68
Ti [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	1200	430
Tl [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	0.045	0.027

OnLine LIMS

0003140449

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-07 SA-1	6: MW22-07 SA-2
U [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	0.71	0.40
V [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	41	15
Y [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	8.0	4.9
Zn [µg/g]	03-Nov-22	19:56	04-Nov-22	16:52	30	13

Analysis	7: MW22-07 SA-4	8: MW22-07 SA-6	9: MW22-07 SA-8
Sample Date & Time	25-Sep-22 13:25	25-Sep-22 13:40	25-Sep-22 14:40
Hg [ug/g]	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 1	< 1	< 1
As [µg/g]	1.7	1.8	2.4
Al [µg/g]	3100	3200	5500
Ba [µg/g]	13	16	27
Be [µg/g]	0.13	0.15	0.26
Bi [µg/g]	< 0.09	< 0.09	< 0.09
Ca [µg/g]	91000	100000	130000
Cd [µg/g]	0.040	0.059	0.062
Co [µg/g]	3.4	3.3	5.1
Cr [µg/g]	64	38	38
Cu [µg/g]	6.7	7.3	11
Fe [µg/g]	9800	8200	13000
K [µg/g]	500	630	1100
Li [µg/g]	5.4	5.8	11
Mg [µg/g]	12000	23000	24000
Mn [µg/g]	160	230	280
Mo [µg/g]	2.1	2.4	0.94
Ni [µg/g]	8.4	8.1	13
P [µg/g]	220	310	300
Pb [µg/g]	2.2	2.5	3.8
Sb [µg/g]	< 6	< 6	< 6
Se [µg/g]	< 0.7	< 0.7	< 0.7
Sn [µg/g]	< 2	< 2	< 2
Sr [µg/g]	62	63	85
Ti [µg/g]	420	380	570
Tl [µg/g]	0.024	0.046	0.038
U [µg/g]	0.35	0.39	0.63
V [µg/g]	16	14	21
Y [µg/g]	3.6	4.7	5.9
Zn [µg/g]	12	13	23

OnLine LIMS

00031404449

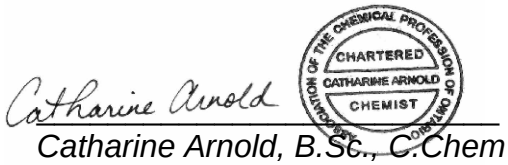
Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : 2200-2207

LR Report : **CA19127-OCT22**



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140449

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19128-OCT22**
Reference: Marten Falls 21455151

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: MW22-07 SA-1	6: MW22-07 SA-2
Sample Date & Time					25-Sep-22 12:50	25-Sep-22 13:05
Sample weight [g]	31-Oct-22	11:00	02-Nov-22	10:01	250	250
Volume D.I. Water [mL]	31-Oct-22	11:00	02-Nov-22	10:01	750	750
Final pH [no unit]	01-Nov-22	11:00	02-Nov-22	10:01	7.20	8.85
pH [No unit]	03-Nov-22	08:04	04-Nov-22	10:51	7.94	7.84
Conductivity [uS/cm]	03-Nov-22	08:04	04-Nov-22	10:51	291	85
Alkalinity [mg/L as CaCO3]	03-Nov-22	08:04	04-Nov-22	10:51	146	36
SO4 [mg/L]	08-Nov-22	17:02	19-Nov-22	11:54	< 2	< 2
Cl [mg/L]	08-Nov-22	15:39	19-Nov-22	11:54	2	4
F [mg/L]	03-Nov-22	09:02	03-Nov-22	12:52	0.08	0.25
NO2 [as N mg/L]	17-Nov-22	19:44	27-Nov-22	11:27	< 0.03	< 0.03
NO3 [as N mg/L]	17-Nov-22	19:44	27-Nov-22	11:27	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	17-Nov-22	19:44	27-Nov-22	11:27	< 0.06	< 0.06
NH3+NH4 [as N mg/L]	02-Nov-22	20:43	03-Nov-22	15:27	< 0.1	< 0.1
Hg [mg/L]	03-Nov-22	09:56	04-Nov-22	11:45	0.00001	< 0.00001
Ag [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.00005	< 0.00005
Al [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.093	0.092
As [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0027	0.0014
Ba [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0159	0.00244
B [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.038	0.008
Be [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000071	0.000014
Bi [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.00001	< 0.00001
Ca [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	55.5	12.6
Cd [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000066	0.000030
Co [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000759	0.000069
Cr [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00124	0.00054
Cu [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0046	0.0022
Fe [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.055	0.037

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140456

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : 2200-2207

LR Report : **CA19128-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-07 SA-1	6: MW22-07 SA-2
K [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.727	0.445
Li [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.0001	0.0002
Mg [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	3.34	1.56
Mn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0291	0.00137
Mo [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00150	0.00175
Na [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.83	0.91
Ni [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0014	0.0007
P [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.014	0.006
Pb [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.00009	< 0.00009
Sb [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.0009	< 0.0009
Se [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00106	0.00049
Si [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	1.60	2.01
Sn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.00006	< 0.00006
Sr [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.0464	0.0147
Ti [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00332	0.00323
Tl [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000010	0.000006
U [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.000447	0.000164
V [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	0.00054	0.00312
Zn [mg/L]	07-Nov-22	08:40	08-Nov-22	16:37	< 0.002	< 0.002

Analysis	7: MW22-07 SA-4	8: MW22-07 SA-6	9: MW22-07 SA-8
Sample Date & Time	25-Sep-22 13:25	25-Sep-22 13:40	25-Sep-22 14:40
Sample weight [g]	250	250	250
Volume D.I. Water [mL]	750	750	750
Final pH [no unit]	9.04	8.77	8.46
pH [No unit]	7.79	8.23	8.78
Conductivity [uS/cm]	73	125	219
Alkalinity [mg/L as CaCO3]	32	53	75
SO4 [mg/L]	< 2	2	29
Cl [mg/L]	3	5	4
F [mg/L]	0.19	0.31	0.56
NO2 [as N mg/L]	< 0.03	< 0.03	< 0.03
NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06
NO2+NO3 [as N mg/L]	< 0.06	< 0.06	< 0.06
NH3+NH4 [as N mg/L]	< 0.1	0.1	0.3
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.172	0.190	0.121
As [mg/L]	0.0026	0.0015	0.0026

OnLine LIMS

0003140456

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : 2200-2207

LR Report : **CA19128-OCT22**

Analysis	7: MW22-07 SA-4	8: MW22-07 SA-6	9: MW22-07 SA-8
Ba [mg/L]	0.00204	0.00352	0.0191
B [mg/L]	0.015	0.058	0.174
Be [mg/L]	0.000012	0.000037	0.000029
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	10.6	10.6	22.6
Cd [mg/L]	0.000099	0.000095	0.000022
Co [mg/L]	0.000067	0.000092	0.000118
Cr [mg/L]	0.00088	0.00224	0.00120
Cu [mg/L]	0.0010	0.0013	0.0043
Fe [mg/L]	0.023	0.142	0.091
K [mg/L]	0.712	0.703	3.99
Li [mg/L]	0.0007	0.0008	0.0060
Mg [mg/L]	0.992	1.08	4.30
Mn [mg/L]	0.00109	0.00174	0.00279
Mo [mg/L]	0.00173	0.00519	0.00830
Na [mg/L]	0.77	12.6	11.7
Ni [mg/L]	0.0007	0.0006	0.0011
P [mg/L]	0.015	0.025	0.013
Pb [mg/L]	< 0.00009	0.00011	< 0.00009
Sb [mg/L]	< 0.0009	< 0.0009	0.0017
Se [mg/L]	0.00103	0.00048	0.00128
Si [mg/L]	2.16	2.17	2.02
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.0160	0.0123	0.122
Ti [mg/L]	0.00250	0.00793	0.00442
Tl [mg/L]	0.000010	0.000014	0.000010
U [mg/L]	0.000178	0.000106	0.00245
V [mg/L]	0.00233	0.00162	0.00544
Zn [mg/L]	0.002	< 0.002	< 0.002

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00031404456

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 06 October 2022
LR Report: **CA19129-OCT22**
Reference: Marten Falls 21455151

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: MW22-07 SA-1	6: MW22-07 SA-2
Sample Date & Time					25-Sep-22 12:50	25-Sep-22 13:05
LOI [%]	04-Nov-22	20:48	08-Nov-22	09:47	2.36	0.77

Analysis	7: MW22-07 SA-4	8: MW22-07 SA-6	9: MW22-07 SA-8
Sample Date & Time	25-Sep-22 13:25	25-Sep-22 13:40	25-Sep-22 14:40
LOI [%]	0.65	0.67	1.31

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140459

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 26 October 2022
LR Report: **CA19274-OCT22**
Reference: Marten Falls 21455151 - P.O# 2200-2207

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: MW22-01-1 SS8	6: MW22-01-2 SS4
Sample Date & Time					09-Sep-22 16:00	09-Sep-22 16:00
Paste pH [no unit]	16-Nov-22	09:47	18-Nov-22	11:00	8.87	8.37
Fizz Rate [rating]	16-Nov-22	09:47	18-Nov-22	11:00	4	4
Sample weight [g]	16-Nov-22	09:47	18-Nov-22	11:00	1.81	1.82
HCl_add [mL]	16-Nov-22	09:47	18-Nov-22	11:00	170.00	160.00
HCl [Normality]	16-Nov-22	09:47	18-Nov-22	11:00	0.10	0.10
NaOH [Normality]	16-Nov-22	09:47	18-Nov-22	11:00	0.10	0.10
Vol NaOH to pH=8.3 [mL]	16-Nov-22	09:47	18-Nov-22	11:00	48.60	54.46
Final pH [no unit]	16-Nov-22	09:47	18-Nov-22	11:00	1.60	1.59
NP [t CaCO3/1000 t]	16-Nov-22	09:47	18-Nov-22	11:00	335	290
AP [t CaCO3/1000 t]	14-Nov-22	11:13	18-Nov-22	11:00	1.25	1.25
Net NP [t CaCO3/1000 t]	14-Nov-22	11:13	18-Nov-22	11:00	334	289
NP/AP [ratio]	14-Nov-22	11:13	18-Nov-22	11:00	268	232
S [%]	11-Nov-22	15:25	14-Nov-22	11:16	0.034	0.025
Acid Leachable SO4-S [%]	14-Nov-22	11:12	14-Nov-22	11:16	<0.04	<0.04
Sulphide [%]	11-Nov-22	21:34	14-Nov-22	11:12	< 0.04	< 0.04
C [%]	11-Nov-22	15:25	14-Nov-22	11:12	4.02	4.04
CO3 (HCl) [%]	14-Nov-22	07:00	14-Nov-22	11:12	19.7	17.1

Analysis	7: MW22-01-2 SS6	8: MW22-02-1 SS5	9: MW22-02-1 SS6	10: MW22-02-1 SS7	11: MW22-02-1 SS8
Sample Date & Time	09-Sep-22 16:00	12-Sep-22 16:00	12-Sep-22 16:00	12-Sep-22 16:00	12-Sep-22 16:00
Paste pH [no unit]	8.73	8.69	8.80	8.85	8.79
Fizz Rate [rating]	4	4	4	4	4
Sample weight [g]	1.91	2.00	1.86	1.96	1.91

OnLine LIMS

0003140465

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

LR Report : **CA19274-OCT22**

Analysis	7: MW22-01-2 SS6	8: MW22-02-1 SS5	9: MW22-02-1 SS6	10: MW22-02-1 SS7	11: MW22-02-1 SS8
HCl_add [mL]	202.00	220.00	175.00	190.00	230.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	62.37	65.07	51.29	63.06	66.83
Final pH [no unit]	1.56	1.59	1.58	1.51	1.54
NP [t CaCO3/1000 t]	366	387	333	324	427
AP [t CaCO3/1000 t]	1.25	1.25	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	364	386	331	323	426
NP/AP [ratio]	292	310	266	259	342
S [%]	0.010	< 0.005	0.026	0.026	0.046
Acid Leachable SO4-S [%]	<0.04	<0.04	<0.04	<0.04	0.05
Sulphide [%]	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
C [%]	4.24	4.59	3.98	3.83	4.72
CO3 (HCl) [%]	20.9	22.6	19.4	18.7	23.2

Analysis	12: MW22-03-1 SS3	13: MW22-03-1 SS4	14: MW22-03-1 SS5	15: MW22-03-1 SS6	16: MW22-04-1 SS6
Sample Date & Time	13-Sep-22 16:00	13-Sep-22 16:00	13-Sep-22 16:00	13-Sep-22 16:00	16-Sep-22 16:00
Paste pH [no unit]	8.32	8.65	8.40	8.77	8.70
Fizz Rate [rating]	4	4	4	4	4
Sample weight [g]	2.04	1.81	2.02	1.82	1.98
HCl_add [mL]	170.00	205.00	185.00	175.00	190.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	76.49	78.02	73.94	54.03	59.52
Final pH [no unit]	1.56	1.56	1.56	1.53	1.55
NP [t CaCO3/1000 t]	229	351	275	332	330
AP [t CaCO3/1000 t]	1.25	1.25	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	228	350	274	331	328
NP/AP [ratio]	183	281	220	266	264
S [%]	0.010	< 0.005	0.010	0.021	< 0.005
Acid Leachable SO4-S [%]	<0.04	<0.04	<0.04	<0.04	<0.04
Sulphide [%]	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
C [%]	2.72	4.18	3.52	3.96	3.89
CO3 (HCl) [%]	12.8	19.9	15.8	19.3	19.2

Analysis	17: MW22-04-1 SS7	18: MW22-04-1 SS8	19: MW22-04-1 SS10
Sample Date & Time	16-Sep-22 16:00	16-Sep-22 16:00	16-Sep-22 16:00

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140465

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

LR Report : **CA19274-OCT22**

Analysis	17: MW22-04-1 SS7	18: MW22-04-1 SS8	19: MW22-04-1 SS10
Paste pH [no unit]	8.78	8.82	8.77
Fizz Rate [rating]	4	4	4
Sample weight [g]	1.83	1.85	1.97
HCl_add [mL]	100.00	150.00	130.00
HCl [Normality]	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	20.87	52.07	43.26
Final pH [no unit]	1.74	1.50	1.50
NP [t CaCO3/1000 t]	216	265	220
AP [t CaCO3/1000 t]	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	215	263	219
NP/AP [ratio]	173	212	176
S [%]	< 0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	<0.04	<0.04	<0.04
Sulphide [%]	< 0.04	< 0.04	< 0.04
C [%]	2.55	3.15	2.58
CO3 (HCl) [%]	12.6	15.5	12.7

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

CHARTERED CHEMIST CATHARINE ARNOLD

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140465

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O# 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 26 October 2022
LR Report: **CA19275-OCT22**
Reference: Marten Falls 21455151 - P.O# 2138888

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: MW22-01-1 SS8	6: MW22-01-2 SS4
Sample Date & Time					09/09/2022 16:00	09/09/2022 16:00
Sample weight [g]	21-Nov-22	06:07	22-Nov-22	14:48	250	250
Volume D.I. Water [mL]	21-Nov-22	06:07	22-Nov-22	14:48	750	750
Final pH [no unit]	22-Nov-22	06:07	22-Nov-22	14:48	8.94	8.94
Hg [mg/L]	26-Nov-22	07:24	25-Nov-22	15:09	< 0.00001	< 0.00001
Ag [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	< 0.00005	< 0.00005
Al [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.082	0.265
As [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.0028	0.0034
Ba [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.0122	0.0183
B [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.019	0.032
Be [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	< 0.000007	0.000014
Bi [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	< 0.00001	< 0.00001
Ca [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	16.6	30.7
Cd [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.000005	0.000024
Co [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.000032	0.000227
Cr [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.00027	0.00089
Cu [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.0015	0.0051
Fe [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.012	0.198
K [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	3.71	3.33
Li [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.0033	0.0045
Mg [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	3.40	5.28
Mn [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.00462	0.0257
Mo [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.0101	0.00640
Na [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	1.70	2.07
Ni [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.0008	0.0044
P [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.003	0.110
Pb [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	< 0.00009	0.00015

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140470

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : P.O# 2200-2207

LR Report : **CA19275-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-01-1 SS8	6: MW22-01-2 SS4
Sb [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.0011	< 0.0009
Se [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.00054	0.00282
Si [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	3.00	6.13
Sn [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	< 0.00006	< 0.00006
Sr [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.0375	0.0350
Ti [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.00063	0.0133
Tl [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.000007	< 0.000005
U [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.00160	0.000405
V [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.00840	0.00331
W [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	0.00487	0.00041
Y [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	< 0.00002	0.00013
Zn [mg/L]	24-Nov-22	10:58	25-Nov-22	14:34	< 0.002	< 0.002
pH Check <2 [pH]	22-Nov-22	22:03	25-Nov-22	14:34	1.00	1.00

Analysis	7: MW22-01-2 SS6	8: MW22-02-1 SS5	9: MW22-02-1 SS6	10: MW22-02-1 SS7	11: MW22-02-1 SS8
Sample Date & Time	09/09/2022 16:00	09/12/2022 16:00	09/12/2022 16:00	09/12/2022 16:00	09/12/2022 16:00
Sample weight [g]	250	250	250	250	250
Volume D.I. Water [mL]	750	750	750	750	750
Final pH [no unit]	8.27	9.12	8.40	8.52	8.52
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.157	0.044	0.041	0.096	0.059
As [mg/L]	0.0023	0.0012	0.0012	0.0022	0.0022
Ba [mg/L]	0.00261	0.00421	0.0172	0.0149	0.0189
B [mg/L]	0.016	0.011	0.017	0.015	0.013
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	10.3	14.3	20.8	18.0	20.1
Cd [mg/L]	< 0.000003	0.000004	< 0.000003	0.000005	0.000005
Co [mg/L]	0.000018	0.000029	0.000043	0.000053	0.000051
Cr [mg/L]	0.00022	0.00305	0.00026	0.00037	0.00032
Cu [mg/L]	0.0008	0.0010	0.0020	0.0019	0.0025
Fe [mg/L]	0.008	0.014	0.013	0.034	0.023
K [mg/L]	2.13	1.93	3.72	3.36	4.21
Li [mg/L]	0.0016	0.0028	0.0067	0.0102	0.0048
Mg [mg/L]	2.12	3.01	3.58	3.22	3.34
Mn [mg/L]	0.00103	0.00071	0.0143	0.00882	0.00842
Mo [mg/L]	0.00414	0.0137	0.00339	0.00470	0.00816
Na [mg/L]	1.40	1.08	1.39	1.39	1.48

OnLine LIMS

0003140470

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : P.O# 2200-2207

LR Report : **CA19275-OCT22**

Analysis	7: MW22-01-2 SS6	8: MW22-02-1 SS5	9: MW22-02-1 SS6	10: MW22-02-1 SS7	11: MW22-02-1 SS8
Ni [mg/L]	0.0002	0.0003	0.0005	0.0007	0.0009
P [mg/L]	< 0.003	0.004	0.009	0.024	0.007
Pb [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	< 0.0009	0.0013	0.0023	0.0013
Se [mg/L]	0.00088	0.00017	0.00056	0.00054	0.00065
Si [mg/L]	3.57	4.24	2.80	3.08	2.94
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.0173	0.0174	0.0303	0.0296	0.0324
Ti [mg/L]	0.00022	0.00064	0.00083	0.00175	0.00125
Tl [mg/L]	0.000015	< 0.000005	0.000005	0.000005	0.000007
U [mg/L]	0.000583	0.000706	0.00168	0.00222	0.00276
V [mg/L]	0.00465	0.00130	0.00508	0.00573	0.00577
W [mg/L]	0.00053	0.00041	0.00067	0.00037	0.00041
Y [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
pH Check <2 [pH]	1.00	1.00	1.00	1.00	1.00

Analysis	12: MW22-03-1 SS3	13: MW22-03-1 SS4	14: MW22-03-1 SS5	15: MW22-03-1 SS6	16: MW22-04-1 SS6
Sample Date & Time	09/13/2022 16:00	09/13/2022 16:00	09/13/2022 16:00	09/13/2022 16:00	09/16/2022 16:00
Sample weight [g]	250	250	250	250	250
Volume D.I. Water [mL]	750	750	750	750	750
Final pH [no unit]	8.00	8.02	8.30	8.79	8.59
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.537	1.20	1.94	0.121	0.243
As [mg/L]	0.0010	0.0009	0.0014	0.0032	0.0013
Ba [mg/L]	0.0135	0.0204	0.0266	0.0116	0.00358
B [mg/L]	0.022	0.028	0.185	0.014	0.014
Be [mg/L]	0.000019	0.000043	0.000088	< 0.000007	0.000009
Bi [mg/L]	0.00002	0.00002	0.00003	< 0.00001	< 0.00001
Ca [mg/L]	27.8	36.1	19.9	19.1	13.8
Cd [mg/L]	0.000009	0.000012	0.000008	0.000006	0.000005
Co [mg/L]	0.000354	0.000743	0.00130	0.000086	0.000104
Cr [mg/L]	0.00257	0.00288	0.00635	0.00035	0.00090
Cu [mg/L]	0.0066	0.0089	0.0107	0.0040	0.0025
Fe [mg/L]	0.352	0.950	1.81	0.047	0.207
K [mg/L]	1.78	2.30	2.40	2.32	0.974
Li [mg/L]	0.0051	0.0089	0.0105	0.0036	0.0005
Mg [mg/L]	3.42	5.12	3.25	2.33	2.05

OnLine LIMS

00031404470

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : P.O# 2200-2207

LR Report : **CA19275-OCT22**

Analysis	12: MW22-03-1 SS3	13: MW22-03-1 SS4	14: MW22-03-1 SS5	15: MW22-03-1 SS6	16: MW22-04-1 SS6
Mn [mg/L]	0.0306	0.0669	0.0494	0.00925	0.00255
Mo [mg/L]	0.00698	0.00629	0.00481	0.00543	0.00496
Na [mg/L]	3.80	3.36	30.8	0.99	1.13
Ni [mg/L]	0.0074	0.0070	0.0074	0.0012	0.0010
P [mg/L]	0.045	0.072	0.076	0.008	0.020
Pb [mg/L]	0.00021	0.00057	0.00117	< 0.00009	0.00015
Sb [mg/L]	< 0.0009	0.0010	< 0.0009	0.0022	< 0.0009
Se [mg/L]	0.00055	0.00050	0.00089	0.00805	0.00012
Si [mg/L]	6.31	8.98	8.31	3.55	3.17
Sn [mg/L]	0.00013	0.00007	0.00007	< 0.00006	< 0.00006
Sr [mg/L]	0.0402	0.0516	0.0312	0.0262	0.0134
Ti [mg/L]	0.0214	0.0591	0.0900	0.00382	0.00935
Tl [mg/L]	< 0.000005	0.000009	0.000015	0.000009	0.000005
U [mg/L]	0.000548	0.000525	0.000899	0.0173	0.000200
V [mg/L]	0.00207	0.00347	0.00684	0.0124	0.00116
W [mg/L]	0.00006	0.00005	0.00032	0.00182	0.00019
Y [mg/L]	0.00015	0.00053	0.00070	0.00003	0.00014
Zn [mg/L]	0.002	0.004	0.008	< 0.002	< 0.002
pH Check <2 [pH]	1.00	1.00	1.00	1.00	1.00

Analysis	17: MW22-04-1 SS7	18: MW22-04-1 SS8	19: MW22-04-1 SS10
Sample Date & Time	09/16/2022 16:00	09/16/2022 16:00	09/16/2022 16:00
Sample weight [g]	250	250	250
Volume D.I. Water [mL]	750	750	750
Final pH [no unit]	8.95	8.82	8.99
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.238	0.321	0.199
As [mg/L]	0.0017	0.0012	0.0019
Ba [mg/L]	0.00343	0.00503	0.00345
B [mg/L]	0.010	0.013	0.010
Be [mg/L]	0.000007	< 0.000007	< 0.000007
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	11.0	11.5	10.5
Cd [mg/L]	0.000003	0.000008	< 0.000003
Co [mg/L]	0.000096	0.000107	0.000115
Cr [mg/L]	0.00097	0.00134	0.00082
Cu [mg/L]	0.0015	0.0018	0.0018
Fe [mg/L]	0.147	0.266	0.170

OnLine LIMS

0003140470

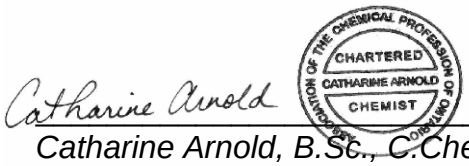
Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : P.O# 2200-2207

LR Report : **CA19275-OCT22**

Analysis	17: MW22-04-1 SS7	18: MW22-04-1 SS8	19: MW22-04-1 SS10
K [mg/L]	1.06	1.17	0.848
Li [mg/L]	0.0022	0.0021	0.0010
Mg [mg/L]	1.67	1.98	1.50
Mn [mg/L]	0.00383	0.00348	0.00376
Mo [mg/L]	0.00564	0.00766	0.00202
Na [mg/L]	1.06	0.89	0.51
Ni [mg/L]	0.0011	0.0013	0.0013
P [mg/L]	0.021	0.021	0.016
Pb [mg/L]	0.00011	0.00016	0.00014
Sb [mg/L]	0.0011	0.0011	< 0.0009
Se [mg/L]	0.00010	0.00008	0.00023
Si [mg/L]	3.22	4.19	3.47
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.0134	0.0116	0.00879
Ti [mg/L]	0.00533	0.0104	0.00579
Tl [mg/L]	< 0.000005	< 0.000005	0.000005
U [mg/L]	0.00103	0.000977	0.000480
V [mg/L]	0.00161	0.00166	0.00194
W [mg/L]	0.00031	0.00034	0.00019
Y [mg/L]	0.00005	0.00009	0.00007
Zn [mg/L]	< 0.002	< 0.002	< 0.002
pH Check <2 [pH]	1.00	1.00	1.00



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140470

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 26 October 2022
LR Report: **CA19276-OCT22**
Reference: Marten Falls 21455151 - P.O# 2200-2207

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: MW22-01-1 SS8	6: MW22-01-2 SS4	7: MW22-01-2 SS6	8: MW22-02-1 SS5
Sample Date & Time					09-Sep-22 16:00	09-Sep-22 16:00	09-Sep-22 16:00	12-Sep-22 16:00
Prep-Env AR [Prep]	24-Nov-22	10:26	28-Nov-22	14:46	1	1	1	1
Hg MS [ug/g]	25-Nov-22	05:20	28-Nov-22	14:46	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	25-Nov-22	05:20	28-Nov-22	14:46	< 1	< 1	< 1	< 1
As [µg/g]	25-Nov-22	05:20	28-Nov-22	14:46	2.0	9.1	2.3	2.0
Al [µg/g]	25-Nov-22	05:20	28-Nov-22	14:46	4400	13000	5600	5500
Ba [µg/g]	25-Nov-22	05:20	28-Nov-22	14:47	36	99	28	43
Be [µg/g]	25-Nov-22	05:20	28-Nov-22	14:47	0.20	0.53	0.22	0.24
Bi [µg/g]	25-Nov-22	05:20	28-Nov-22	14:47	< 0.09	0.19	< 0.09	< 0.09
Ca [µg/g]	25-Nov-22	05:20	28-Nov-22	14:47	100000	89000	120000	110000
Cd [µg/g]	25-Nov-22	05:20	28-Nov-22	14:47	0.04	0.09	0.04	0.05
Co [µg/g]	25-Nov-22	05:20	28-Nov-22	14:47	3.8	9.3	5.1	4.5
Cr [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	78	91	75	100
Cu [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	7.1	19	11	10
Fe [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	11000	25000	13000	12000
K [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	1100	3100	1100	1400
Li [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	7	21	9	9
Mg [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	22000	22000	18000	25000
Mn [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	200	350	210	260
Mo [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	0.4	0.4	0.3	0.4
Na [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	390	410	420	370
Ni [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	9.6	24	13	12
P [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	310	490	320	360
Pb [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	2.6	7.6	2.9	3.6
Sb [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	< 6	< 6	< 6	< 6
Se [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	< 2	< 2	< 2	< 2
Sr [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	64	59	75	67
Ti [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	460	890	650	620
Tl [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	0.14	0.32	0.14	0.16
U [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	0.53	0.72	0.65	0.52
V [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	17	38	23	20
Y [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	4.7	8.3	4.9	5.8

OnLine LIMS

0003140477

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

LR Report : **CA19276-OCT22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-01-1 SS8	6: MW22-01-2 SS4	7: MW22-01-2 SS6	8: MW22-02-1 SS5
Zn [µg/g]	25-Nov-22	05:20	28-Nov-22	14:48	25	54	29	28

Analysis	9: MW22-02-1 SS6	10: MW22-02-1 SS7	11: MW22-02-1 SS8	12: MW22-03-1 SS3	13: MW22-03-1 SS4	14: MW22-03-1 SS5	15: MW22-03-1 SS6
Sample Date & Time	12-Sep-22 16:00	12-Sep-22 16:00	12-Sep-22 16:00	13-Sep-22 16:00	13-Sep-22 16:00	13-Sep-22 16:00	13-Sep-22 16:00
Prep-Env AR [Prep]	1	1	1	1	1	1	1
Hg MS [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 1	< 1	< 1	< 1	< 1	< 1	< 1
As [µg/g]	1.8	1.7	2.6	4.8	4.0	3.8	1.9
Al [µg/g]	5400	4100	4800	28000	21000	26000	4700
Ba [µg/g]	42	31	36	190	150	190	33
Be [µg/g]	0.23	0.17	0.21	1.1	0.88	1.1	0.21
Bi [µg/g]	< 0.09	< 0.09	< 0.09	0.40	0.32	0.39	< 0.09
Ca [µg/g]	100000	89000	120000	72000	110000	90000	100000
Cd [µg/g]	0.04	0.03	0.04	0.09	0.10	0.10	0.04
Co [µg/g]	4.3	3.5	4.2	18	14	18	4.9
Cr [µg/g]	100	94	99	78	62	78	130
Cu [µg/g]	9.8	7.2	8.3	37	31	38	11
Fe [µg/g]	12000	10000	12000	43000	33000	43000	12000
K [µg/g]	1400	1000	1300	6100	5000	6000	1100
Li [µg/g]	8	7	9	44	35	43	8
Mg [µg/g]	21000	18000	20000	21000	25000	23000	19000
Mn [µg/g]	230	180	230	610	540	590	200
Mo [µg/g]	0.4	0.5	0.3	0.4	0.4	0.4	0.5
Na [µg/g]	440	370	340	560	480	520	330
Ni [µg/g]	11	9.1	10	47	36	47	12
P [µg/g]	360	300	300	480	420	480	280
Pb [µg/g]	3.5	2.7	3.4	15	12	15	3.1
Sb [µg/g]	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Sr [µg/g]	62	54	83	61	79	71	62
Ti [µg/g]	630	480	530	1400	1200	1500	540
Tl [µg/g]	0.16	0.13	0.22	0.64	0.48	0.50	0.22
U [µg/g]	0.68	0.49	0.58	1.0	0.91	1.1	0.90
V [µg/g]	20	17	19	69	56	68	20
Y [µg/g]	5.7	4.5	5.0	12	11	12	4.6
Zn [µg/g]	28	23	26	95	77	98	26

Analysis	16: MW22-04-1 SS6	17: MW22-04-1 SS7	18: MW22-04-1 SS8	19: MW22-04-1 SS10
Sample Date & Time	16-Sep-22 16:00	16-Sep-22 16:00	16-Sep-22 16:00	16-Sep-22 16:00
Prep-Env AR [Prep]	1	1	1	1
Hg MS [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 1	< 1	< 1	< 1
As [µg/g]	1.9	1.6	1.7	1.5
Al [µg/g]	4700	3500	4100	3400
Ba [µg/g]	36	29	37	30

OnLine LIMS

0003140477

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

LR Report : **CA19276-OCT22**

Analysis	16: MW22-04-1 SS6	17: MW22-04-1 SS7	18: MW22-04-1 SS8	19: MW22-04-1 SS10
Be [µg/g]	0.20	0.15	0.19	0.14
Bi [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	93000	72000	76000	69000
Cd [µg/g]	0.04	0.02	0.04	0.03
Co [µg/g]	3.7	3.2	3.3	3.1
Cr [µg/g]	110	140	120	120
Cu [µg/g]	8.4	6.5	7.0	6.2
Fe [µg/g]	11000	11000	10000	9700
K [µg/g]	1200	930	1100	890
Li [µg/g]	7	5	6	5
Mg [µg/g]	22000	9800	17000	11000
Mn [µg/g]	210	150	180	130
Mo [µg/g]	0.5	0.5	0.4	0.3
Na [µg/g]	410	450	480	440
Ni [µg/g]	9.5	7.7	8.7	7.3
P [µg/g]	330	320	330	300
Pb [µg/g]	3.3	2.5	2.9	2.4
Sb [µg/g]	< 6	< 6	< 6	< 6
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	< 2	< 2	< 2	< 2
Sr [µg/g]	56	48	49	46
Ti [µg/g]	510	460	480	430
Tl [µg/g]	0.14	0.10	0.14	0.08
U [µg/g]	0.45	0.45	0.50	0.41
V [µg/g]	18	18	17	16
Y [µg/g]	5.1	4.2	4.7	4.0
Zn [µg/g]	24	20	21	19

Catharine Arnold

CHARTERED CHEMIST CATHARINE ARNOLD — ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140477

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

ABA - Modified Sobek

Project : 2200-2207

30-November-2022

Date Rec. : 07 November 2022
LR Report: **CA19073-NOV22**
Reference: Marten Falls 21455151

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: MW22-11-1 SS5	6: MW22-11-1 SS3	7: MW22-11-1 SS4
Sample Date & Time					14-Oct-22 17:00	14-Oct-22 17:00	14-Oct-22 17:00
Paste pH [no unit]	18-Nov-22	08:00	21-Nov-22	12:00	7.88	6.94	7.96
Fizz Rate [rating]	18-Nov-22	08:00	21-Nov-22	12:00	4	4	4
Sample weight [g]	18-Nov-22	08:00	21-Nov-22	12:00	2.04	1.93	2.04
HCl_add [mL]	18-Nov-22	08:00	21-Nov-22	12:00	260.00	70.00	170.00
HCl [Normality]	18-Nov-22	08:00	21-Nov-22	12:00	0.10	0.10	0.10
NaOH [Normality]	18-Nov-22	08:00	21-Nov-22	12:00	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	18-Nov-22	08:00	21-Nov-22	12:00	83.62	38.61	55.81
Final pH [no unit]	18-Nov-22	08:00	21-Nov-22	12:00	1.52	1.62	1.53
NP [t CaCO3/1000 t]	18-Nov-22	08:00	21-Nov-22	12:00	432	81.3	280
AP [t CaCO3/1000 t]	25-Nov-22	10:15	25-Nov-22	10:16	1.25	2.19	1.25
Net NP [t CaCO3/1000 t]	25-Nov-22	10:15	25-Nov-22	10:16	431	79.1	279
NP/AP [ratio]	25-Nov-22	10:15	25-Nov-22	10:16	346	37.2	224
S [%]	18-Nov-22	11:56	25-Nov-22	10:15	0.010	0.133	0.013
Acid Leachable SO4-S [%]	25-Nov-22	10:15	25-Nov-22	10:15	<0.04	0.06	<0.04
Sulphide [%]	23-Nov-22	15:46	25-Nov-22	10:15	< 0.04	0.07	< 0.04

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003140504

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : 2200-2207

LR Report : **CA19073-NOV22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-11-1 SS5	6: MW22-11-1 SS3	7: MW22-11-1 SS4
C [%]	18-Nov-22	11:56	23-Nov-22	07:19	3.05	22.2	3.70
CO3 (HCl) [%]	22-Nov-22	15:39	23-Nov-22	07:19	14.7	22.7	16.9

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140504

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 07 November 2022
LR Report: **CA19074-NOV22**
Reference: Marten Falls 21455151

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: MW22-11-1 SS5	6: MW22-11-1 SS3	7: MW22-11-1 SS4
Sample Date & Time					14-Oct-22 17:00	14-Oct-22 17:00	14-Oct-22 17:00
Hg [ug/g]	16-Nov-22	11:32	16-Nov-22	17:22	< 0.05	< 0.05	< 0.05
Ag [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	< 1	< 1	< 1
As [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	3.9	2.6	4.7
Al [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	5100	3500	6100
Ba [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	28	28	34
Be [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	0.20	0.12	0.23
Bi [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	< 0.09	< 0.09	< 0.09
Ca [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	140000	41000	86000
Cd [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	0.02	0.16	0.08
Co [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	5.1	2.6	4.9
Cr [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	130	410	320
Cu [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	9.5	14	12
Fe [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	11000	12000	13000
K [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	1200	590	1200
Li [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	14	5	9

OnLine LIMS

0003140493

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : 2200-2207

LR Report : **CA19074-NOV22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-11-1 SS5	6: MW22-11-1 SS3	7: MW22-11-1 SS4
Mg [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	15000	5600	15000
Mn [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	240	170	220
Mo [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	0.4	1.6	1.2
Ni [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	9.6	12	14
P [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	270	270	330
Pb [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	2.6	2.4	4.1
Sb [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	< 6	< 6	< 6
Se [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	< 0.7	< 0.7	< 0.7
Sn [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	< 2	< 2	< 2
Sr [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	99	42	62
Ti [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	560	220	550
Tl [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	0.10	0.04	0.09
U [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	0.76	0.50	1.1
V [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	25	10	20
Y [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	4.7	2.8	5.2
Zn [µg/g]	21-Nov-22	00:18	22-Nov-22	10:15	15	21	19

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140493

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

26-January-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 07 November 2022
LR Report: **CA19075-NOV22**
Reference: Marten Falls 21455151

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: MW22-11-1 SS5	6: MW22-11-1 SS3	7: MW22-11-1 SS4
Sample Date & Time					14-Oct-22 17:00	14-Oct-22 17:00	14-Oct-22 17:00
Sample weight [g]	05-Dec-22	13:55	08-Dec-22	10:45	250	---	195
Volume D.I. Water [mL]	05-Dec-22	13:55	08-Dec-22	10:45	750	---	750
Final pH [no unit]	07-Dec-22	11:48	08-Dec-22	10:45	8.42	---	7.74
pH [No unit]	08-Dec-22	15:45	09-Dec-22	13:09	8.03	---	8.26
Conductivity [uS/cm]	08-Dec-22	15:45	09-Dec-22	13:09	178	---	264
Alkalinity [mg/L as CaCO3]	08-Dec-22	15:45	09-Dec-22	13:09	70	---	136
SO4 [mg/L]	22-Dec-22	12:45	28-Dec-22	14:38	22	---	22
Cl [mg/L]	22-Dec-22	12:26	28-Dec-22	14:38	3	---	< 1
F [mg/L]	08-Dec-22	08:42	08-Dec-22	12:16	0.20	---	0.22
NO2 [as N mg/L]	14-Dec-22	13:01	16-Dec-22	08:45	1.18	---	0.55
NO3 [as N mg/L]	14-Dec-22	13:01	16-Dec-22	08:45	< 0.6	---	< 0.6
NO2+NO3 [as N mg/L]	14-Dec-22	13:01	16-Dec-22	08:45	1.18	---	< 0.6
NH3+NH4 [as N mg/L]	08-Dec-22	17:00	09-Dec-22	13:04	< 0.1	---	< 0.1
Hg [mg/L]	09-Dec-22	08:02	09-Dec-22	15:26	< 0.00001	---	< 0.00001
Ag [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	< 0.00005	---	< 0.00005
Al [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.439	---	0.259
As [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.0089	---	0.0068
Ba [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.00865	---	0.0117
B [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.139	---	0.152
Be [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.000026	---	0.000060
Bi [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.00001	---	< 0.00001
Ca [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	19.5	---	36.1
Cd [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.000022	---	0.000220
Co [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.000664	---	0.000130
Cr [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.00127	---	0.00133
Cu [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.0059	---	0.0029
Fe [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.459	---	0.250
K [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.617	---	0.830
Li [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.0016	---	0.0011
Mg [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	2.28	---	3.15
Mn [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.0150	---	0.0121
Mo [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.0200	---	0.0423
Na [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	14.1	---	13.5

OnLine LIMS

0003209767

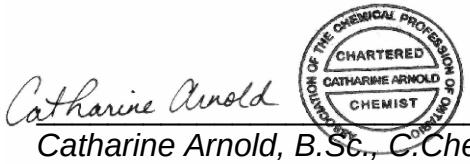
Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA19075-NOV22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-11-1 SS5	6: MW22-11-1 SS3	7: MW22-11-1 SS4
Ni [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.0019	---	0.0007
P [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.033	---	0.030
Pb [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.00097	---	0.00031
Sb [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.0011	---	0.0010
Se [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.00057	---	0.00096
Si [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	2.47	---	28.0
Sn [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	< 0.00006	---	0.00155
Sr [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.0217	---	0.0394
Ti [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.0136	---	< 0.00005
Tl [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.000010	---	< 0.000005
U [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.00584	---	0.00141
V [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.00705	---	0.00480
Zn [mg/L]	10-Dec-22	10:52	14-Dec-22	13:47	0.003	---	0.012

MW22-11-1 SS3 - insufficient sample to perform analysis.



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003209767

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : 2200-2207

30-November-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 07 November 2022
LR Report: **CA19076-NOV22**
Reference: Marten Falls 21455151

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: MW22-11-1 SS5	6: MW22-11-1 SS3	7: MW22-11-1 SS4
Sample Date & Time					14-Oct-22 17:00	14-Oct-22 17:00	14-Oct-22 17:00
LOI [%]	14-Nov-22	20:55	16-Nov-22	11:53	1.17	55.0	2.91

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003140484

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : 2200-2207

22-December-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 01 December 2022
LR Report: **CA19011-DEC22**
Reference: Marten Falls 21455151

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	LOI %
1: Analysis Start Date		05-Dec-22
2: Analysis Start Time		20:15
3: Analysis Completed Date		07-Dec-22
4: Analysis Completed Time		09:45
5: MW22-01-1 SS8	09-Sep-22 16:00	0.87
6: MW22-01-2 SS4	09-Sep-22 16:00	3.19
7: MW22-01-2 SS6	09-Sep-22 16:00	0.56
8: MW22-02-1 SS5	12-Sep-22 16:00	1.35
9: MW22-02-1 SS6	12-Sep-22 16:00	1.21
10: MW22-02-1 SS7	12-Sep-22 16:00	0.81
11: MW22-02-1 SS8	12-Sep-22 16:00	1.10
12: MW22-03-1 SS3	13-Sep-22 16:00	3.80
13: MW22-03-1 SS4	13-Sep-22 16:00	4.77
14: MW22-03-1 SS5	13-Sep-22 16:00	3.88
15: MW22-03-1 SS6	13-Sep-22 16:00	0.84
16: MW22-04-1 SS6	16-Sep-22 16:00	0.61
17: MW22-04-1 SS7	16-Sep-22 16:00	0.41
18: MW22-04-1 SS8	16-Sep-22 16:00	0.41
19: MW22-04-1 SS10	16-Sep-22 16:00	0.47

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003169145

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : 2200-2207

22-December-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 01 December 2022
LR Report: **CA19012-DEC22**
Reference: Marten Falls 21455151

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Sample weight g	Volume D.I. Water mL	Final pH no unit	pH No unit	Alkalinity mg/L as CaCO3	Conductivity uS/cm	F mg/L
1: Analysis Start Date		05-Dec-22	05-Dec-22	07-Dec-22	08-Dec-22	08-Dec-22	08-Dec-22	08-Dec-22
2: Analysis Start Time		13:55	13:55	11:48	15:45	15:45	15:45	08:42
3: Analysis Completed Date		08-Dec-22	08-Dec-22	08-Dec-22	12-Dec-22	12-Dec-22	12-Dec-22	08-Dec-22
4: Analysis Completed Time		10:45	10:45	10:45	11:06	11:06	11:06	12:14
5: MW22-01-1 SS8	09/09/2022 16:00	250	750	8.95	7.64	36	125	0.29
6: MW22-01-2 SS4	09/09/2022 16:00	250	750	8.47	8.34	99	222	0.54
7: MW22-01-2 SS6	09/09/2022 16:00	215	645	9.13	7.52	35	78	0.15
8: MW22-02-1 SS5	09/12/2022 16:00	250	750	8.99	8.42	71	146	0.65
9: MW22-02-1 SS6	09/12/2022 16:00	250	750	8.78	7.75	46	148	0.40
10: MW22-02-1 SS7	09/12/2022 16:00	250	750	8.99	7.70	40	130	0.31
11: MW22-02-1 SS8	09/12/2022 16:00	250	750	8.82	7.77	51	151	0.35
12: MW22-03-1 SS3	09/13/2022 16:00	250	750	8.45	8.48	80	165	0.87
13: MW22-03-1 SS4	09/13/2022 16:00	250	750	8.46	8.59	83	170	0.81
14: MW22-03-1 SS5	09/13/2022 16:00	250	750	8.17	8.35	94	210	0.54
15: MW22-03-1 SS6	09/13/2022 16:00	250	750	8.75	8.27	61	159	0.31
16: MW22-04-1 SS6	09/16/2022 16:00	250	750	8.48	8.50	80	163	0.42
17: MW22-04-1 SS7	09/16/2022 16:00	250	750	8.51	8.15	62	110	0.29
18: MW22-04-1 SS8	09/16/2022 16:00	250	750	9.01	8.13	55	113	0.29
19: MW22-04-1 SS10	09/16/2022 16:00	250	750	8.67	8.38	48	94	0.22
20-DUP: MW22-04-1 SS8		250	750	9.02	8.01	53	112	0.31
21-BLK: $D.I. Leachate Blank		250	750	5.92	7.69	24	48	0.14

Sample ID	SO4 mg/L	Cl mg/L	NO2 as N mg/L	NO3 as N mg/L	NO2+NO3 as N mg/L	NH3+NH4 as N mg/L
1: Analysis Start Date	13-Dec-22	13-Dec-22	13-Dec-22	13-Dec-22	13-Dec-22	08-Dec-22
2: Analysis Start Time	00:16	00:16	00:16	00:16	00:16	17:00
3: Analysis Completed Date	17-Dec-22	17-Dec-22	17-Dec-22	17-Dec-22	17-Dec-22	12-Dec-22
4: Analysis Completed Time	17:28	17:28	17:28	17:28	17:28	08:48
5: MW22-01-1 SS8	22	3.0	< 0.3	< 0.6	< 0.6	< 0.1
6: MW22-01-2 SS4	14	< 2	< 0.3	< 0.6	< 0.6	0.1
7: MW22-01-2 SS6	< 2	< 2	< 0.3	< 0.6	< 0.6	< 0.1
8: MW22-02-1 SS5	< 2	< 2	< 0.3	< 0.6	< 0.6	< 0.1
9: MW22-02-1 SS6	23	< 2	< 0.3	< 0.6	< 0.6	< 0.1
10: MW22-02-1 SS7	21	< 2	< 0.3	< 0.6	< 0.6	< 0.1

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003169153

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : 2200-2207

LR Report : **CA19012-DEC22**

Sample ID	SO4 mg/L	Cl mg/L	NO2 as N mg/L	NO3 as N mg/L	NO2+NO3 as N mg/L	NH3+NH4 as N mg/L
11: MW22-02-1 SS8	19	< 2	< 0.3	< 0.6	< 0.6	< 0.1
12: MW22-03-1 SS3	3.1	< 2	< 0.3	< 0.6	< 0.6	< 0.1
13: MW22-03-1 SS4	3.0	< 2	< 0.3	< 0.6	< 0.6	< 0.1
14: MW22-03-1 SS5	11	< 2	< 0.3	< 0.6	< 0.6	< 0.1
15: MW22-03-1 SS6	18	< 2	< 0.3	< 0.6	< 0.6	< 0.1
16: MW22-04-1 SS6	< 2	2.7	< 0.3	< 0.6	< 0.6	< 0.1
17: MW22-04-1 SS7	2.2	2.3	< 0.3	< 0.6	< 0.6	< 0.1
18: MW22-04-1 SS8	2.2	< 2	< 0.3	< 0.6	< 0.6	< 0.1
19: MW22-04-1 SS10	< 2	< 2	< 0.3	< 0.6	< 0.6	< 0.1
20-DUP: MW22-04-1 SS8	< 2	< 2	< 0.3	< 0.6	< 0.6	< 0.1
21-BLK: $D.I. Leachate Blank	< 2	< 2	< 0.3	< 0.6	< 0.6	< 0.1

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST — THE CHEMICAL PROFESSION OF ONTARIO

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003169153

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

ABA - Modified Sobek

Project : P.O# 2200-2207

29-January-2023

Date Rec. : 07 December 2022
LR Report: **CA19092-DEC22**
Reference: Marten Falls 21455151 - P.O# 2200-2207

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: MW22-12-1 SS4	6: MW22-12-1 SS6	7: MW22-12-1 SS11	8: MW22-12-1 SS12	9: MW22-13-1 SS5	10: MW22-13-1 SS6
Sample Date & Time					17-Nov-22 17:00	17-Nov-22 17:00	18-Nov-22 17:00	18-Nov-22 17:00	21-Nov-22 17:00	22-Nov-22 17:00
Paste pH [no unit]	03-Jan-23	08:07	05-Jan-23	15:39	8.06	8.12	8.37	8.24	8.52	7.62
Fizz Rate [rating]	03-Jan-23	08:07	05-Jan-23	15:39	3	4	4	4	4	4
Sample weight [g]	03-Jan-23	08:07	05-Jan-23	15:39	2.03	2.04	2.05	1.97	2.10	2.06
HCl_add [mL]	03-Jan-23	08:07	05-Jan-23	15:39	245.00	235.00	200.00	180.00	155.00	125.00
HCl [Normality]	03-Jan-23	08:07	05-Jan-23	15:39	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	03-Jan-23	08:07	05-Jan-23	15:39	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	03-Jan-23	08:07	05-Jan-23	15:39	89.88	87.31	71.45	39.94	48.63	47.08
Final pH [no unit]	03-Jan-23	08:07	05-Jan-23	15:39	1.50	1.48	1.48	1.75	1.55	1.49
NP [t CaCO3/1000 t]	03-Jan-23	08:07	05-Jan-23	15:39	382	362	314	356	253	189
AP [t CaCO3/1000 t]	05-Jan-23	15:39	05-Jan-23	15:39	1.25	1.25	1.25	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	05-Jan-23	15:39	05-Jan-23	15:39	381	361	312	354	252	188
NP/AP [ratio]	05-Jan-23	15:39	05-Jan-23	15:39	306	290	251	284	203	151
S [%]	15-Dec-22	10:29	05-Jan-23	11:29	< 0.005	0.034	0.030	0.038	< 0.005	0.011
Acid Leachable SO4-S [%]	05-Jan-23	11:29	05-Jan-23	11:29	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Sulphide [%]	20-Dec-22	09:24	05-Jan-23	11:29	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
C [%]	15-Dec-22	10:29	19-Dec-22	12:10	4.76	4.81	3.85	4.71	3.15	3.14
CO3 (HCl) [%]	19-Dec-22	07:49	19-Dec-22	12:10	22.6	21.9	18.6	22.7	15.3	12.7

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003211771

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

LR Report : **CA19092-DEC22**

Analysis	11: MW22-13-1 SS8	12: MW22-13-1 SS10	13: MW22-14-1 SS3	14: MW22-14-1 SS5	15: MW22-14-1 SS7	16: MW22-14-1 SS8
Sample Date & Time	22-Nov-22 17:00	22-Nov-22 17:00	25-Nov-22 17:00	25-Nov-22 17:00	25-Nov-22 17:00	25-Nov-22 17:00
Paste pH [no unit]	8.50	8.62	8.57	8.45	8.53	8.36
Fizz Rate [rating]	4	4	4	4	4	4
Sample weight [g]	1.97	2.08	2.03	2.00	2.04	2.02
HCl_add [mL]	100.00	120.00	160.00	210.00	180.00	180.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	25.99	47.72	53.27	68.57	55.36	59.15
Final pH [no unit]	1.82	1.44	1.50	1.52	1.60	1.51
NP [t CaCO3/1000 t]	188	174	263	354	306	299
AP [t CaCO3/1000 t]	1.25	1.25	1.25	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	187	173	262	352	304	298
NP/AP [ratio]	150	139	210	283	244	239
S [%]	0.012	0.017	< 0.005	0.005	< 0.005	0.007
Acid Leachable SO4-S [%]	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Sulphide [%]	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
C [%]	2.66	2.53	3.90	4.54	4.06	5.17
CO3 (HCl) [%]	12.7	12.4	19.3	22.5	19.9	25.4

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,

OnLine LIMS

0003211771

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

LR Report : **CA19092-DEC22**

Environment, Health & Safety

OnLine LIMS

0003211771

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O#2200-2207

29-January-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 07 December 2022
LR Report: **CA19093-DEC22**
Reference: Marten Falls 21455151 - P.O#2200-2207

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: MW22-12-1 SS4	6: MW22-12-1 SS6	7: MW22-12-1 SS11	8: MW22-12-1 SS12
Sample Date & Time					11/17/2022 17:00	11/17/2022 17:00	11/18/2022 17:00	11/18/2022 17:00
Sample weight [g]	22-Dec-22	08:30	23-Dec-22	11:57	250	250	250	250
Volume D.I. Water [mL]	22-Dec-22	08:30	23-Dec-22	11:57	750	750	750	750
Final pH [no unit]	23-Dec-22	06:38	23-Dec-22	11:57	8.00	7.97	8.18	8.13
pH [No unit]	27-Dec-22	08:21	28-Dec-22	10:02	9.00	8.40	8.65	8.47
Conductivity [uS/cm]	27-Dec-22	08:21	28-Dec-22	10:02	191	268	160	212
Alkalinity [mg/L as CaCO3]	27-Dec-22	08:21	28-Dec-22	10:02	103	125	67	84
F [mg/L]	27-Dec-22	08:10	28-Dec-22	09:15	0.53	0.35	0.37	0.49
SO4 [mg/L]	29-Dec-22	14:46	06-Jan-23	16:59	2.8	18	17	26
Cl [mg/L]	29-Dec-22	14:46	06-Jan-23	16:59	< 2	< 2	< 2	< 2
NO2 [as N mg/L]	28-Dec-22	18:57	05-Jan-23	10:57	< 0.3	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	28-Dec-22	18:57	05-Jan-23	10:57	< 0.6	< 0.6	< 0.6	< 0.6
NO2+NO3 [as N mg/L]	28-Dec-22	18:57	05-Jan-23	10:57	< 0.6	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	29-Dec-22	07:36	30-Dec-22	08:59	0.3	0.2	0.3	0.5
Hg [mg/L]	29-Dec-22	06:34	29-Dec-22	17:01	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003211767

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O#2200-2207

LR Report : **CA19093-DEC22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-12-1 SS4	6: MW22-12-1 SS6	7: MW22-12-1 SS11	8: MW22-12-1 SS12
Ag [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	1.46	0.152	0.376	0.198
As [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.0137	0.0007	0.0021	0.0017
Ba [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.0164	0.0265	0.0124	0.0186
B [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.522	0.164	0.223	0.271
Be [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.000045	0.000010	0.000012	0.000009
Bi [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	16.2	39.5	20.5	22.5
Cd [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.000008	0.000004	0.000003	< 0.000003
Co [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.000572	0.000096	0.000146	0.000087
Cr [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.00332	0.00063	0.00078	0.00087
Cu [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.0035	0.0018	0.0021	0.0030
Fe [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	1.08	0.088	0.239	0.136
K [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	1.68	1.56	1.04	3.26
Li [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.0058	0.0044	0.0029	0.0055
Mg [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	3.12	5.32	2.66	4.26
Mn [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.0146	0.0319	0.00620	0.00971
Mo [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.00376	0.0125	0.00455	0.00632
Na [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	24.5	8.00	9.52	14.3
Ni [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.0022	0.0009	0.0007	0.0013
P [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.035	0.003	< 0.003	0.004
Pb [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.00076	< 0.00009	0.00012	< 0.00009
Sb [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	< 0.0009	< 0.0009	< 0.0009	0.0011
Si [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	9.24	2.25	3.84	3.96
Se [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.00062	0.00060	0.00048	0.00073
Sn [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.0212	0.0414	0.0208	0.0470
Ti [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.0623	0.00731	0.0178	0.00840
Tl [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.000012	< 0.000005	< 0.000005	0.000005

OnLine LIMS

0003211767

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O#2200-2207

LR Report : **CA19093-DEC22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-12-1 SS4	6: MW22-12-1 SS6	7: MW22-12-1 SS11	8: MW22-12-1 SS12
U [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.00151	0.000868	0.000799	0.00327
V [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.00648	0.00136	0.00272	0.00178
Zn [mg/L]	29-Dec-22	11:04	30-Dec-22	10:00	0.004	0.002	< 0.002	< 0.002

Analysis	9: MW22-13-1 SS5	10: MW22-13-1 SS6	11: MW22-13-1 SS8	12: MW22-13-1 SS10	13: MW22-14-1 SS3	14: MW22-14-1 SS5	15: MW22-14-1 SS7
Sample Date & Time	11/21/2022 17:00	11/22/2022 17:00	11/22/2022 17:00	11/22/2022 17:00	11/25/2022 17:00	11/25/2022 17:00	11/25/2022 17:00
Sample weight [g]	250	250	250	190	250	250	250
Volume D.I. Water [mL]	750	750	750	570	750	750	750
Final pH [no unit]	8.26	8.21	8.52	8.91	8.74	8.67	8.71
pH [No unit]	8.69	8.85	8.84	9.10	8.64	9.03	9.00
Conductivity [uS/cm]	115	152	138	115	94	112	118
Alkalinity [mg/L as CaCO3]	56	77	64	54	47	57	58
F [mg/L]	0.20	0.27	0.29	0.20	0.33	0.50	0.54
SO4 [mg/L]	4.2	5.6	7.6	9.4	< 2	< 2	< 2
Cl [mg/L]	< 2	< 2	< 2	< 2	< 2	< 2	< 2
NO2 [as N mg/L]	0.41	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
NO2+NO3 [as N mg/L]	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	< 0.1	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	2.26	1.52	1.52	1.27	0.416	0.274	0.283
As [mg/L]	0.0043	0.0040	0.0056	0.0044	0.0028	0.0015	0.0015
Ba [mg/L]	0.0189	0.0161	0.0157	0.0131	0.00538	0.00475	0.00487
B [mg/L]	0.164	0.271	0.271	0.100	0.099	0.127	0.113
Be [mg/L]	0.000098	0.000048	0.000052	0.000057	0.000012	0.000008	0.000010

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O#2200-2207

LR Report : **CA19093-DEC22**

Analysis	9: MW22-13-1 SS5	10: MW22-13-1 SS6	11: MW22-13-1 SS8	12: MW22-13-1 SS10	13: MW22-14-1 SS3	14: MW22-14-1 SS5	15: MW22-14-1 SS7
Bi [mg/L]	0.00002	0.00001	0.00002	0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	14.9	18.5	15.6	13.8	10.6	10.9	11.2
Cd [mg/L]	0.000017	< 0.000003	0.000015	0.000013	< 0.000003	0.000003	0.000011
Co [mg/L]	0.001509	0.000691	0.000737	0.000745	0.000097	0.000054	0.000075
Cr [mg/L]	0.00561	0.00386	0.00354	0.00348	0.00092	0.00095	0.00097
Cu [mg/L]	0.0162	0.0078	0.0061	0.0055	0.0013	0.0008	0.0010
Fe [mg/L]	2.27	1.34	1.38	1.29	0.314	0.211	0.215
K [mg/L]	0.927	1.24	1.26	1.10	0.587	0.819	0.700
Li [mg/L]	0.0027	0.0029	0.0032	0.0032	0.0036	0.0043	0.0041
Mg [mg/L]	1.78	2.33	2.10	1.95	2.23	2.57	2.61
Mn [mg/L]	0.0285	0.0220	0.0219	0.0187	0.00290	0.00165	0.00195
Mo [mg/L]	0.00584	0.00721	0.00589	0.00239	0.00343	0.00860	0.00732
Na [mg/L]	11.2	14.0	13.1	9.91	7.86	9.65	10.7
Ni [mg/L]	0.0048	0.0027	0.0029	0.0028	0.0007	0.0006	0.0007
P [mg/L]	0.060	0.066	0.050	0.037	0.006	< 0.003	< 0.003
Pb [mg/L]	0.00255	0.00111	0.00094	0.00115	0.00013	0.00009	0.00012
Sb [mg/L]	0.0013	0.0011	0.0012	< 0.0009	0.0012	0.0009	< 0.0009
Si [mg/L]	4.33	5.72	5.67	3.84	4.47	4.35	4.26
Se [mg/L]	0.00078	0.00073	0.00068	0.00054	0.00004	0.00006	0.00007
Sn [mg/L]	0.00008	< 0.00006	< 0.00006	0.00008	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.0158	0.0210	0.0176	0.0131	0.0127	0.0136	0.0144
Ti [mg/L]	0.0934	0.0760	0.0730	0.0586	0.0127	0.00872	0.00809
Tl [mg/L]	0.000022	0.000010	0.000012	0.000013	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000331	0.000866	0.00186	0.00725	0.000223	0.000725	0.000990
V [mg/L]	0.0120	0.00852	0.0102	0.00813	0.00339	0.00191	0.00167
Zn [mg/L]	0.007	0.004	0.005	0.006	< 0.002	< 0.002	< 0.002

OnLine LIMS

0003211767

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O#2200-2207

LR Report : **CA19093-DEC22**

Analysis	16: MW22-14-1 SS7	17: MW22-14-1 SS8	18:BLK: $D.I. Leachate Blank
Sample Date & Time		11/25/2022 17:00	
Sample weight [g]	250	250	---
Volume D.I. Water [mL]	750	750	750
Final pH [no unit]	8.60	8.69	5.62
pH [No unit]	8.69	8.79	6.32
Conductivity [uS/cm]	123	111	< 2
Alkalinity [mg/L as CaCO3]	62	57	< 2
F [mg/L]	0.43	0.51	< 0.06
SO4 [mg/L]	< 2	< 2	< 2
Cl [mg/L]	< 2	< 2	< 2
NO2 [as N mg/L]	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	< 0.6	< 0.6	< 0.6
NO2+NO3 [as N mg/L]	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	< 0.1	< 0.1	< 0.1
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.231	0.383	< 0.001
As [mg/L]	0.0010	0.0008	< 0.0002
Ba [mg/L]	0.00558	0.00579	< 0.00008
B [mg/L]	0.131	0.125	< 0.002
Be [mg/L]	0.000012	0.000017	< 0.000007
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	12.8	11.9	< 0.01
Cd [mg/L]	0.000006	< 0.000003	< 0.000003
Co [mg/L]	0.000086	0.000110	0.000006
Cr [mg/L]	0.00076	0.00086	< 0.00008
Cu [mg/L]	0.0011	0.0014	< 0.0002
Fe [mg/L]	0.168	0.298	< 0.007
K [mg/L]	0.830	0.716	0.007

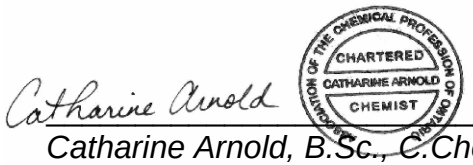
OnLine LIMS

0003211767

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	16: MW22-14-1 SS7	17: MW22-14-1 SS8	18:BLK: $D.I. Leachate Blank
Li [mg/L]	0.0042	0.0040	< 0.0001
Mg [mg/L]	2.89	2.82	0.001
Mn [mg/L]	0.00201	0.00240	0.00022
Mo [mg/L]	0.00532	0.00988	< 0.00004
Na [mg/L]	9.82	8.20	< 0.01
Ni [mg/L]	0.0007	0.0006	< 0.0001
P [mg/L]	0.003	0.005	< 0.003
Pb [mg/L]	0.00010	0.00014	< 0.00009
Sb [mg/L]	< 0.0009	< 0.0009	< 0.0009
Si [mg/L]	4.62	4.48	< 0.02
Se [mg/L]	0.00008	0.00012	< 0.00004
Sn [mg/L]	< 0.00006	< 0.00006	< 0.00006
Sr [mg/L]	0.0169	0.0149	< 0.00008
Ti [mg/L]	0.00794	0.0117	< 0.00005
Tl [mg/L]	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000652	0.000869	< 0.000002
V [mg/L]	0.00212	0.00165	< 0.00001
Zn [mg/L]	< 0.002	< 0.002	< 0.002



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003211767

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

22-December-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 07 December 2022
LR Report: **CA19094-DEC22**
Reference: Marten Falls 21455151 - P.O# 2200-2207

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Hg MS ug/g	Ag µg/g	As µg/g	Al µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g
1: Analysis Start Date		19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22
2: Analysis Start Time		23:49	23:49	23:49	23:49	23:49	23:49	23:49	23:49
3: Analysis Completed Date		20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22
4: Analysis Completed Time		15:40	15:40	15:40	15:40	15:40	15:40	15:40	15:40
5: MW22-12-1 SS4	11/17/2022 17:00	< 0.05	< 1	2.3	12000	94	0.64	0.22	85000
6: MW22-12-1 SS6	11/17/2022 17:00	< 0.05	< 1	2.1	5200	38	0.29	0.09	74000
7: MW22-12-1 SS11	11/18/2022 17:00	< 0.05	< 1	1.7	3100	23	0.18	< 0.09	66000
8: MW22-12-1 SS12	11/18/2022 17:00	< 0.05	< 1	2.2	5400	37	0.32	< 0.09	82000
9: MW22-13-1 SS5	11/21/2022 17:00	< 0.05	< 1	1.4	2100	11	0.12	< 0.09	55000
10: MW22-13-1 SS6	11/22/2022 17:00	< 0.05	< 1	1.5	3000	19	0.17	< 0.09	47000
11: MW22-13-1 SS8	11/22/2022 17:00	< 0.05	< 1	1.4	2900	18	0.16	< 0.09	49000
12: MW22-13-1 SS10	11/22/2022 17:00	< 0.05	< 1	1.5	2600	16	0.14	< 0.09	48000
13: MW22-14-1 SS3	11/25/2022 17:00	< 0.05	< 1	1.9	3600	24	0.18	< 0.09	70000
14: MW22-14-1 SS5	11/25/2022 17:00	< 0.05	< 1	2.2	4000	26	0.20	< 0.09	85000
15: MW22-14-1 SS7	11/25/2022 17:00	< 0.05	< 1	2.4	4800	27	0.24	< 0.09	71000
16: MW22-14-1 SS8	11/25/2022 17:00	< 0.05	< 1	2.3	3900	24	0.21	< 0.09	94000

Sample ID	Cd µg/g	Co µg/g	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g	Mn µg/g
1: Analysis Start Date	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22
2: Analysis Start Time	23:49	23:49	23:49	23:49	23:49	23:49	23:49	23:49	23:49
3: Analysis Completed Date	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22
4: Analysis Completed Time	15:40	15:40	15:40	15:40	15:40	15:40	15:40	15:40	15:40
5: MW22-12-1 SS4	0.10	10	41	22	19000	2100	25	17000	430
6: MW22-12-1 SS6	0.05	4.6	26	11	9500	850	11	21000	220
7: MW22-12-1 SS11	0.05	3.2	23	6.9	6700	500	7	16000	170
8: MW22-12-1 SS12	0.06	5.0	40	11	11000	840	12	18000	280
9: MW22-13-1 SS5	0.03	2.2	29	6.1	5500	270	4	12000	95
10: MW22-13-1 SS6	0.10	2.8	83	8.9	7200	410	6	6900	110
11: MW22-13-1 SS8	0.04	3.5	61	6.9	6800	440	6	7200	120
12: MW22-13-1 SS10	0.03	2.6	78	6.5	5600	400	6	6700	120
13: MW22-14-1 SS3	0.03	3.6	38	9.0	8100	430	8	14000	190
14: MW22-14-1 SS5	0.04	3.7	43	8.9	8100	560	9	14000	180
15: MW22-14-1 SS7	0.06	4.2	39	9.6	9800	580	10	15000	180
16: MW22-14-1 SS8	0.04	3.7	34	9.2	7900	490	9	18000	190

OnLine LIMS

0003169161

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

LR Report : **CA19094-DEC22**

Sample ID	Mo µg/g	Ni µg/g	P µg/g	Pb µg/g	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g	Ti µg/g
1: Analysis Start Date	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22
2: Analysis Start Time	23:49	23:49	23:49	23:49	23:49	23:49	23:49	23:49	23:49
3: Analysis Completed Date	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22
4: Analysis Completed Time	15:40	15:40	15:40	15:40	15:40	15:40	15:40	15:40	15:40
5: MW22-12-1 SS4	1.0	26	300	8.9	< 6	< 0.7	< 2	72	380
6: MW22-12-1 SS6	1.0	12	250	4.1	< 6	< 0.7	< 2	52	210
7: MW22-12-1 SS11	0.8	7.7	240	2.6	< 6	< 0.7	< 2	47	150
8: MW22-12-1 SS12	0.8	13	240	3.9	< 6	< 0.7	< 2	63	220
9: MW22-13-1 SS5	0.6	5.5	280	1.9	< 6	< 0.7	< 2	40	140
10: MW22-13-1 SS6	0.7	9.2	210	2.4	< 6	< 0.7	< 2	39	140
11: MW22-13-1 SS8	0.9	10	180	2.1	< 6	< 0.7	< 2	39	140
12: MW22-13-1 SS10	0.7	8.2	140	1.8	< 6	< 0.7	< 2	39	120
13: MW22-14-1 SS3	0.7	9.3	230	2.6	< 6	< 0.7	< 2	50	180
14: MW22-14-1 SS5	0.6	10	210	3.0	< 6	< 0.7	< 2	59	180
15: MW22-14-1 SS7	0.6	11	240	3.4	< 6	< 0.7	< 2	54	230
16: MW22-14-1 SS8	0.5	9.7	200	3.1	< 6	< 0.7	< 2	64	170

Sample ID	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g
1: Analysis Start Date	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22	19-Dec-22
2: Analysis Start Time	23:49	23:49	23:49	23:49	23:49
3: Analysis Completed Date	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22	20-Dec-22
4: Analysis Completed Time	15:40	15:40	15:40	15:40	15:40
5: MW22-12-1 SS4	0.13	0.83	37	8.4	49
6: MW22-12-1 SS6	0.07	0.53	19	5.4	22
7: MW22-12-1 SS11	0.05	0.41	13	4.1	14
8: MW22-12-1 SS12	0.06	0.60	21	5.3	23
9: MW22-13-1 SS5	0.02	0.31	12	3.8	8.6
10: MW22-13-1 SS6	0.03	0.40	15	3.4	12
11: MW22-13-1 SS8	0.03	0.39	13	3.1	11
12: MW22-13-1 SS10	0.03	0.46	10	2.6	11
13: MW22-14-1 SS3	0.05	0.34	17	3.8	13
14: MW22-14-1 SS5	0.04	0.38	16	4.1	15
15: MW22-14-1 SS7	0.04	0.51	18	4.8	17
16: MW22-14-1 SS8	0.03	0.41	15	4.0	14

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003169161

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : P.O# 2200-2207

22-December-2022

Golder Associates Limited
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 07 December 2022
LR Report: **CA19095-DEC22**
Reference: Marten Falls - P.O# 2200-2207

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	LOI %
1: Analysis Start Date		12-Dec-22
2: Analysis Start Time		21:01
3: Analysis Completed Date		14-Dec-22
4: Analysis Completed Time		08:54
5: MW22-12-1 SS4	11/17/2022 17:00	3
6: MW22-12-1 SS6	11/17/2022 17:00	3
7: MW22-12-1 SS11	11/18/2022 17:00	2
8: MW22-12-1 SS12	11/18/2022 17:00	2
9: MW22-13-1 SS5	11/21/2022 17:00	1
10: MW22-13-1 SS6	11/22/2022 17:00	1
11: MW22-13-1 SS8	11/22/2022 17:00	1
12: MW22-13-1 SS10	11/22/2022 17:00	1
13: MW22-14-1 SS3	11/25/2022 17:00	1
14: MW22-14-1 SS5	11/25/2022 17:00	1
15: MW22-14-1 SS7	11/25/2022 17:00	1
16: MW22-14-1 SS8	11/25/2022 17:00	1

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003169170

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

ABA - Modified Sobek

Project : P.O# 2200-2207

29-January-2023

Date Rec. : 30 December 2022
LR Report: **CA19256-DEC22**
Reference: Marten Falls 21455151 - P.O# 2200-2207

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: MW22-16-02 SA2	6: MW22-16-02 SA4
Sample Date & Time					05-Dec-22 11:00	05-Dec-22 11:00
Paste pH [no unit]	12-Jan-23	08:44	16-Jan-23	12:17	8.51	8.61
Fizz Rate [rating]	12-Jan-23	08:44	16-Jan-23	12:17	4	2
Sample weight [g]	12-Jan-23	08:44	16-Jan-23	12:17	2.10	1.92
HCl_add [mL]	12-Jan-23	08:44	16-Jan-23	12:17	220.00	20.00
HCl [Normality]	12-Jan-23	08:44	16-Jan-23	12:17	0.10	0.10
NaOH [Normality]	12-Jan-23	08:44	16-Jan-23	12:17	0.10	0.10
Vol NaOH to pH=8.3 [mL]	12-Jan-23	08:44	16-Jan-23	12:17	83.27	15.30
Final pH [no unit]	12-Jan-23	08:44	16-Jan-23	12:17	1.48	1.88
NP [t CaCO3/1000 t]	12-Jan-23	08:44	16-Jan-23	12:17	326	12.2
AP [t CaCO3/1000 t]	23-Jan-23	15:08	23-Jan-23	15:08	1.25	1.25
Net NP [t CaCO3/1000 t]	23-Jan-23	15:08	23-Jan-23	15:08	324	11.0
NP/AP [ratio]	23-Jan-23	15:08	23-Jan-23	15:08	260	9.76
S [%]	16-Jan-23	11:58	23-Jan-23	15:08	0.006	0.064
Acid Leachable SO4-S [%]	23-Jan-23	15:07	23-Jan-23	15:08	<0.04	0.06

OnLine LIMS

0003211764

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : P.O# 2200-2207

LR Report : **CA19256-DEC22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-16-02 SA2	6: MW22-16-02 SA4
Sulphide [%]	23-Jan-23	09:45	23-Jan-23	15:08	< 0.04	< 0.04
C [%]	16-Jan-23	11:58	23-Jan-23	10:05	4.18	0.102
CO3 (HCl) [%]	20-Jan-23	13:27	23-Jan-23	10:05	20.6	0.41

*NP (Neutralization Potential)

$$= \frac{50 \times (\text{N of HCL} \times \text{Total HCL added} - \text{N NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003211764

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

29-January-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 30 December 2022
LR Report: **CA19257-DEC22**
Reference: Marten Falls 21455151 - P.O# 2200-2207

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: MW22-16-02 SA2	6: MW22-16-02 SA4
Sample Date & Time					05-Dec-22 11:00	05-Dec-22 11:00
Hg MS [ug/g]	15-Jan-23	01:13	17-Jan-23	11:11	< 0.05	< 0.05
Ag [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	< 1	< 1
As [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	1.8	0.9
Al [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	6000	42000
Ba [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	34	350
Be [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	0.23	1.2
Bi [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	< 0.09	0.58
Ca [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	71000	3500
Cd [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	0.05	0.04
Co [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	4.0	26
Cr [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	16	130
Cu [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	10.0	35
Fe [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	9700	55000
K [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	610	21000
Li [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	7	83
Mg [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	13000	19000
Mn [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	222	471
Mo [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	< 0.1	1.4
Ni [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	10	89
P [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	230	410
Pb [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	4.3	8.5
Sb [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	< 6	< 6
Se [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	< 0.7	< 0.7
Sn [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	< 2	2
Sr [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	56	6.5
Ti [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	220	3000

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003211759

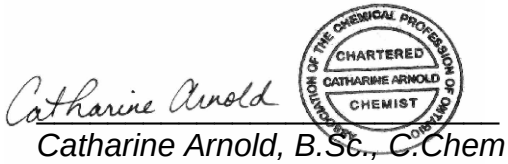
SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : P.O# 2200-2207

LR Report : **CA19257-DEC22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-16-02 SA2	6: MW22-16-02 SA4
Tl [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	0.08	0.75
U [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	0.51	6.2
V [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	17	93
Y [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	5.3	6.8
Zn [µg/g]	15-Jan-23	01:13	17-Jan-23	11:11	12	81



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003211759

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : P.O# 2200-2207

29-January-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 30 December 2022
LR Report: **CA19258-DEC22**
Reference: Marten Falls 21455151 - P.O# 2200-2207

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: MW22-16-02 SA2	6: MW22-16-02 SA4
Sample Date & Time					05-Dec-22 11:00	05-Dec-22 11:00
Sample weight [g]	05-Jan-23	08:46	06-Jan-23	14:42	250	250
Volume D.I. Water [mL]	05-Jan-23	08:46	06-Jan-23	14:42	750	750
Final pH [no unit]	05-Jan-23	08:46	06-Jan-23	14:42	8.39	8.53
pH [No unit]	09-Jan-23	14:11	10-Jan-23	10:47	7.88	7.71
Alkalinity [mg/L as CaCO3]	09-Jan-23	14:11	10-Jan-23	10:47	59	42
Conductivity [uS/cm]	09-Jan-23	14:11	10-Jan-23	10:47	108	95
F [mg/L]	09-Jan-23	07:45	10-Jan-23	13:46	0.18	0.25
SO4 [mg/L]	07-Jan-23	07:52	17-Jan-23	14:27	< 2	4.4
Cl [mg/L]	10-Jan-23	17:07	17-Jan-23	14:27	< 2	< 2
NO2 [as N mg/L]	06-Jan-23	22:16	13-Jan-23	13:06	< 0.3	< 0.3
NO3 [as N mg/L]	06-Jan-23	22:16	13-Jan-23	13:06	< 0.6	< 0.6
NO2+NO3 [as N mg/L]	06-Jan-23	22:16	13-Jan-23	13:06	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	06-Jan-23	21:37	09-Jan-23	09:45	0.1	0.2
Hg [mg/L]	12-Jan-23	07:21	12-Jan-23	10:58	< 0.00001	< 0.00001
Ag [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	< 0.00005	< 0.00005
Al [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.112	0.210
As [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.0005	0.0009
Ba [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.00437	0.00424
B [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.004	0.033
Be [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	< 0.000007	0.000013
Bi [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	< 0.00001	0.00001
Ca [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	18.7	11.0
Cd [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	< 0.000003	0.000005
Co [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.000100	0.000195
Cr [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.00072	0.00059
Cu [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.0007	0.0015
Fe [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.084	0.120
K [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.128	4.01
Li [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.0012	0.0107
Mg [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	2.64	1.97
Mn [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.00340	0.00311
Mo [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.00174	0.00875

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003211755

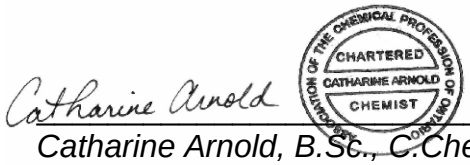
Project : P.O# 2200-2207

LR Report : **CA19258-DEC22**

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-16-02 SA2	6: MW22-16-02 SA4
Na [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.82	1.50
Ni [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.0011	0.0020
P [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.009	0.025
Pb [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	< 0.00009	0.00010
Sb [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.0022	< 0.0009
Se [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.00005	0.00028
Si [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	4.09	2.82
Sn [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	< 0.00006	< 0.00006
Sr [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.0124	0.00762
Ti [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.00470	0.00472
Tl [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	< 0.000005	< 0.000005
U [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.000155	0.00622
V [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	0.00161	0.00156
Zn [mg/L]	09-Jan-23	12:28	10-Jan-23	15:14	< 0.002	< 0.002

Cl, SO4, NO2 and NO3 RL increased due to sample matrix.



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003211755

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO#2200-2207

29-January-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 30 December 2022
LR Report: **CA19259-DEC22**
Reference: Marten Falls 21455151 - P.O# 2200-2207

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	LOI %
1: Analysis Start Date		04-Jan-23
2: Analysis Start Time		20:47
3: Analysis Completed Date		06-Jan-23
4: Analysis Completed Time		10:17
5: MW22-16-02 SA2	05-Dec-22 11:00	1.07
6: MW22-16-02 SA4	05-Dec-22 11:00	1.03

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003211751

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO#2200-2207

10-February-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 30 December 2022
LR Report: **CA19260-DEC22**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW22-15-1 SS2	6: MW22-15-1 SS4
Sample Date & Time					2-Dec-22 11:00	2-Dec-22 11:00
Paste pH [no unit]	12-Jan-23	08:44	16-Jan-23	12:17	9.00	8.95
Fizz Rate [rating]	12-Jan-23	08:44	16-Jan-23	12:17	4	4
Sample weight [g]	12-Jan-23	08:44	16-Jan-23	12:17	2.12	1.97
HCl_add [mL]	12-Jan-23	08:44	16-Jan-23	12:17	180.00	160.00
HCl [Normality]	12-Jan-23	08:44	16-Jan-23	12:17	0.10	0.10
NaOH [Normality]	12-Jan-23	08:44	16-Jan-23	12:17	0.10	0.10
Vol NaOH to pH=8.3 [mL]	12-Jan-23	08:44	16-Jan-23	12:17	62.32	52.81
Final pH [no unit]	12-Jan-23	08:44	16-Jan-23	12:17	1.53	1.52
NP [t CaCO3/1000 t]	12-Jan-23	08:44	16-Jan-23	12:17	278	272
AP [t CaCO3/1000 t]	31-Jan-23	12:07	31-Jan-23	12:08	1.25	1.25
Net NP [t CaCO3/1000 t]	31-Jan-23	12:07	31-Jan-23	12:08	276	271
NP/AP [ratio]	31-Jan-23	12:07	31-Jan-23	12:08	222	218
S [%]	24-Jan-23	14:41	31-Jan-23	12:07	0.006	0.005
Acid Leachable SO4-S [%]	31-Jan-23	12:07	31-Jan-23	12:07	<0.04	<0.04
Sulphide [%]	30-Jan-23	11:02	31-Jan-23	12:07	< 0.04	< 0.04
C [%]	24-Jan-23	14:41	31-Jan-23	12:07	3.38	3.41
CO3 (HCl) [%]	30-Jan-23	14:55	31-Jan-23	12:07	16.8	16.8

Analysis	7: MW22-15-1 SS5	8: MW22-15-2 SS6	9: MW22-15-4 SS1	10: MW22-15-4 SS2
Sample Date & Time	2-Dec-22 11:00	2-Dec-22 12:30	3-Dec-22 11:30	3-Dec-22 11:30
Paste pH [no unit]	9.01	9.06	7.33	8.46
Fizz Rate [rating]	4	4	2	4
Sample weight [g]	2.10	1.94	1.95	2.11

OnLine LIMS

00032268988

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO#2200-2207

LR Report : **CA19260-DEC22**

Analysis	7: MW22-15-1 SS5	8: MW22-15-2 SS6	9: MW22-15-4 SS1	10: MW22-15-4 SS2
HCl_add [mL]	120.00	155.00	66.70	220.00
HCl [Normality]	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	28.71	50.72	39.96	90.41
Final pH [no unit]	1.88	1.51	1.77	1.44
NP [t CaCO3/1000 t]	217	269	68.6	307
AP [t CaCO3/1000 t]	1.25	1.25	3.12	1.25
Net NP [t CaCO3/1000 t]	216	268	65.5	306
NP/AP [ratio]	174	215	22.0	246
S [%]	0.006	0.015	0.130	0.011
Acid Leachable SO4-S [%]	<0.04	<0.04	< 0.04	<0.04
Sulphide [%]	< 0.04	< 0.04	0.10	< 0.04
C [%]	2.63	3.30	22.3	3.85
CO3 (HCl) [%]	12.8	16.2	24.9	16.2

*NP (Neutralization Potential)
= 50 x (N of HCL x Total HCL added - N NaOH x NaOH added)

Weight of Sample

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003226898

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : PO#2200-2207

27-January-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 30 December 2022
LR Report: **CA19261-DEC22**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW22-15-1 SS2	6: MW22-15-1 SS4	7: MW22-15-1 SS5	8: MW22-15-2 SS6
Sample Date & Time					2-Dec-22 11:00	2-Dec-22 11:00	2-Dec-22 11:00	2-Dec-22 12:30
Hg MS [ug/g]	14-Jan-23	13:46	17-Jan-23	11:45	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	< 1	< 1	< 1	< 1
As [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	2.0	2.3	1.7	1.5
Al [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	5800	5800	8500	6500
Ba [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	36	32	65	34
Be [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	0.15	0.16	0.19	0.17
Bi [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	79000	78000	60000	73000
Cd [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	0.05	0.05	0.03	0.03
Co [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	3.5	3.7	5.2	3.8
Cr [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	140	120	160	110
Cu [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	7.5	8.4	15	8.3
Fe [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	11000	11000	15000	11000
K [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	1100	1100	2600	1300
Li [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	5	6	10	7
Mg [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	18000	16000	15000	17000
Mn [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	190	170	210	190
Mo [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	0.5	0.5	0.9	0.5
Ni [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	10	9.2	13	10
P [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	310	290	310	290
Pb [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	3.2	3.1	2.9	2.7
Sb [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	< 6	< 6	< 6	< 6
Se [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	< 2	< 2	< 2	< 2
Sr [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	58	53	46	52
Ti [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	600	570	910	670
Tl [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	0.04	0.04	0.10	0.05
U [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	0.47	0.46	0.52	0.78
V [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	18	17	24	19
Y [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	5.2	5.0	5.1	5.2
Zn [µg/g]	14-Jan-23	13:46	17-Jan-23	11:45	34	32	37	25

OnLine LIMS

0003211634

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : PO#2200-2207

LR Report : **CA19261-DEC22**

Analysis	9: MW22-15-4 SS1	10: MW22-15-4 SS2
Sample Date & Time	3-Dec-22 11:30	3-Dec-22 11:30
Hg MS [ug/g]	0.08	< 0.05
Ag [µg/g]	< 1	< 1
As [µg/g]	2.1	2.4
Al [µg/g]	6900	10000
Ba [µg/g]	95	59
Be [µg/g]	0.25	0.37
Bi [µg/g]	< 0.09	0.09
Ca [µg/g]	41000	96000
Cd [µg/g]	0.31	0.08
Co [µg/g]	3.9	5.7
Cr [µg/g]	360	160
Cu [µg/g]	30	13
Fe [µg/g]	13000	15000
K [µg/g]	960	1900
Li [µg/g]	7	16
Mg [µg/g]	7900	21000
Mn [µg/g]	140	220
Mo [µg/g]	2.1	0.7
Ni [µg/g]	14	14
P [µg/g]	310	340
Pb [µg/g]	3.5	4.2
Sb [µg/g]	< 6	< 6
Se [µg/g]	2.2	< 0.7
Sn [µg/g]	< 2	< 2
Sr [µg/g]	37	63
Ti [µg/g]	330	690
Tl [µg/g]	0.05	0.12
U [µg/g]	13	0.95
V [µg/g]	22	25
Y [µg/g]	6.5	6.4
Zn [µg/g]	27	34

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003211634

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO#2200-2207

17-February-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 30 December 2022
LR Report: **CA19262-DEC22**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW22-15-1 SS2	6: MW22-15-1 SS4
Sample Date & Time					2-Dec-22 11:00	2-Dec-22 11:00
Sample weight [g]	08-Feb-23	16:05	08-Feb-23	16:55	250	250
Volume D.I. Water [mL]	08-Feb-23	16:05	08-Feb-23	16:55	750	750
Final pH [no unit]	08-Feb-23	16:05	08-Feb-23	16:55	8.89	8.78
pH [No unit]	09-Feb-23	08:03	09-Feb-23	15:21	7.99	7.99
Alkalinity [mg/L as CaCO3]	09-Feb-23	08:03	09-Feb-23	15:21	45	47
Conductivity [uS/cm]	09-Feb-23	08:03	09-Feb-23	15:21	92	99
F [mg/L]	09-Feb-23	09:53	09-Feb-23	13:47	0.19	0.28
SO4 [mg/L]	12-Feb-23	14:24	15-Feb-23	11:30	< 2	< 2
Cl [mg/L]	12-Feb-23	14:24	15-Feb-23	11:30	< 2	< 2
NO2 [as N mg/L]	12-Feb-23	14:24	15-Feb-23	11:30	< 0.3	< 0.3
NO3 [as N mg/L]	12-Feb-23	14:24	15-Feb-23	11:30	< 0.6	< 0.6
NO2+NO3 [as N mg/L]	12-Feb-23	14:24	15-Feb-23	11:30	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	09-Feb-23	14:20	13-Feb-23	13:21	< 0.1	< 0.1
Hg [mg/L]	10-Feb-23	12:05	13-Feb-23	16:21	< 0.00001	< 0.00001
Ag [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	< 0.00005	< 0.00005
Al [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.156	0.098
As [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.0007	0.0010
Ba [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.00327	0.00357
B [mg/L]	11-Feb-23	10:42	16-Feb-23	10:46	0.004	0.007
Be [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	< 0.000007	< 0.000007
Bi [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	< 0.00001	< 0.00001
Ca [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	14.3	13.5
Cd [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	< 0.000003	0.000006
Co [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.000043	0.000059
Cr [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.00024	0.00018
Cu [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.0013	0.0008
Fe [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.042	0.023
K [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	1.08	3.59

OnLine LIMS

0003235535

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO#2200-2207

LR Report : **CA19262-DEC22**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-15-1 SS2	6: MW22-15-1 SS4
Li [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.0012	0.0041
Mg [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	2.08	2.47
Mn [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.00156	0.00099
Mo [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.00446	0.0109
Na [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.84	1.61
Ni [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.0005	0.0004
P [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.041	0.051
Pb [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	< 0.00009	< 0.00009
Sb [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	< 0.0009	0.0009
Se [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	< 0.00004	< 0.00004
Si [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	2.54	3.39
Sn [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	< 0.00006	< 0.00006
Sr [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.0104	0.0138
Ti [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.00209	0.00104
Tl [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.000008	< 0.000005
U [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.000279	0.000555
V [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	0.00192	0.00201
Zn [mg/L]	11-Feb-23	10:42	13-Feb-23	16:21	< 0.002	< 0.002

Analysis	7: MW22-15-1 SS5	8: MW22-15-2 SS6	9: MW22-15-4 SS1	10: MW22-15-4 SS2	11: MW22-15-4 SS2	12:BLK: $D.I. Leachate Blank
Sample Date & Time	2-Dec-22 11:00	2-Dec-22 12:30	3-Dec-22 11:30	3-Dec-22 11:30		
Sample weight [g]	250	250	250	250	250	---
Volume D.I. Water [mL]	750	750	750	750	750	750
Final pH [no unit]	8.74	8.96	7.15	7.96	7.98	---
pH [No unit]	8.01	7.91	8.70	8.19	8.21	6.18
Alkalinity [mg/L as CaCO3]	60	39	273	98	96	< 2
Conductivity [uS/cm]	106	94	505	216	217	< 2
F [mg/L]	0.36	0.29	0.49	0.35	0.37	< 0.06
SO4 [mg/L]	< 2	4.9	10	8.8	8.9	< 2
Cl [mg/L]	< 2	< 2	< 2	< 2	< 2	< 2
NO2 [as N mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
NO2+NO3 [as N mg/L]	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	< 0.1	< 0.1	0.7	< 0.1	0.1	0.1
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	0.088	0.084	0.097	0.075	0.137	0.001
As [mg/L]	0.0009	0.0011	0.0020	0.0025	0.0012	< 0.0002
Ba [mg/L]	0.00386	0.00289	0.0415	0.0354	0.0362	< 0.00008
B [mg/L]	0.006	0.008	0.732	0.006	0.006	< 0.002
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000009	< 0.000007
Bi [mg/L]	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001

OnLine LIMS

0003235535

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO#2200-2207

LR Report : **CA19262-DEC22**

Analysis	7: MW22-15-1 SS5	8: MW22-15-2 SS6	9: MW22-15-4 SS1	10: MW22-15-4 SS2	11: MW22-15-4 SS2 $D.I.	12:BLK: Leachate Blank
Ca [mg/L]	15.5	13.0	75.3	39.0	37.2	0.02
Cd [mg/L]	0.000011	0.000003	0.000016	0.000008	0.000013	< 0.000003
Co [mg/L]	0.000059	0.000019	0.000140	0.000059	0.000101	0.000015
Cr [mg/L]	0.00051	0.00015	0.00248	0.00018	0.00030	< 0.00008
Cu [mg/L]	0.0014	0.0006	0.0027	0.0012	0.0014	< 0.0002
Fe [mg/L]	0.039	0.019	0.074	0.042	0.102	0.008
K [mg/L]	3.64	3.40	2.95	5.40	5.12	0.053
Li [mg/L]	0.0052	0.0047	0.0035	0.0034	0.0032	< 0.0001
Mg [mg/L]	2.74	2.52	7.84	3.40	3.26	0.002
Mn [mg/L]	0.00804	0.00113	0.0254	0.0475	0.0467	0.00015
Mo [mg/L]	0.0299	0.0210	0.0124	0.0203	0.0214	0.00039
Na [mg/L]	1.93	1.59	37.8	1.09	1.03	< 0.01
Ni [mg/L]	0.0009	0.0004	0.0018	0.0007	0.0007	0.0006
P [mg/L]	0.050	0.032	0.072	0.054	0.037	0.007
Pb [mg/L]	< 0.00009	< 0.00009	0.00012	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	0.0026	0.0018	< 0.0009	0.0017	0.0014	< 0.0009
Se [mg/L]	< 0.00004	0.00069	0.00117	0.00074	0.00073	< 0.00004
Si [mg/L]	3.68	3.36	5.24	1.37	1.49	< 0.02
Sn [mg/L]	< 0.00006	0.00017	< 0.00006	< 0.00006	< 0.00006	0.00043
Sr [mg/L]	0.0170	0.0134	0.0613	0.0330	0.0337	< 0.00008
Ti [mg/L]	0.00184	0.00085	0.00269	0.00334	0.00572	< 0.00005
Tl [mg/L]	< 0.000005	< 0.000005	0.000005	< 0.000005	< 0.000005	< 0.000005
U [mg/L]	0.000510	0.00228	0.00215	0.00378	0.00355	0.000035
V [mg/L]	0.00265	0.00259	0.00105	0.00158	0.00176	0.00001
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	0.002	< 0.002

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003235535

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO#2200-2207

27-January-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 30 December 2022
LR Report: **CA19263-DEC22**
Reference: Marten Falls 21455151 - PO#2200-2207

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	LOI %
1: Analysis Start Date		03-Jan-23
2: Analysis Start Time		19:52
3: Analysis Completed Date		05-Jan-23
4: Analysis Completed Time		09:26
5: MW22-15-1 SS2	2-Dec-22 11:00	0.64
6: MW22-15-1 SS4	2-Dec-22 11:00	0.76
7: MW22-15-1 SS5	2-Dec-22 11:00	1.00
8: MW22-15-2 SS6	2-Dec-22 12:30	0.76
9: MW22-15-4 SS1	3-Dec-22 11:30	47.8
10: MW22-15-4 SS2	3-Dec-22 11:30	2.55

Catharine Arnold

CHARTERED CHEMIST CATHARINE ARNOLD

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003211628

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO#2200-2207

03-August-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 12 June 2023
LR Report: **CA19086-JUN23**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW23-18-1 SA1	6: MW23-18-1 SA2	7: MW23-18-1 SA3
Sample Date & Time					23-Apr-23 15:00	23-Apr-23 15:00	23-Apr-23 15:00
Paste pH [no unit]	16-Jul-23	08:00	18-Jul-23	12:47	8.83	8.68	6.76
Fizz Rate [rating]	16-Jul-23	08:00	18-Jul-23	12:47	4	4	1
Sample weight [g]	16-Jul-23	08:00	18-Jul-23	12:47	1.90	2.07	2.05
HCl_add [mL]	17-Jul-23	08:32	18-Jul-23	12:47	120.00	150.00	20.00
HCl [Normality]	16-Jul-23	08:00	18-Jul-23	12:47	0.10	0.10	0.10
NaOH [Normality]	16-Jul-23	08:00	18-Jul-23	12:47	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	17-Jul-23	08:32	18-Jul-23	12:47	31.74	47.10	13.70
Final pH [no unit]	17-Jul-23	08:32	18-Jul-23	12:47	1.61	1.51	1.83
NP [t CaCO3/1000 t]	17-Jul-23	08:32	18-Jul-23	12:47	232	249	15.4
AP [t CaCO3/1000 t]	01-Aug-23	15:23	01-Aug-23	15:24	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	01-Aug-23	15:23	01-Aug-23	15:24	231	247	14.2
NP/AP [ratio]	01-Aug-23	15:23	01-Aug-23	15:24	186	199	12.3
S [%]	31-Jul-23	09:59	01-Aug-23	15:23	< 0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	01-Aug-23	15:23	01-Aug-23	15:23	<0.04	<0.04	<0.04
Sulphide [%]	31-Jul-23	11:36	01-Aug-23	15:23	< 0.04	< 0.04	< 0.04
C [%]	31-Jul-23	09:59	01-Aug-23	15:23	2.92	3.12	0.054
CO3 (HCl) as %CO3 [%]	31-Jul-23	08:49	01-Aug-23	15:23	14.0	15.0	0.14

Analysis	8: MW23-18-1 SA4	9: MW23-18-1 SA5	10: MW23-18-1 SA6	11: MW23-15-1 SA1	12: MW23-15-1 SA2	13: MW23-15-1 SA3
Sample Date & Time	24-Apr-23 15:00	24-Apr-23 15:00	24-Apr-23 15:00	20-Apr-23 15:00	20-Apr-23 15:00	20-Apr-23 15:00
Paste pH [no unit]	9.85	9.75	9.85	10.17	10.10	9.88
Fizz Rate [rating]	2	1	1	1	1	1
Sample weight [g]	2.09	1.99	1.94	2.04	2.16	1.96
HCl_add [mL]	28.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	16.89	12.58	14.51	16.38	16.86	18.01
Final pH [no unit]	1.66	1.79	1.62	1.38	1.28	1.16
NP [t CaCO3/1000 t]	26.6	18.6	14.1	8.9	7.3	5.1
AP [t CaCO3/1000 t]	1.88	1.25	1.25	1.25	1.25	1.25

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003422845

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO#2200-2207

LR Report : **CA19086-JUN23**

Analysis	8: MW23-18-1 SA4	9: MW23-18-1 SA5	10: MW23-18-1 SA6	11: MW23-15-1 SA1	12: MW23-15-1 SA2	13: MW23-15-1 SA3
Net NP [t CaCO3/1000 t]	24.7	17.4	12.8	7.65	6.05	3.85
NP/AP [ratio]	14.2	14.9	11.3	7.12	5.84	4.08
S [%]	0.064	0.021	0.013	0.043	0.012	0.009
Acid Leachable SO4-S [%]	< 0.04	<0.04	<0.04	< 0.04	<0.04	<0.04
Sulphide [%]	0.06	< 0.04	< 0.04	0.04	< 0.04	< 0.04
C [%]	0.184	0.100	0.034	0.041	0.037	0.033
CO3 (HCl) as %CO3 [%]	0.81	0.36	< 0.04	0.09	< 0.04	< 0.04

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003422845

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : PO#2200-2207

28-June-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 12 June 2023
LR Report: **CA19087-JUN23**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW23-18-1 SA1	6: MW23-18-1 SA2	7: MW23-18-1 SA3	8: MW23-18-1 SA4
Sample Date & Time					23-Apr-23 15:00	23-Apr-23 15:00	23-Apr-23 15:00	24-Apr-23 15:00
LOI [%]	16-Jun-23	16:27	21-Jun-23	11:17	1.40	1.24	0.29	0.36
Hg MS [ug/g]	21-Jun-23	04:35	22-Jun-23	14:59	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	< 1	< 1	< 1	< 1
As [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	3.6	3.8	3.7	3.1
Al [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	8000	7600	11000	11000
Ba [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	30	29	100	110
Be [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	0.32	0.33	0.66	0.65
Bi [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	71000	88000	7800	11000
Cd [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	0.04	0.04	0.02	< 0.02
Co [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	5.4	5.4	11	12
Cr [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	23	25	22	27
Cu [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	13	21	22	58
Fe [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	15000	15000	28000	34000
K [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	800	1400	7600	8900
Li [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	16	15	46	69
Mg [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	18000	12000	9200	10000
Mn [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	280	340	460	540
Mo [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	0.5	0.5	0.7	5.4
Ni [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	13	13	14	16
Pb [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	4.0	4.0	4.2	4.5
Sb [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	< 6	< 6	< 6	< 6
Se [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	< 2	< 2	2	< 2
Sr [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	46	55	120	140
Ti [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	730	800	1500	1500
Tl [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	0.07	0.10	0.13	0.19
U [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	0.52	0.68	0.79	0.79
V [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	24	26	54	71
Y [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	6.9	8.8	9.7	9.1
Zn [µg/g]	21-Jun-23	04:35	22-Jun-23	14:59	21	24	62	67

OnLine LIMS

0003382193

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : PO#2200-2207

LR Report : **CA19087-JUN23**

Analysis	9: MW23-18-1 SA5	10: MW23-18-1 SA6	11: MW23-15-1 SA1	12: MW23-15-1 SA2	13: MW23-15-1 SA3
Sample Date & Time	24-Apr-23 15:00	24-Apr-23 15:00	20-Apr-23 15:00	20-Apr-23 15:00	20-Apr-23 15:00
LOI [%]	0.50	0.17	0.11	0.13	0.15
Hg MS [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 1	< 1	< 1	< 1	< 1
As [µg/g]	2.7	4.0	< 0.5	< 0.5	0.6
Al [µg/g]	11000	11000	22000	13000	9700
Ba [µg/g]	120	110	160	110	98
Be [µg/g]	0.71	0.69	0.11	0.11	0.11
Bi [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	8900	7400	3500	2800	1800
Cd [µg/g]	< 0.02	< 0.02	0.02	< 0.02	< 0.02
Co [µg/g]	11	11	12	6.3	4.4
Cr [µg/g]	26	23	67	34	20
Cu [µg/g]	62	62	17	6.4	8.5
Fe [µg/g]	31000	29000	32000	18000	13000
K [µg/g]	8100	7800	16000	8500	6100
Li [µg/g]	89	89	32	20	16
Mg [µg/g]	11000	9400	15000	7600	5700
Mn [µg/g]	460	420	470	270	180
Mo [µg/g]	0.5	0.7	0.2	0.2	< 0.1
Ni [µg/g]	15	15	35	19	13
Pb [µg/g]	4.2	3.5	2.7	5.6	8.4
Sb [µg/g]	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	< 2	2	< 2	< 2	< 2
Sr [µg/g]	120	150	12	14	14
Ti [µg/g]	1500	1500	2500	1300	850
Tl [µg/g]	0.22	0.14	0.57	0.32	0.22
U [µg/g]	1.1	0.81	0.79	0.84	2.4
V [µg/g]	65	59	66	32	22
Y [µg/g]	9.0	9.5	8.8	5.7	8.0
Zn [µg/g]	63	61	63	38	28

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003382193

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO#2200-2207

31-July-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 12 June 2023
LR Report: **CA19088-JUN23**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW23-18-1 SA1	6: MW23-18-1 SA2	7: MW23-18-1 SA3
Sample Date & Time					23-Apr-23 15:00	23-Apr-23 15:00	23-Apr-23 15:00
Sample weight [g]	17-Jul-23	07:00	19-Jul-23	16:46	116	150	250
Volume D.I. Water [mL]	17-Jul-23	07:00	19-Jul-23	16:46	349	450	750
pH [no unit]	18-Jul-23	14:04	19-Jul-23	16:46	8.27	8.32	8.95
pH [No unit]	19-Jul-23	15:24	20-Jul-23	11:55	7.87	7.56	7.50
Conductivity [uS/cm]	19-Jul-23	15:24	20-Jul-23	11:55	110	49	66
Alkalinity [mg/L as CaCO3]	19-Jul-23	15:24	20-Jul-23	11:55	54	26	25
F [mg/L]	19-Jul-23	08:20	19-Jul-23	14:36	0.35	0.18	0.22
SO4 [mg/L]	19-Jul-23	11:59	19-Jul-23	13:29	< 2	< 2	6
Cl [mg/L]	19-Jul-23	12:01	19-Jul-23	13:29	1	< 1	3
NO2 [as N mg/L]	20-Jul-23	09:17	20-Jul-23	13:16	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	20-Jul-23	09:17	20-Jul-23	13:16	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	19-Jul-23	16:59	26-Jul-23	07:21	0.2	0.1	< 0.1
Hg [mg/L]	21-Jul-23	11:31	21-Jul-23	12:08	< 0.00001	0.00004	< 0.00001
Ag [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.234	0.433	2.03
As [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.0008	0.0006	0.0019
Ba [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00402	0.00382	0.0238
B [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.007	< 0.002	0.007
Be [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.000009	0.000015	0.000119
Bi [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	< 0.00001	0.00001	< 0.00001
Ca [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	17.7	7.99	5.03
Cd [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.000006	0.000008	0.000004
Co [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.000360	0.000169	0.00200
Cr [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00037	0.00071	0.00315
Cu [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.0027	0.0036	0.0139
Fe [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.147	0.335	3.15
K [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.637	0.636	8.04
Li [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.0010	0.0006	0.0160
Mg [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	3.02	1.10	2.83
Mn [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00364	0.0266	0.0949
Mo [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00431	0.00386	0.00101
Na [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.75	0.43	3.35

OnLine LIMS

0003417976

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO#2200-2207

LR Report : **CA19088-JUN23**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW23-18-1 SA1	6: MW23-18-1 SA2	7: MW23-18-1 SA3
Ni [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.0011	0.0006	0.0033
P [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.009	< 0.003	0.129
Pb [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00031	0.00014	0.00139
Sb [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	< 0.0009	< 0.0009	< 0.0009
Se [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00012	0.00009	0.00011
Sn [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00028	0.00013	< 0.00006
Sr [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.0170	0.00964	0.0958
Ti [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00739	0.0153	0.0682
Tl [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.000007	0.000019	0.000028
U [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.000439	0.000536	0.000211
V [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00195	0.00228	0.0203
Y [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.00016	0.00034	0.00069
Zn [mg/L]	21-Jul-23	21:40	25-Jul-23	14:33	0.003	0.003	0.013

Analysis	8: MW23-18-1 SA4	9: MW23-18-1 SA5	10: MW23-18-1 SA6	11: MW23-15-1 SA1	12: MW23-15-1 SA2	13: MW23-15-1 SA3
Sample Date & Time	24-Apr-23 15:00	24-Apr-23 15:00	24-Apr-23 15:00	20-Apr-23 15:00	20-Apr-23 15:00	20-Apr-23 15:00
Sample weight [g]	250	250	250	250	250	250
Volume D.I. Water [mL]	750	750	750	750	750	750
pH [no unit]	9.43	9.42	9.34	9.76	9.22	9.26
pH [No unit]	7.82	7.60	7.55	7.62	7.70	7.61
Conductivity [uS/cm]	72	61	73	55	50	50
Alkalinity [mg/L as CaCO3]	57	25	26	24	23	21
F [mg/L]	0.18	0.19	0.15	0.09	< 0.06	< 0.06
SO4 [mg/L]	6	3	12	< 2	< 2	2
Cl [mg/L]	9	< 1	11	< 1	< 1	< 1
NO2 [as N mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	0.1	0.2	0.1	< 0.1	< 0.1	< 0.1
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	0.00004	< 0.00001	< 0.00001
Ag [mg/L]	0.00022	< 0.00005	0.00006	< 0.00005	< 0.00005	< 0.00005
Al [mg/L]	5.11	0.349	6.53	1.01	0.818	0.709
As [mg/L]	0.0025	0.0024	0.0054	0.0004	0.0008	0.0012
Ba [mg/L]	0.0674	0.00488	0.115	0.00361	0.00231	0.00401
B [mg/L]	0.015	0.005	0.007	0.007	0.006	0.008
Be [mg/L]	0.000643	0.000011	0.000352	< 0.000007	< 0.000007	< 0.000007
Bi [mg/L]	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	8.94	3.58	7.60	2.75	3.15	3.93
Cd [mg/L]	0.000024	< 0.000003	0.000014	< 0.000003	< 0.000003	< 0.000003
Co [mg/L]	0.00690	0.000149	0.00663	0.000099	0.000015	0.000016
Cr [mg/L]	0.00808	0.00112	0.01038	0.00052	0.00015	0.00012
Cu [mg/L]	0.103	0.0018	0.0084	0.0006	0.0003	0.0003
Fe [mg/L]	8.40	0.682	10.3	0.232	0.034	0.035
K [mg/L]	9.47	8.08	12.2	10.2	8.76	6.97
Li [mg/L]	0.0456	0.0161	0.0778	0.0056	0.0051	0.0049
Mg [mg/L]	6.40	0.741	8.38	0.377	0.295	0.492
Mn [mg/L]	0.339	0.00721	0.258	0.00378	0.00065	0.00063
Mo [mg/L]	0.00177	0.00054	0.00029	0.00026	0.00019	0.00033
Na [mg/L]	3.48	3.29	3.78	1.53	1.20	1.40
Ni [mg/L]	0.0075	0.0070	0.0091	0.0005	< 0.0001	< 0.0001

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003417976

Project : PO#2200-2207

LR Report : **CA19088-JUN23**

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	8: MW23-18-1 SA4	9: MW23-18-1 SA5	10: MW23-18-1 SA6	11: MW23-15-1 SA1	12: MW23-15-1 SA2	13: MW23-15-1 SA3
P [mg/L]	0.286	0.027	0.537	0.036	0.013	0.008
Pb [mg/L]	0.00700	< 0.00009	0.00205	0.00017	< 0.00009	0.00012
Sb [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se [mg/L]	0.00037	0.00010	0.00021	0.00005	0.00005	0.00009
Sn [mg/L]	0.00011	0.00009	< 0.00006	0.00012	< 0.00006	< 0.00006
Sr [mg/L]	0.0999	0.0450	0.377	0.00867	0.00833	0.0139
Ti [mg/L]	0.109	0.00480	0.148	0.0192	0.00307	0.00214
Tl [mg/L]	0.000108	0.000007	0.000119	0.000011	0.000007	0.000005
U [mg/L]	0.00150	0.000471	0.000566	0.000191	0.000138	0.000540
V [mg/L]	0.0427	0.0346	0.0480	0.00718	0.00520	0.00418
Y [mg/L]	0.00184	0.00003	0.00164	0.00011	< 0.00002	0.00004
Zn [mg/L]	0.035	0.002	0.040	< 0.002	< 0.002	< 0.002

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST — ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003417976

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO#2200-2207

03-August-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 12 June 2023
LR Report: **CA19089-JUN23**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW23-17-1 SA3	6: MW23-17-1 SA4	7: MW23-17-1 SA5
Sample Date & Time					13-Apr-23 15:00	13-Apr-23 15:00	13-Apr-23 15:00
Paste pH [no unit]	16-Jul-23	08:00	18-Jul-23	12:48	8.50	8.75	8.47
Fizz Rate [rating]	16-Jul-23	08:00	18-Jul-23	12:48	4	4	4
Sample weight [g]	16-Jul-23	08:00	18-Jul-23	12:48	1.96	1.84	1.89
HCl_add [mL]	17-Jul-23	08:32	18-Jul-23	12:48	112.00	120.00	198.00
HCl [Normality]	16-Jul-23	08:00	18-Jul-23	12:48	0.10	0.10	0.10
NaOH [Normality]	16-Jul-23	08:00	18-Jul-23	12:48	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	17-Jul-23	08:32	18-Jul-23	12:48	33.12	21.24	66.70
Final pH [no unit]	17-Jul-23	08:32	18-Jul-23	12:48	1.56	1.81	1.51
NP [t CaCO3/1000 t]	17-Jul-23	08:32	18-Jul-23	12:48	201	268	347
AP [t CaCO3/1000 t]	01-Aug-23	15:25	01-Aug-23	15:26	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	01-Aug-23	15:25	01-Aug-23	15:26	200	267	346
NP/AP [ratio]	01-Aug-23	15:25	01-Aug-23	15:26	161	215	278
S [%]	31-Jul-23	09:59	01-Aug-23	15:25	< 0.005	< 0.005	0.009
Acid Leachable SO4-S [%]	01-Aug-23	15:24	01-Aug-23	15:25	1.25	1.25	1.25
Sulphide [%]	31-Jul-23	11:36	01-Aug-23	15:25	< 0.04	< 0.04	< 0.04
C [%]	31-Jul-23	09:59	01-Aug-23	15:25	0.675	0.807	4.28
CO3 (HCl) as %CO3 [%]	31-Jul-23	08:49	01-Aug-23	15:25	2.41	0.60	20.8

Analysis	8: MW23-17-1 SA7	9: MW23-17-1 SA8	10: MW23-17-1 SA9	11: MW23-16-1 SA1	12: MW23-16-1 SA2	13: MW23-16-1 SA3
Sample Date & Time	13-Apr-23 15:00	13-Apr-23 15:00	13-Apr-23 15:00	26-Apr-23 15:00	26-Apr-23 15:00	26-Apr-23 15:00
Paste pH [no unit]	10.28	10.30	10.35	9.95	9.64	9.56
Fizz Rate [rating]	1	1	1	1	1	1
Sample weight [g]	1.80	1.92	1.85	1.86	1.88	2.01
HCl_add [mL]	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	17.13	18.67	18.71	14.84	14.86	16.08
Final pH [no unit]	1.23	1.09	1.08	1.82	1.80	1.50
NP [t CaCO3/1000 t]	8.0	3.5	3.5	13.9	13.7	9.8
AP [t CaCO3/1000 t]	1.56	1.25	1.25	1.25	2.19	13.1

OnLine LIMS

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

0003422848

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek

Project : PO#2200-2207

LR Report : **CA19089-JUN23**

Analysis	8: MW23-17-1 SA7	9: MW23-17-1 SA8	10: MW23-17-1 SA9	11: MW23-16-1 SA1	12: MW23-16-1 SA2	13: MW23-16-1 SA3
Net NP [t CaCO3/1000 t]	6.44	2.25	2.25	12.6	11.5	-3.32
NP/AP [ratio]	5.12	2.80	2.80	11.1	6.26	0.75
S [%]	0.069	0.015	< 0.005	< 0.005	0.104	0.716
Acid Leachable SO4-S [%]	< 0.04	1.25	1.25	1.25	< 0.04	0.30
Sulphide [%]	0.05	< 0.04	< 0.04	< 0.04	0.07	0.42
C [%]	0.079	0.044	0.036	0.027	0.028	0.037
CO3 (HCl) as %CO3 [%]	0.28	0.08	< 0.04	< 0.04	< 0.04	0.04

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003422848

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : PO#2200-2207

28-June-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 12 June 2023
LR Report: **CA19090-JUN23**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW23-17-1 SA3	6: MW23-17-1 SA4	7: MW23-17-1 SA5	8: MW23-17-1 SA7
Sample Date & Time					13-Apr-23 15:00	13-Apr-23 15:00	13-Apr-23 15:00	13-Apr-23 15:00
LOI [%]	16-Jun-23	16:27	20-Jun-23	10:46	0.93	0.52	0.65	0.16
Hg MS [ug/g]	21-Jun-23	04:35	22-Jun-23	15:00	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	< 1	< 1	< 1	< 1
As [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	2.7	3.4	3.7	< 0.5
Al [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	7000	6400	6400	12000
Ba [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	22	22	20	34
Be [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	0.24	0.20	0.18	0.15
Bi [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	< 0.09	< 0.09	< 0.09	0.17
Ca [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	63000	88000	130000	3400
Cd [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	0.04	0.03	0.03	0.03
Co [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	5.0	4.7	5.0	7.5
Cr [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	25	23	21	41
Cu [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	11	10	12	23
Fe [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	15000	13000	14000	18000
K [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	830	1200	810	7100
Li [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	12	11	11	19
Mg [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	17000	19000	17000	5700
Mn [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	380	200	250	310
Mo [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	0.3	0.3	0.4	1.4
Ni [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	13	12	11	22
P [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	410	370	320	100
Pb [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	3.3	2.8	2.7	7.6
Sb [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	< 6	< 6	< 6	< 6
Se [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	< 2	< 2	< 2	< 2
Sr [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	40	59	88	8.3
Ti [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	800	790	740	1300
Tl [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	0.05	0.07	0.04	0.46
U [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	0.56	0.55	0.46	6.9
V [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	23	21	25	28
Y [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	5.7	5.2	4.5	3.3
Zn [µg/g]	21-Jun-23	04:35	22-Jun-23	15:00	22	21	19	42

OnLine LIMS

0003382195

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Aqua Regia Digest, ICP-MS

Project : PO#2200-2207

LR Report : **CA19090-JUN23**

Analysis	9: MW23-17-1 SA8	10: MW23-17-1 SA9	11: MW23-16-1 SA1	12: MW23-16-1 SA2	13: MW23-16-1 SA3
Sample Date & Time	13-Apr-23 15:00	13-Apr-23 15:00	26-Apr-23 15:00	26-Apr-23 15:00	26-Apr-23 15:00
LOI [%]	< 0.1	0.13	0.22	0.19	0.31
Hg MS [ug/g]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ag [µg/g]	< 1	< 1	< 1	< 1	< 1
As [µg/g]	< 0.5	< 0.5	1.0	0.9	1.0
Al [µg/g]	4600	3300	28000	37000	18000
Ba [µg/g]	25	35	120	390	430
Be [µg/g]	0.09	0.07	0.34	0.24	0.29
Bi [µg/g]	< 0.09	< 0.09	0.13	0.38	0.40
Ca [µg/g]	1400	1500	15000	5600	5100
Cd [µg/g]	< 0.02	< 0.02	0.02	0.04	0.08
Co [µg/g]	2.2	1.0	10	27	16
Cr [µg/g]	14	7.5	180	350	110
Cu [µg/g]	7.9	5.9	1.5	24	89
Fe [µg/g]	7500	4400	13000	41000	34000
K [µg/g]	3100	2300	7300	21000	9300
Li [µg/g]	8	4	39	97	55
Mg [µg/g]	1800	890	14000	30000	12000
Mn [µg/g]	110	64	140	520	360
Mo [µg/g]	0.8	0.2	2.5	1.0	1.2
Ni [µg/g]	7.2	3.4	95	210	54
P [µg/g]	87	96	1100	660	640
Pb [µg/g]	8.4	7.0	4.5	4.7	3.7
Sb [µg/g]	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	< 2	< 2	< 2	< 2	< 2
Sr [µg/g]	9.3	11	97	24	13
Ti [µg/g]	370	150	1300	2800	2000
Tl [µg/g]	0.16	0.08	0.23	0.66	0.25
U [µg/g]	5.8	3.1	0.53	1.8	4.0
V [µg/g]	9	4	27	85	70
Y [µg/g]	3.5	2.6	1.0	5.2	7.0
Zn [µg/g]	14	9.5	24	73	44

Catharine Arnold

CHARTERED CHEMICAL PROFESSION OF ONTARIO CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003382195

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH

Project : PO#2200-2207

31-July-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 12 June 2023
LR Report: **CA19091-JUN23**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW23-17-1 SA3	6: MW23-17-1 SA4	7: MW23-17-1 SA5
Sample Date & Time					13-Apr-23 15:00	13-Apr-23 15:00	13-Apr-23 15:00
Sample weight [g]	18-Jul-23	07:36	20-Jul-23	14:41	154	134	215
Volume D.I. Water [mL]	18-Jul-23	07:36	20-Jul-23	14:41	461	402	645
pH [no unit]	19-Jul-23	08:05	20-Jul-23	14:41	8.62	8.88	9.04
pH [No unit]	21-Jul-23	10:18	24-Jul-23	14:00	7.79	7.83	7.78
Conductivity [uS/cm]	21-Jul-23	10:18	24-Jul-23	14:00	84	78	83
Alkalinity [mg/L as CaCO3]	21-Jul-23	10:18	24-Jul-23	14:00	40	38	41
F [mg/L]	21-Jul-23	08:18	21-Jul-23	13:10	0.09	0.09	0.11
SO4 [mg/L]	28-Jul-23	10:46	28-Jul-23	13:01	< 2	< 2	< 2
Cl [mg/L]	28-Jul-23	10:48	28-Jul-23	13:01	< 1	< 1	< 1
NO2 [as N mg/L]	21-Jul-23	20:30	24-Jul-23	15:33	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	21-Jul-23	20:30	24-Jul-23	15:33	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	21-Jul-23	16:22	24-Jul-23	09:31	0.1	< 0.1	< 0.1
Hg [mg/L]	24-Jul-23	06:00	24-Jul-23	14:04	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00093	0.00026	< 0.00005
Al [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.227	0.228	0.415
As [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.0007	0.0011	0.0015
Ba [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00541	0.00490	0.00469
B [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.004	0.006	0.017
Be [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	< 0.000007	< 0.000007	< 0.000007
Bi [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	14.7	12.2	12.7
Cd [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.000009	0.000003	0.000008
Co [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.000078	0.000121	0.000083
Cr [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00032	0.00051	0.00040
Cu [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.0041	0.0037	0.0022
Fe [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.086	0.239	0.123
K [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	1.24	1.60	2.14
Li [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.0010	0.0015	0.0014
Mg [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	1.58	1.61	1.85
Mn [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00500	0.0122	0.00411
Mo [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00708	0.00531	0.00531
Na [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	1.19	1.19	1.44

OnLine LIMS

0003417967

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO#2200-2207

LR Report : **CA19091-JUN23**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW23-17-1 SA3	6: MW23-17-1 SA4	7: MW23-17-1 SA5
Ni [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.0091	0.0021	0.0004
P [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.004	< 0.003	0.004
Pb [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00013	0.00011	0.00012
Sb [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	< 0.0009	< 0.0009	< 0.0009
Se [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00009	0.00015	0.00013
Si [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	1.56	2.44	2.66
Sn [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00012	0.00013	< 0.00006
Sr [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.0136	0.0130	0.0146
Ti [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00360	0.00345	0.00622
Tl [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	< 0.000005	< 0.000005	0.000006
U [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.000142	0.000321	0.000362
V [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	0.00218	0.00523	0.00452
Zn [mg/L]	24-Jul-23	13:45	25-Jul-23	17:23	< 0.002	< 0.002	< 0.002

Analysis	8: MW23-17-1 SA7	9: MW23-17-1 SA8	10: MW23-17-1 SA9	11: MW23-16-1 SA1	12: MW23-16-1 SA2	13: MW23-16-1 SA3
Sample Date & Time	13-Apr-23 15:00	13-Apr-23 15:00	13-Apr-23 15:00	26-Apr-23 15:00	26-Apr-23 15:00	26-Apr-23 15:00
Sample weight [g]	250	250	250	250	250	250
Volume D.I. Water [mL]	750	750	750	750	750	750
pH [no unit]	9.43	9.51	9.52	9.45	9.48	9.47
pH [No unit]	7.62	7.74	7.78	7.69	7.66	7.70
Conductivity [uS/cm]	72	49	47	52	57	71
Alkalinity [mg/L as CaCO3]	27	21	20	25	22	26
F [mg/L]	0.09	< 0.06	< 0.06	0.12	< 0.06	0.14
SO4 [mg/L]	4	< 2	< 2	< 2	3	4
Cl [mg/L]	2	< 1	< 1	< 1	3	1
NO2 [as N mg/L]	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	0.1	0.1	0.1	< 0.1	0.1	< 0.1
Hg [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ag [mg/L]	< 0.00005	0.00048	0.00057	0.00014	0.00074	0.00064
Al [mg/L]	0.563	0.784	0.724	0.375	0.839	0.484
As [mg/L]	0.0014	0.0012	0.0014	0.0065	0.0010	0.0023
Ba [mg/L]	0.00157	0.00138	0.00175	0.00480	0.0116	0.00719
B [mg/L]	0.016	0.006	0.005	0.015	0.009	0.016
Be [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
Bi [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca [mg/L]	6.83	4.60	4.90	3.50	2.97	3.01
Cd [mg/L]	0.000004	< 0.000003	0.000003	0.000004	< 0.000003	< 0.000003
Co [mg/L]	0.000131	0.000111	0.000018	0.000050	0.000072	0.000093
Cr [mg/L]	0.00020	0.00012	0.00014	0.00144	0.00040	0.00067
Cu [mg/L]	0.0006	0.0003	0.0003	0.0015	0.0010	0.0004
Fe [mg/L]	0.029	0.028	0.023	0.307	0.080	0.046
K [mg/L]	7.34	4.88	4.67	9.84	10.1	14.8
Li [mg/L]	0.0056	0.0046	0.0027	0.0250	0.0295	0.0436
Mg [mg/L]	0.951	0.528	0.502	0.533	0.397	0.464
Mn [mg/L]	0.00061	0.00283	0.00065	0.00284	0.00106	0.00237
Mo [mg/L]	0.00237	0.00237	0.00123	0.00179	0.00147	0.00114
Na [mg/L]	2.14	1.99	2.02	1.58	1.82	2.09
Ni [mg/L]	0.0009	0.0003	0.0017	0.0061	0.0232	0.0004

OnLine LIMS

00034179 67

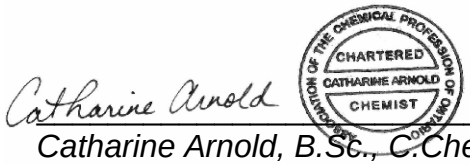
Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

Project : PO#2200-2207

LR Report : **CA19091-JUN23**

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Analysis	8: MW23-17-1 SA7	9: MW23-17-1 SA8	10: MW23-17-1 SA9	11: MW23-16-1 SA1	12: MW23-16-1 SA2	13: MW23-16-1 SA3
P [mg/L]	0.003	0.012	0.019	0.030	0.018	0.011
Pb [mg/L]	< 0.00009	0.00020	0.00023	< 0.00009	< 0.00009	< 0.00009
Sb [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se [mg/L]	0.00034	0.00008	0.00008	< 0.00004	0.00009	0.00010
Si [mg/L]	3.52	3.87	4.26	3.71	2.25	2.59
Sn [mg/L]	0.00010	0.00009	0.00007	0.00007	0.00008	0.00010
Sr [mg/L]	0.0159	0.0161	0.0199	0.00570	0.00945	0.00668
Ti [mg/L]	0.00043	0.00236	0.00089	0.00230	0.00420	0.00322
Tl [mg/L]	0.000014	0.000006	< 0.000005	0.000042	< 0.000005	0.000020
U [mg/L]	0.00211	0.00245	0.00340	0.000115	0.000773	0.000237
V [mg/L]	0.00544	0.00235	0.00121	0.00876	0.00736	0.00640
Zn [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.002



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00003417967

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek Tag 6 and 9 are Limited Samples

Project : PO#2200-2207

31-August-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 18 July 2023
LR Report: **CA19124-JUL23**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW22-19-01-AS1	6: MW22-19-01-SA2B	7: MW22-19-01-SA3
Sample Date & Time					7-Jun-23 15:00	7-Jun-23 15:00	7-Jun-23 15:00
Paste pH [no unit]	08-Aug-23	09:03	09-Aug-23	16:57	8.21	8.77	8.45
Fizz Rate [rating]	08-Aug-23	09:03	09-Aug-23	16:57	4	4	4
Sample weight [g]	08-Aug-23	09:03	09-Aug-23	16:57	2.01	1.95	1.96
HCl_add [mL]	09-Aug-23	07:12	09-Aug-23	16:57	185.00	190.00	235.00
HCl [Normality]	08-Aug-23	09:03	09-Aug-23	16:57	0.10	0.10	0.10
NaOH [Normality]	08-Aug-23	09:03	09-Aug-23	16:57	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	09-Aug-23	09:10	09-Aug-23	16:57	65.20	75.23	43.59
Final pH [no unit]	09-Aug-23	09:10	09-Aug-23	16:57	1.50	1.50	1.59
NP [t CaCO3/1000 t]	09-Aug-23	09:10	09-Aug-23	16:57	298	294	488
AP [t CaCO3/1000 t]	30-Aug-23	12:42	30-Aug-23	12:42	1.25	1.25	1.25
Net NP [t CaCO3/1000 t]	30-Aug-23	12:42	30-Aug-23	12:42	297	293	487
NP/AP [ratio]	30-Aug-23	12:42	30-Aug-23	12:42	238	235	391
S [%]	29-Aug-23	12:49	30-Aug-23	12:42	< 0.005	< 0.005	0.005
Acid Leachable SO4-S [%]	30-Aug-23	12:41	30-Aug-23	12:42	< 0.04	< 0.04	< 0.04
Sulphide [%]	30-Aug-23	10:36	30-Aug-23	12:42	< 0.04	< 0.04	< 0.04
C [%]	29-Aug-23	12:49	30-Aug-23	12:42	3.57	3.05	5.12
CO3 (HCl) as %CO3 [%]	30-Aug-23	08:51	30-Aug-23	12:46	17.0	15.0	25.3

Analysis	8: MW22-19-01-SA4	9: MW22-19-01-SA5	10: MW22-20-01-SA1	11: MW22-20-01-SA3	12: MW22-20-01-3.8-4.0 m
Sample Date & Time	7-Jun-23 15:00	7-Jun-23 15:00	8-Jun-23 15:00	8-Jun-23 15:00	8-Jun-23 15:00
Paste pH [no unit]	8.54	8.66	6.31	8.13	9.64
Fizz Rate [rating]	4	4	2	4	2
Sample weight [g]	2.05	1.97	2.01	2.05	2.00
HCl_add [mL]	210.00	235.00	55.00	125.00	20.00
HCl [Normality]	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	0.10	0.10	0.10	0.10	0.10
Vol NaOH to pH=8.3 [mL]	165	55.16	55.35	39.83	18.19
Final pH [no unit]	1.50	1.55	1.60	1.75	1.50
NP [t CaCO3/1000 t]	110	456	-0.9	208	4.5
AP [t CaCO3/1000 t]	1.25	1.25	1.25	1.25	1.25

OnLine LIMS

0003451833

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

ABA - Modified Sobek Tag 6 and 9 are Limited Samples

Project : PO#2200-2207

LR Report : **CA19124-JUL23**

Analysis	8: MW22-19-01-SA4	9: MW22-19-01-SA5	10: MW22-20-01-SA1	11: MW22-20-01-SA3	12: MW22-20-01-3.8-4.0 m
Net NP [t CaCO3/1000 t]	109	455	-2.15	206	3.25
NP/AP [ratio]	87.9	365	-0.72	166	3.60
S [%]	< 0.005	0.011	0.112	0.010	0.211
Acid Leachable SO4-S [%]	< 0.04	< 0.04	0.11	< 0.04	0.21
Sulphide [%]	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
C [%]	4.12	4.74	38.2	3.00	0.025
CO3 (HCl) as %CO3 [%]	20.3	23.3	12.2	13.1	< 0.04

*NP (Neutralization Potential)

$$= \frac{50 \times (N \text{ of HCL} \times \text{Total HCL added} - N \text{ NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.04 will be calculated using a 0.04 value.

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003451833

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Strong Acid Digest, ICP-MS
Tag 6 and 9 are Limited Samples
Project : PO#2200-2207

30-August-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 18 July 2023
LR Report: **CA19125-JUL23**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW22-19-01-AS1	6: MW22-19-01-SA2B	7: MW22-19-01-SA3
Sample Date & Time					7-Jun-23 15:00	7-Jun-23 15:00	7-Jun-23 15:00
LOI [%]	01-Aug-23	21:19	03-Aug-23	09:33	2	1	1
Hg MS [ug/g]	18-Aug-23	19:27	24-Aug-23	10:21	< 0.05	< 0.05	< 0.05
Ag [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	< 1	< 1	< 1
Al [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	10000	8100	7100
As [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	4.0	3.9	4.8
Ba [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	50	20	18
Be [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	0.40	0.26	0.22
Bi [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	0.09	< 0.09	< 0.09
Ca [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	89000	81000	140000
Cd [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	0.04	0.04	0.05
Co [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	6.4	6.7	6.0
Cr [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	48	98	57
Cu [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	16	12	11
Fe [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	17000	19000	17000
K [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	1200	800	720
Li [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	14	12	12
Mg [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	23000	14000	23000
Mn [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	300	300	330
Mo [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	0.2	0.5	0.4
Ni [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	17	21	16
P [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	420	330	330
Pb [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	5.7	3.8	3.4
Sb [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	< 6	< 6	< 6
Se [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	< 0.7	< 0.7	< 0.7
Sn [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	< 2	< 2	< 2
Sr [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	55	58	84
Ti [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	680	850	730
Tl [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	0.10	0.05	0.07
U [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	0.51	0.72	0.58
V [µg/g]	18-Aug-23	19:27	---	---	27	27	26
Y [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	7.2	5.5	5.3
Zn [µg/g]	18-Aug-23	19:27	24-Aug-23	10:21	27	25	24

OnLine LIMS

0003450146

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

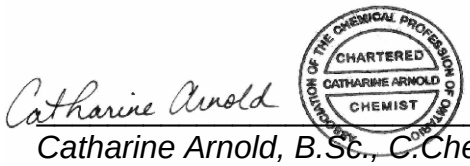
SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Strong Acid Digest, ICP-MS
Tag 6 and 9 are Limited Samples

Project : PO#2200-2207

LR Report : **CA19125-JUL23**

Analysis	8: MW22-19-01-SA4	9: MW22-19-01-SA5	10: MW22-20-01-SA1	11: MW22-20-01-SA3	12: MW22-20-01-3.8-4.0 m
Sample Date & Time	7-Jun-23 15:00	7-Jun-23 15:00	8-Jun-23 15:00	8-Jun-23 15:00	8-Jun-23 15:00
LOI [%]	1	1	87	4	---
Hg MS [ug/g]	< 0.05	< 0.05	0.11	< 0.05	< 0.05
Ag [µg/g]	< 1	< 1	< 1	< 1	< 1
Al [µg/g]	4600	10000	2200	24000	20000
As [µg/g]	3.4	5.0	1.5	5.3	< 0.5
Ba [µg/g]	21	20	36	140	230
Be [µg/g]	0.18	0.32	0.10	0.94	0.08
Bi [µg/g]	< 0.09	< 0.09	< 0.09	0.23	< 0.09
Ca [µg/g]	100000	120000	31000	66000	880
Cd [µg/g]	0.05	0.03	0.22	0.12	0.06
Co [µg/g]	4.1	6.6	0.60	16	16
Cr [µg/g]	48	100	7.3	67	250
Cu [µg/g]	10	15	6.6	32	49
Fe [µg/g]	10000	20000	2600	38000	34000
K [µg/g]	670	1100	130	5000	15000
Li [µg/g]	8	16	< 2	39	23
Mg [µg/g]	21000	23000	2400	21000	11000
Mn [µg/g]	220	260	78	610	440
Mo [µg/g]	0.3	0.5	0.6	0.3	1.6
Ni [µg/g]	10	23	3.7	42	53
P [µg/g]	330	300	410	420	280
Pb [µg/g]	3.1	4.0	1.5	13	6.1
Sb [µg/g]	< 6	< 6	< 6	< 6	< 6
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	< 2	2	< 2	< 2	< 2
Sr [µg/g]	62	76	42	56	4.9
Ti [µg/g]	510	970	39	1400	2300
Tl [µg/g]	0.05	0.04	< 0.02	0.24	0.55
U [µg/g]	0.36	0.74	0.31	1.2	2.7
V [µg/g]	17	32	4	59	70
Y [µg/g]	4.8	6.2	1.7	12	6.3
Zn [µg/g]	16	26	8.8	81	66



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003450146

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH Tag 6 and 9 are Limited Samples, Only 12

Project : PO#2200-2207

30-August-2023

WSP Canada Inc.
Attn : Carrie Jewiss

20 Queen St. West, Suite 2300
Toronto, ON
M5H 3R3, Canada

Phone: 416-366-6999
Fax:

Date Rec. : 18 July 2023
LR Report: **CA19126-JUL23**
Reference: Marten Falls 21455151 - PO#2200-2207

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: MW22-19-01-AS1	6: MW22-19-01-SA2B	7: MW22-19-01-SA3	8: MW22-19-01-SA4
Sample Date & Time					7-Jun-23 15:00	7-Jun-23 15:00	7-Jun-23 15:00	7-Jun-23 15:00
Sample weight [g]	11-Aug-23	15:04	17-Aug-23	09:46	250	86	251	250
Volume D.I. Water [mL]	11-Aug-23	15:04	17-Aug-23	09:46	750	257	750	750
pH [no unit]	11-Aug-23	15:04	17-Aug-23	09:46	8.50	9.12	9.31	9.07
pH [No unit]	14-Aug-23	08:53	17-Aug-23	12:03	8.11	7.82	7.71	7.89
Conductivity [uS/cm]	14-Aug-23	08:53	17-Aug-23	12:03	250	101	91	95
Alkalinity [mg/L as CaCO3]	14-Aug-23	08:53	17-Aug-23	12:03	101	44	38	48
F [mg/L]	14-Aug-23	08:24	17-Aug-23	13:06	0.44	0.17	0.21	0.23
Cl [mg/L]	15-Aug-23	14:33	18-Aug-23	14:31	4	6	6	2
SO4 [mg/L]	15-Aug-23	14 31	18-Aug-23	16:20	< 2	< 2	< 2	< 2
NO2 [as N mg/L]	15-Aug-23	09:43	25-Aug-23	15:06	< 0.3	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	15-Aug-23	09:43	25-Aug-23	15:06	< 0.6	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	14-Aug-23	19:21	17-Aug-23	14:40	0.3	0.1	< 0.1	< 0.1
Ag (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	0.240	0.204	0.220	0.139
As (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	0.0027	0.0011	0.0010	0.0020
Ba (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	0.00823	0.00232	0.00136	0.00508
B (diss) [mg/L]	15-Aug-23	07:13	23-Aug-23	10:11	0.358	0.021	0.023	0.330
Be (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	0.000021	< 0.000007	< 0.000007	0.000008
Bi (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	< 0.00001	0.00003	< 0.00001	< 0.00001
Ca (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	49.3	15.7	11.4	16.6
Cd (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	0.000016	0.000003	< 0.000003	0.000003
Co (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	0.000337	0.000052	0.000020	0.000069
Cr (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	0.00103	0.00043	0.00014	0.00048
Cu (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:32	0.0094	0.0015	0.0006	0.0015
Fe (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:34	0.185	0.011	< 0.007	0.081
K (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.777	0.987	1.73	1.31
Li (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.0016	0.0012	0.0011	0.0014
Mg (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	5.94	2.50	3.18	1.85
Mn (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.00898	0.00201	0.00057	0.00252
Mo (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.00215	0.00386	0.00323	0.00475
Na (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	3.97	2.00	1.72	1.65
Ni (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.0024	0.0005	0.0002	0.0006

OnLine LIMS

0003450152

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH Tag 6 and 9 are Limited Samples, Only 12

Project : PO#2200-2207

LR Report : **CA19126-JUL23**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW22-19-01-AS1	6: MW22-19-01-SA2B	7: MW22-19-01-SA3	8: MW22-19-01-SA4
P (diss) [mg/L]	20-Aug-23	02:43	28-Aug-23	10:36	0.039	< 0.003	< 0.003	0.006
Pb (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.00027	< 0.00009	< 0.00009	0.00161
Sb (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.00067	0.00017	0.00011	0.00012
Sn (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.00024	0.00007	0.00007	0.00016
Sr (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.0399	0.0200	0.0279	0.0174
Ti (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.0115	0.00038	< 0.00007	0.00402
Tl (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.000012	0.000008	0.000012	0.000012
U (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.000504	0.000277	0.000141	0.000274
V (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.00294	0.00184	0.00222	0.00147
Y (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.00054	< 0.00002	< 0.00002	0.00005
Zn (diss) [mg/L]	15-Aug-23	07:13	28-Aug-23	10:36	0.005	< 0.002	< 0.002	0.009

Analysis	9: MW22-19-01-SA5	10: MW22-20-01-SA1	11: MW22-20-01-SA3	12: MW22-20-01-3.8-4.0 m
Sample Date & Time	7-Jun-23 15:00	8-Jun-23 15:00	8-Jun-23 15:00	8-Jun-23 15:00
Sample weight [g]	115	69	250	251
Volume D.I. Water [mL]	345	687	750	750
pH [no unit]	9.20	5.96	7.98	9.07
pH [No unit]	7.81	7.72	8.12	7.29
Conductivity [uS/cm]	78	111	239	111
Alkalinity [mg/L as CaCO3]	38	35	107	11
F [mg/L]	0.13	< 0.06	0.43	0.20
Cl [mg/L]	< 1	6	< 1	13
SO4 [mg/L]	< 2	< 20	18	25
NO2 [as N mg/L]	< 0.3	< 0.3	< 0.3	< 0.3
NO3 [as N mg/L]	< 0.6	< 0.6	< 0.6	< 0.6
NH3+NH4 [as N mg/L]	0.1	3.4	0.3	< 0.1
Ag (diss) [mg/L]	< 0.00005	0.00034	< 0.00005	< 0.00005
Al (diss) [mg/L]	0.332	0.117	0.059	0.317
As (diss) [mg/L]	0.0017	0.0094	0.0013	0.0002
Ba (diss) [mg/L]	0.00397	0.00838	0.0457	0.00656
B (diss) [mg/L]	0.014	0.226	0.039	0.020
Be (diss) [mg/L]	< 0.000007	0.000008	< 0.000007	< 0.000007
Bi (diss) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca (diss) [mg/L]	10.7	15.5	44.7	2.30
Cd (diss) [mg/L]	< 0.000003	0.000037	0.000014	0.000010
Co (diss) [mg/L]	0.000008	0.000190	0.000168	0.000564
Cr (diss) [mg/L]	< 0.00008	0.00030	0.00021	0.00069
Cu (diss) [mg/L]	0.0002	0.0030	0.0047	0.0010
Fe (diss) [mg/L]	< 0.007	0.096	0.046	0.148
K (diss) [mg/L]	1.62	2.74	3.31	22.1
Li (diss) [mg/L]	0.0058	0.0018	0.0076	0.0163
Mg (diss) [mg/L]	1.64	3.12	2.53	1.18
Mn (diss) [mg/L]	0.00074	0.00831	0.0319	0.00407
Mo (diss) [mg/L]	0.00131	0.00030	0.00844	0.00467
Na (diss) [mg/L]	2.61	1.18	3.21	2.62
Ni (diss) [mg/L]	0.0002	0.0015	0.0056	0.0024
P (diss) [mg/L]	< 0.003	1.02	0.003	< 0.003
Pb (diss) [mg/L]	< 0.00009	0.00125	0.00011	0.00017

OnLine LIMS

0003450152

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

SFE 3:1 ratio 24hr (MEND) prefilter pH Tag 6 and 9 are Limited Samples, Only 12

Project : PO#2200-2207

LR Report : **CA19126-JUL23**

Analysis	9: MW22-19-01-SA5	10: MW22-20-01-SA1	11: MW22-20-01-SA3	12: MW22-20-01-3.8-4.0 m
Sb (diss) [mg/L]	0.0009	0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	0.00041	0.00009	0.00077	0.00091
Sn (diss) [mg/L]	0.00085	0.00014	< 0.00006	0.00006
Sr (diss) [mg/L]	0.0213	0.0210	0.0755	0.00925
Ti (diss) [mg/L]	0.00018	0.00128	0.00229	0.0114
Tl (diss) [mg/L]	0.000006	0.000013	0.000011	0.000015
U (diss) [mg/L]	0.000295	0.000428	0.00505	0.000154
V (diss) [mg/L]	0.00340	0.00066	0.00103	0.00345
Y (diss) [mg/L]	< 0.00002	0.00015	0.00005	0.00004
Zn (diss) [mg/L]	0.006	0.007	0.003	0.002

Water to solid ratio for sample MW22-20-01-SA1 was 10:1 due to sample matrix.

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003450152

Results relate only to the sample tested. Data reported represents the sample submitted to SGS. Reproduction of this analytical report in full or in part is prohibited without prior written approval. Please refer to SGS General Conditions of Services located at https://www.sgs.ca/en/terms-and-conditions (Printed copies are available upon request.)
Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

Annex D – Static Analysis Results

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Paste pH	Fizz Rate	Sample weight	HCl Added	HCl	NaOH
Unit				no unit	rating	g	mL	Normality	Normality
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
M22S008		Soil	Overburden	8.0	4.0	2.0	170	0.1	0.1
M22S011		Soil	Overburden	5.6	2.0	2.0	20	0.1	0.1
M22S028		Soil	Overburden	7.8	4.0	2.0	145	0.1	0.1
M22S032		Soil	Overburden	6.2	1.0	2.0	63	0.1	0.1
M22S044		Soil	Overburden	6.6	1.0	2.0	20	0.1	0.1
M22S055		Soil	Overburden	8.2	4.0	2.0	185	0.1	0.1
M22S096		Soil	Overburden	7.6	4.0	2.0	164	0.1	0.1
M22S127		Soil	Overburden	7.8	4.0	2.0	63	0.1	0.1
M22S154		Soil	Overburden	5.6	1.0	2.0	33	0.1	0.1
M22S156		Soil	Overburden	5.7	1.0	2.0	20	0.1	0.1
M22S161		Soil	Overburden	8.1	4.0	2.0	170	0.1	0.1
M22S258		Soil	Overburden	7.3	4.0	2.0	75	0.1	0.1
M22S283		Soil	Overburden	5.7	1.0	2.0	20	0.1	0.1
M22SAD1		Soil	Overburden	7.9	4.0	2.0	100	0.1	0.1
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	8.9	4.0	1.8	170	0.1	0.1
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	8.4	4.0	1.8	160	0.1	0.1
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	8.7	4.0	1.9	202	0.1	0.1
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	8.7	4.0	2.0	220	0.1	0.1
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	8.8	4.0	1.9	175	0.1	0.1
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	8.9	4.0	2.0	190	0.1	0.1
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	8.8	4.0	1.9	230	0.1	0.1
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	8.3	4.0	2.0	170	0.1	0.1
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	8.7	4.0	1.8	205	0.1	0.1
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	8.4	4.0	2.0	185	0.1	0.1
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	8.8	4.0	1.8	175	0.1	0.1
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	8.8	4.0	2.0	130	0.1	0.1
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	8.7	4.0	2.0	190	0.1	0.1
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	8.8	4.0	1.8	100	0.1	0.1
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	8.8	4.0	1.9	150	0.1	0.1
MW22-05 SA-1	MW22-05	Groundwater	Overburden	8.6	4.0	2.0	160	0.1	0.1
MW22-05 SA-2	MW22-05	Groundwater	Overburden	8.6	4.0	1.9	180	0.1	0.1
MW22-05 SA-4	MW22-05	Groundwater	Overburden	8.7	4.0	2.1	210	0.1	0.1
MW22-05 SA-6	MW22-05	Groundwater	Overburden	8.6	4.0	1.9	190	0.1	0.1
MW22-05 SA-7	MW22-05	Groundwater	Overburden	8.7	4.0	2.1	220	0.1	0.1

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Paste pH	Fizz Rate	Sample weight	HCl Added	HCl	NaOH
Unit				no unit	rating	g	mL	Normality	Normality
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
MW22-06 SA-1	MW22-06	Groundwater	Overburden	8.2	4.0	2.0	80	0.1	0.1
MW22-06 SA-4	MW22-06	Groundwater	Overburden	8.5	4.0	2.1	220	0.1	0.1
MW22-06 SA-7	MW22-06	Groundwater	Overburden	8.6	4.0	1.9	210	0.1	0.1
MW22-06 SA-8	MW22-06	Groundwater	Overburden	8.6	4.0	2.0	170	0.1	0.1
MW22-06 SA-9	MW22-06	Groundwater	Overburden	8.6	4.0	2.1	160	0.1	0.1
MW22-07 SA-1	MW22-07	Groundwater	Overburden	8.3	4.0	1.9	80	0.1	0.1
MW22-07 SA-2	MW22-07	Groundwater	Overburden	8.6	4.0	2.0	240	0.1	0.1
MW22-07 SA-4	MW22-07	Groundwater	Overburden	8.7	4.0	2.1	200	0.1	0.1
MW22-07 SA-6	MW22-07	Groundwater	Overburden	8.6	4.0	2.1	220	0.1	0.1
MW22-07 SA-8	MW22-07	Groundwater	Overburden	8.4	4.0	2.1	270	0.1	0.1

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Paste pH	Fizz Rate	Sample weight	HCl Added	HCl	NaOH
Unit				no unit	rating	g	mL	Normality	Normality
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
MW22-08 SA-2	MW22-08	Groundwater	Overburden	7.6	4.0	2.1	150	0.1	0.1
MW22-08 SA-3	MW22-08	Groundwater	Overburden	8.3	4.0	2.0	220	0.1	0.1
MW22-08 SA-4	MW22-08	Groundwater	Overburden	8.4	4.0	2.0	220	0.1	0.1
MW22-08 SA-6	MW22-08	Groundwater	Overburden	8.3	4.0	2.0	220	0.1	0.1
MW22-08 SA-8	MW22-08	Groundwater	Overburden	8.3	4.0	2.0	250	0.1	0.1
MW22-09 SA-1	MW22-09	Groundwater	Overburden	6.9	1.0	1.9	35	0.1	0.1
MW22-09 SA-4	MW22-09	Groundwater	Overburden	8.1	4.0	2.0	190	0.1	0.1
MW22-09 SA-5	MW22-09	Groundwater	Overburden	8.4	4.0	1.9	250	0.1	0.1
MW22-09 SA-6	MW22-09	Groundwater	Overburden	8.3	4.0	1.9	250	0.1	0.1
MW22-09 SA-7	MW22-09	Groundwater	Overburden	8.4	4.0	2.0	250	0.1	0.1
MW22-10 SA-2	MW22-10	Groundwater	Overburden	7.8	4.0	2.0	180	0.1	0.1
MW22-10 SA-3	MW22-10	Groundwater	Overburden	8.1	4.0	2.1	220	0.1	0.1
MW22-10 SA-4	MW22-10	Groundwater	Overburden	8.2	4.0	2.2	250	0.1	0.1
MW22-10 SA-5	MW22-10	Groundwater	Overburden	8.4	4.0	1.9	210	0.1	0.1
MW22-10 SA-6	MW22-10	Groundwater	Overburden	8.7	4.0	1.9	205	0.1	0.1
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	6.9	4.0	1.9	70	0.1	0.1
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	8.0	4.0	2.0	170	0.1	0.1
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	7.9	4.0	2.0	260	0.1	0.1
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	8.4	4.0	2.1	200	0.1	0.1
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	8.2	4.0	2.0	180	0.1	0.1
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	8.1	3.0	2.0	245	0.1	0.1
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	8.1	4.0	2.0	235	0.1	0.1
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	8.6	4.0	2.1	120	0.1	0.1
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	8.5	4.0	2.1	155	0.1	0.1
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	7.6	4.0	2.1	125	0.1	0.1
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	8.5	4.0	2.0	100	0.1	0.1
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	8.6	4.0	2.0	160	0.1	0.1
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	8.5	4.0	2.0	210	0.1	0.1
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	8.5	4.0	2.0	180	0.1	0.1
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	8.4	4.0	2.0	180	0.1	0.1
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	9.0	4.0	2.1	180	0.1	0.1
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	9.0	4.0	2.0	160	0.1	0.1
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	9.0	4.0	2.1	120	0.1	0.1
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	9.1	4.0	1.9	155	0.1	0.1

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Paste pH	Fizz Rate	Sample weight	HCl Added	HCl	NaOH
Unit				no unit	rating	g	mL	Normality	Normality
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	7.3	2.0	2.0	67	0.1	0.1
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	8.5	4.0	2.1	220	0.1	0.1
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	8.5	4.0	2.1	220	0.1	0.1
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	8.6	2.0	1.9	20	0.1	0.1
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	8.2	4.0	2.0	185	0.1	0.1
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	8.8	4.0	2.0	190	0.1	0.1
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	8.5	4.0	2.0	235	0.1	0.1
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	8.5	4.0	2.1	210	0.1	0.1
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	8.7	4.0	2.0	235	0.1	0.1

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Paste pH	Fizz Rate	Sample weight	HCl Added	HCl	NaOH
Unit				no unit	rating	g	mL	Normality	Normality
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	9.6	2.0	2.0	20	0.1	0.1
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	6.3	2.0	2.0	55	0.1	0.1
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	8.1	4.0	2.1	125	0.1	0.1
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	10	1.0	2.0	20	0.1	0.1
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	10	1.0	2.2	20	0.1	0.1
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	9.9	1.0	2.0	20	0.1	0.1
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	10.0	1.0	1.9	20	0.1	0.1
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	9.6	1.0	1.9	20	0.1	0.1
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	9.6	1.0	2.0	20	0.1	0.1
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	8.5	4.0	2.0	112	0.1	0.1
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	8.8	4.0	1.8	120	0.1	0.1
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	8.5	4.0	1.9	198	0.1	0.1
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	10	1.0	1.8	20	0.1	0.1
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	10	1.0	1.9	20	0.1	0.1
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	10	1.0	1.9	20	0.1	0.1
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	8.8	4.0	1.9	120	0.1	0.1
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	8.7	4.0	2.1	150	0.1	0.1
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	6.8	1.0	2.1	20	0.1	0.1
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	9.9	2.0	2.1	28	0.1	0.1
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	9.8	1.0	2.0	20	0.1	0.1
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	9.9	1.0	1.9	20	0.1	0.1

Annex D - Static Analysis Results

Acid Base Accounting

Sample ID	Borehole ID	Sampling Program	Sample Type	NaOH to pH=8.3	Final pH	NP	AP	Net NP	NP/AP
Unit				mL	no unit	t CaCO3/1000 t	CaCO3/1000 t	CaCO3/1000 t	ratio
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
M22S008		Soil	Overburden	53	1.6	289	1.3	287	231
M22S011		Soil	Overburden	20	1.5	0.8	1.3	-0.45	0.64
M22S028		Soil	Overburden	49	1.7	240	1.3	239	192
M22S032		Soil	Overburden	55	1.5	20	1.3	19	16
M22S044		Soil	Overburden	17	1.4	7.8	1.3	6.6	6.2
M22S055		Soil	Overburden	83	1.6	255	1.3	253	204
M22S096		Soil	Overburden	72	1.5	230	1.3	228	184
M22S127		Soil	Overburden	25	1.7	96	1.3	94	76
M22S154		Soil	Overburden	36	1.5	-9.3	1.3	-11	-7.4
M22S156		Soil	Overburden	42	1.4	-56	1.3	-58	-45
M22S161		Soil	Overburden	68	1.6	254	1.3	253	203
M22S258		Soil	Overburden	25	1.9	126	1.3	125	101
M22S283		Soil	Overburden	21	1.7	-1.4	1.3	-2.7	-1.1
M22SAD1		Soil	Overburden	41	1.5	148	1.3	147	118
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	49	1.6	335	1.3	334	268
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	54	1.6	290	1.3	289	232
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	62	1.6	366	1.3	364	293
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	65	1.6	387	1.3	386	310
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	51	1.6	333	1.3	331	266
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	63	1.5	324	1.3	323	259
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	67	1.5	427	1.3	426	342
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	76	1.6	229	1.3	228	183
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	78	1.6	351	1.3	350	281
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	74	1.6	275	1.3	274	220
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	54	1.5	332	1.3	331	266
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	43	1.5	220	1.3	219	176
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	60	1.6	330	1.3	328	264
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	21	1.7	216	1.3	215	173
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	52	1.5	265	1.3	263	212
MW22-05 SA-1	MW22-05	Groundwater	Overburden	61	1.5	249	1.3	248	199
MW22-05 SA-2	MW22-05	Groundwater	Overburden	59	1.6	321	1.3	320	257
MW22-05 SA-4	MW22-05	Groundwater	Overburden	77	1.5	316	1.3	315	253
MW22-05 SA-6	MW22-05	Groundwater	Overburden	56	1.6	347	1.3	346	278
MW22-05 SA-7	MW22-05	Groundwater	Overburden	73	1.6	342	1.3	341	274

Annex D - Static Analysis Results

Acid Base Accounting

Sample ID	Borehole ID	Sampling Program	Sample Type	NaOH to pH=8.3	Final pH	NP	AP	Net NP	NP/AP
Unit				mL	no unit	t CaCO3/1000	t CaCO3/1000	t CaCO3/1000	ratio
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
MW22-06 SA-1	MW22-06	Groundwater	Overburden	24	1.8	141	1.3	140	113
MW22-06 SA-4	MW22-06	Groundwater	Overburden	78	1.5	334	1.3	333	267
MW22-06 SA-7	MW22-06	Groundwater	Overburden	73	1.5	355	1.3	354	284
MW22-06 SA-8	MW22-06	Groundwater	Overburden	32	1.9	343	1.3	342	274
MW22-06 SA-9	MW22-06	Groundwater	Overburden	32	1.8	308	1.3	307	246
MW22-07 SA-1	MW22-07	Groundwater	Overburden	26	1.8	145	1.3	144	116
MW22-07 SA-2	MW22-07	Groundwater	Overburden	84	1.5	395	1.3	393	316
MW22-07 SA-4	MW22-07	Groundwater	Overburden	78	1.5	289	1.3	288	231
MW22-07 SA-6	MW22-07	Groundwater	Overburden	66	1.6	359	1.3	358	287
MW22-07 SA-8	MW22-07	Groundwater	Overburden	91	1.5	426	1.3	425	341

Annex D - Static Analysis Results

Acid Base Accounting

Sample ID	Borehole ID	Sampling Program	Sample Type	NaOH to pH=8.3	Final pH	NP	AP	Net NP	NP/AP
Unit				mL	no unit	t CaCO3/1000 t	CaCO3/1000 t	CaCO3/1000 t	ratio
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
MW22-08 SA-2	MW22-08	Groundwater	Overburden	59	1.6	219	1.3	218	175
MW22-08 SA-3	MW22-08	Groundwater	Overburden	77	1.6	360	1.3	359	288
MW22-08 SA-4	MW22-08	Groundwater	Overburden	78	1.6	360	1.3	358	288
MW22-08 SA-6	MW22-08	Groundwater	Overburden	67	1.6	379	1.3	378	303
MW22-08 SA-8	MW22-08	Groundwater	Overburden	84	1.6	416	1.3	415	333
MW22-09 SA-1	MW22-09	Groundwater	Overburden	33	1.6	6.1	1.3	4.9	4.9
MW22-09 SA-4	MW22-09	Groundwater	Overburden	59	1.6	328	1.3	327	262
MW22-09 SA-5	MW22-09	Groundwater	Overburden	90	1.5	423	1.3	421	338
MW22-09 SA-6	MW22-09	Groundwater	Overburden	90	1.5	433	1.3	432	346
MW22-09 SA-7	MW22-09	Groundwater	Overburden	79	1.6	431	1.3	430	345
MW22-10 SA-2	MW22-10	Groundwater	Overburden	70	1.6	272	1.3	270	218
MW22-10 SA-3	MW22-10	Groundwater	Overburden	73	1.6	347	1.3	346	278
MW22-10 SA-4	MW22-10	Groundwater	Overburden	91	1.5	368	1.3	367	294
MW22-10 SA-5	MW22-10	Groundwater	Overburden	73	1.5	358	1.3	357	286
MW22-10 SA-6	MW22-10	Groundwater	Overburden	76	1.5	346	1.3	344	277
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	39	1.6	81	2.2	79	37
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	56	1.5	280	1.3	279	224
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	84	1.5	432	1.3	431	346
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	71	1.5	314	1.3	312	251
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	40	1.8	356	1.3	354	285
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	90	1.5	382	1.3	381	306
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	87	1.5	362	1.3	361	290
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	48	1.4	174	1.3	173	139
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	49	1.6	253	1.3	252	202
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	47	1.5	189	1.3	188	151
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	26	1.8	188	1.3	187	150
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	53	1.5	263	1.3	262	210
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	69	1.5	354	1.3	352	283
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	55	1.6	306	1.3	304	245
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	59	1.5	299	1.3	298	239
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	62	1.5	278	1.3	276	222
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	53	1.5	272	1.3	271	218
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	29	1.9	217	1.3	216	174
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	51	1.5	269	1.3	268	215

Annex D - Static Analysis Results

Acid Base Accounting

Sample ID	Borehole ID	Sampling Program	Sample Type	NaOH to pH=8.3	Final pH	NP	AP	Net NP	NP/AP
Unit				mL	no unit	t CaCO3/1000	t CaCO3/1000	t CaCO3/1000	ratio
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	40	1.8	69	3.1	66	22
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	90	1.4	307	1.3	306	246
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	83	1.5	326	1.3	324	261
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	15	1.9	12	1.3	11	9.8
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	65	1.5	298	1.3	297	238
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	75	1.5	294	1.3	293	235
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	44	1.6	488	1.3	487	391
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	165	1.5	110	1.3	109	88
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	55	1.6	456	1.3	455	365

Annex D - Static Analysis Results

				Acid Base Accounting					
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**NaOH to pH=8.3**	**Final pH**	**NP**	**AP**	**Net NP**	**NP/AP**
Unit				mL	no unit	t CaCO3/1000 t	CaCO3/1000 t	CaCO3/1000 t	ratio
Price Crustal Abundance									
PWQO Guideline									
CCME Guideline									
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	18	1.5	4.5	1.3	3.3	3.6
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	55	1.6	-0.9	1.3	-2.2	-0.72
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	40	1.8	208	1.3	206	166
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	16	1.4	8.9	1.3	7.7	7.1
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	17	1.3	7.3	1.3	6.1	5.8
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	18	1.2	5.1	1.3	3.9	4.1
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	15	1.8	14	1.3	13	11
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	15	1.8	14	2.2	12	6.3
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	16	1.5	9.8	13	-3.3	0.75
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	33	1.6	201	1.3	200	161
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	21	1.8	268	1.3	267	214
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	67	1.5	347	1.3	346	278
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	17	1.2	8.0	1.6	6.4	5.1
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	19	1.1	3.5	1.3	2.3	2.8
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	19	1.1	3.5	1.3	2.3	2.8
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	32	1.6	232	1.3	231	186
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	47	1.5	249	1.3	247	199
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	14	1.8	15	1.3	14	12
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	17	1.7	27	1.9	25	14
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	13	1.8	19	1.3	17	15
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	15	1.6	14	1.3	13	11

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Sulphur (total)	Acid Leachable SO4-S
Unit				%	%
Price Crustal Abundance					
PWQO Guideline					
CCME Guideline					
M22S008		Soil	Overburden	0.011	<0.04
M22S011		Soil	Overburden	0.018	<0.04
M22S028		Soil	Overburden	< 0.005	<0.04
M22S032		Soil	Overburden	0.063	<0.04
M22S044		Soil	Overburden	0.019	<0.04
M22S055		Soil	Overburden	0.015	<0.04
M22S096		Soil	Overburden	0.01	<0.04
M22S127		Soil	Overburden	0.006	<0.04
M22S154		Soil	Overburden	0.047	<0.04
M22S156		Soil	Overburden	0.028	<0.04
M22S161		Soil	Overburden	0.012	<0.04
M22S258		Soil	Overburden	0.012	<0.04
M22S283		Soil	Overburden	0.047	0.05
M22SAD1		Soil	Overburden	< 0.005	<0.04
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	0.034	<0.04
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	0.025	<0.04
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	0.01	<0.04
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	< 0.005	<0.04
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	0.026	<0.04
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	0.026	<0.04
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	0.046	0.05
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	0.01	<0.04
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	< 0.005	<0.04
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	0.01	<0.04
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	0.021	<0.04
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	< 0.005	<0.04
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	< 0.005	<0.04
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	< 0.005	<0.04
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	< 0.005	<0.04
MW22-05 SA-1	MW22-05	Groundwater	Overburden	< 0.005	< 0.04
MW22-05 SA-2	MW22-05	Groundwater	Overburden	< 0.005	< 0.04
MW22-05 SA-4	MW22-05	Groundwater	Overburden	< 0.005	< 0.04
MW22-05 SA-6	MW22-05	Groundwater	Overburden	0.034	< 0.04
MW22-05 SA-7	MW22-05	Groundwater	Overburden	0.023	< 0.04

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Sulphur (total)	Acid Leachable SO4-S
Unit				%	%
Price Crustal Abundance					
PWQO Guideline					
CCME Guideline					
MW22-06 SA-1	MW22-06	Groundwater	Overburden	< 0.005	< 0.04
MW22-06 SA-4	MW22-06	Groundwater	Overburden	0.005	< 0.04
MW22-06 SA-7	MW22-06	Groundwater	Overburden	0.007	< 0.04
MW22-06 SA-8	MW22-06	Groundwater	Overburden	0.007	< 0.04
MW22-06 SA-9	MW22-06	Groundwater	Overburden	< 0.005	< 0.04
MW22-07 SA-1	MW22-07	Groundwater	Overburden	0.005	<0.04
MW22-07 SA-2	MW22-07	Groundwater	Overburden	< 0.005	<0.04
MW22-07 SA-4	MW22-07	Groundwater	Overburden	0.006	<0.04
MW22-07 SA-6	MW22-07	Groundwater	Overburden	< 0.005	<0.04
MW22-07 SA-8	MW22-07	Groundwater	Overburden	0.029	<0.04

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Sulphur (total)	Acid Leachable SO4-S
Unit				%	%
Price Crustal Abundance					
PWQO Guideline					
CCME Guideline					
MW22-08 SA-2	MW22-08	Groundwater	Overburden	0.008	<0.04
MW22-08 SA-3	MW22-08	Groundwater	Overburden	0.007	<0.04
MW22-08 SA-4	MW22-08	Groundwater	Overburden	0.008	<0.04
MW22-08 SA-6	MW22-08	Groundwater	Overburden	0.04	<0.04
MW22-08 SA-8	MW22-08	Groundwater	Overburden	0.038	<0.04
MW22-09 SA-1	MW22-09	Groundwater	Overburden	0.096	0.06
MW22-09 SA-4	MW22-09	Groundwater	Overburden	0.018	< 0.04
MW22-09 SA-5	MW22-09	Groundwater	Overburden	0.019	< 0.04
MW22-09 SA-6	MW22-09	Groundwater	Overburden	0.036	< 0.04
MW22-09 SA-7	MW22-09	Groundwater	Overburden	0.036	< 0.04
MW22-10 SA-2	MW22-10	Groundwater	Overburden	0.008	<0.04
MW22-10 SA-3	MW22-10	Groundwater	Overburden	0.007	<0.04
MW22-10 SA-4	MW22-10	Groundwater	Overburden	0.006	<0.04
MW22-10 SA-5	MW22-10	Groundwater	Overburden	0.014	<0.04
MW22-10 SA-6	MW22-10	Groundwater	Overburden	0.033	<0.04
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	0.13	0.06
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	0.013	<0.04
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	0.01	<0.04
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	0.03	<0.04
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	0.038	<0.04
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	< 0.005	<0.04
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	0.034	<0.04
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	0.017	<0.04
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	< 0.005	<0.04
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	0.011	<0.04
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	0.012	<0.04
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	< 0.005	<0.04
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	0.005	<0.04
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	< 0.005	<0.04
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	0.007	<0.04
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	0.006	<0.04
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	0.005	<0.04
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	0.006	<0.04
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	0.015	<0.04

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Sulphur (total)	Acid Leachable SO4-S
Unit				%	%
Price Crustal Abundance					
PWQO Guideline					
CCME Guideline					
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	0.13	< 0.04
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	0.011	<0.04
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	0.006	<0.04
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	0.064	0.06
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	< 0.005	< 0.04
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	< 0.005	< 0.04
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	0.005	< 0.04
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	< 0.005	< 0.04
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	0.011	< 0.04

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Sulphur (total)	Acid Leachable SO4-S
Unit				%	%
Price Crustal Abundance					
PWQO Guideline					
CCME Guideline					
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	0.21	0.21
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	0.11	0.11
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	0.01	< 0.04
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	0.043	< 0.04
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	0.012	<0.04
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	0.009	<0.04
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	< 0.005	< 0.04
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	0.1	0.1
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	0.72	0.72
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	< 0.005	< 0.04
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	< 0.005	< 0.04
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	0.009	< 0.04
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	0.069	0.07
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	0.015	< 0.04
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	< 0.005	< 0.04
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	< 0.005	<0.04
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	< 0.005	<0.04
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	< 0.005	<0.04
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	0.064	< 0.04
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	0.021	<0.04
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	0.013	<0.04

Annex D - Static Analysis Results

				Acid Base Accounting				
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Sulphide**	**Carbon (total)**	**Carbonate (HCl)**	**Classification**	**Mercury**
Unit				%	%	%		ug/g
Price Crustal Abundance								0.086
PWQO Guideline								
CCME Guideline								
M22S008		Soil	Overburden	< 0.04	6.2	20	NPAG	< 0.05
M22S011		Soil	Overburden	< 0.04	1.3	3.3	PAG	< 0.05
M22S028		Soil	Overburden	< 0.04	3.4	15	NPAG	< 0.05
M22S032		Soil	Overburden	< 0.04	19	7.3	NPAG	0.06
M22S044		Soil	Overburden	< 0.04	1.5	2.2	NPAG	< 0.05
M22S055		Soil	Overburden	< 0.04	3.5	16	NPAG	< 0.05
M22S096		Soil	Overburden	< 0.04	9.8	15	NPAG	< 0.05
M22S127		Soil	Overburden	< 0.04	2.2	7.5	NPAG	< 0.05
M22S154		Soil	Overburden	< 0.04	44	21	PAG	0.07
M22S156		Soil	Overburden	< 0.04	42	24	PAG	< 0.05
M22S161		Soil	Overburden	< 0.04	3.3	16	NPAG	< 0.05
M22S258		Soil	Overburden	< 0.04	2.0	8.3	NPAG	0.06
M22S283		Soil	Overburden	< 0.04	23	16	PAG	< 0.05
M22SAD1		Soil	Overburden	< 0.04	2.2	9.8	NPAG	< 0.05
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	< 0.04	4.0	20	NPAG	< 0.05
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	< 0.04	4.0	17	NPAG	< 0.05
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	< 0.04	4.2	21	NPAG	< 0.05
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	< 0.04	4.6	23	NPAG	< 0.05
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	< 0.04	4.0	19	NPAG	< 0.05
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	< 0.04	3.8	19	NPAG	< 0.05
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	< 0.04	4.7	23	NPAG	< 0.05
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	< 0.04	2.7	13	NPAG	< 0.05
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	< 0.04	4.2	20	NPAG	< 0.05
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	< 0.04	3.5	16	NPAG	< 0.05
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	< 0.04	4.0	19	NPAG	< 0.05
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	< 0.04	2.6	13	NPAG	< 0.05
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	< 0.04	3.9	19	NPAG	< 0.05
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	< 0.04	2.6	13	NPAG	< 0.05
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	< 0.04	3.2	16	NPAG	< 0.05
MW22-05 SA-1	MW22-05	Groundwater	Overburden	< 0.04	3.1	15	NPAG	< 0.05
MW22-05 SA-2	MW22-05	Groundwater	Overburden	< 0.04	3.8	19	NPAG	< 0.05
MW22-05 SA-4	MW22-05	Groundwater	Overburden	< 0.04	3.7	18	NPAG	< 0.05
MW22-05 SA-6	MW22-05	Groundwater	Overburden	< 0.04	4.1	20	NPAG	< 0.05
MW22-05 SA-7	MW22-05	Groundwater	Overburden	< 0.04	4.1	20	NPAG	< 0.05

Annex D - Static Analysis Results

				Acid Base Accounting				
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Sulphide**	**Carbon (total)**	**Carbonate (HCl)**	**Classification**	**Mercury**
Unit				%	%	%		ug/g
Price Crustal Abundance								0.086
PWQO Guideline								
CCME Guideline								
MW22-06 SA-1	MW22-06	Groundwater	Overburden	< 0.04	2.1	8.9	NPAG	< 0.05
MW22-06 SA-4	MW22-06	Groundwater	Overburden	< 0.04	4.0	20	NPAG	< 0.05
MW22-06 SA-7	MW22-06	Groundwater	Overburden	< 0.04	4.1	20	NPAG	< 0.05
MW22-06 SA-8	MW22-06	Groundwater	Overburden	< 0.04	3.9	19	NPAG	< 0.05
MW22-06 SA-9	MW22-06	Groundwater	Overburden	< 0.04	3.6	18	NPAG	< 0.05
MW22-07 SA-1	MW22-07	Groundwater	Overburden	< 0.04	2.1	9.2	NPAG	< 0.05
MW22-07 SA-2	MW22-07	Groundwater	Overburden	< 0.04	4.6	23	NPAG	< 0.05
MW22-07 SA-4	MW22-07	Groundwater	Overburden	< 0.04	3.3	16	NPAG	< 0.05
MW22-07 SA-6	MW22-07	Groundwater	Overburden	< 0.04	4.3	21	NPAG	< 0.05
MW22-07 SA-8	MW22-07	Groundwater	Overburden	< 0.04	5.1	25	NPAG	< 0.05

Annex D - Static Analysis Results

				Acid Base Accounting				
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Sulphide**	**Carbon (total)**	**Carbonate (HCl)**	**Classification**	**Mercury**
Unit				%	%	%		ug/g
Price Crustal Abundance								0.086
PWQO Guideline								
CCME Guideline								
MW22-08 SA-2	MW22-08	Groundwater	Overburden	< 0.04	3.6	15	NPAG	< 0.05
MW22-08 SA-3	MW22-08	Groundwater	Overburden	< 0.04	4.3	21	NPAG	< 0.05
MW22-08 SA-4	MW22-08	Groundwater	Overburden	< 0.04	4.3	21	NPAG	< 0.05
MW22-08 SA-6	MW22-08	Groundwater	Overburden	< 0.04	4.6	22	NPAG	< 0.05
MW22-08 SA-8	MW22-08	Groundwater	Overburden	< 0.04	4.9	24	NPAG	< 0.05
MW22-09 SA-1	MW22-09	Groundwater	Overburden	0.04	41	21	NPAG	< 0.05
MW22-09 SA-4	MW22-09	Groundwater	Overburden	< 0.04	5.7	20	NPAG	< 0.05
MW22-09 SA-5	MW22-09	Groundwater	Overburden	< 0.04	5.3	25	NPAG	< 0.05
MW22-09 SA-6	MW22-09	Groundwater	Overburden	< 0.04	5.2	25	NPAG	< 0.05
MW22-09 SA-7	MW22-09	Groundwater	Overburden	< 0.04	5.1	25	NPAG	< 0.05
MW22-10 SA-2	MW22-10	Groundwater	Overburden	< 0.04	5.4	17	NPAG	< 0.05
MW22-10 SA-3	MW22-10	Groundwater	Overburden	< 0.04	4.7	21	NPAG	< 0.05
MW22-10 SA-4	MW22-10	Groundwater	Overburden	< 0.04	4.4	21	NPAG	< 0.05
MW22-10 SA-5	MW22-10	Groundwater	Overburden	< 0.04	4.3	21	NPAG	< 0.05
MW22-10 SA-6	MW22-10	Groundwater	Overburden	< 0.04	4.1	20	NPAG	< 0.05
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	0.07	22	23	NPAG	< 0.05
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	< 0.04	3.7	17	NPAG	< 0.05
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	< 0.04	3.1	15	NPAG	< 0.05
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	< 0.04	3.9	19	NPAG	< 0.05
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	< 0.04	4.7	23	NPAG	< 0.05
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	< 0.04	4.8	23	NPAG	< 0.05
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	< 0.04	4.8	22	NPAG	< 0.05
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	< 0.04	2.5	12	NPAG	< 0.05
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	< 0.04	3.2	15	NPAG	< 0.05
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	< 0.04	3.1	13	NPAG	< 0.05
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	< 0.04	2.7	13	NPAG	< 0.05
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	< 0.04	3.9	19	NPAG	< 0.05
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	< 0.04	4.5	23	NPAG	< 0.05
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	< 0.04	4.1	20	NPAG	< 0.05
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	< 0.04	5.2	25	NPAG	< 0.05
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	< 0.04	3.4	17	NPAG	< 0.05
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	< 0.04	3.4	17	NPAG	< 0.05
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	< 0.04	2.6	13	NPAG	< 0.05
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	< 0.04	3.3	16	NPAG	< 0.05

Annex D - Static Analysis Results

				Acid Base Accounting				
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Sulphide**	**Carbon (total)**	**Carbonate (HCl)**	**Classification**	**Mercury**
Unit				%	%	%		ug/g
Price Crustal Abundance								0.086
PWQO Guideline								
CCME Guideline								
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	0.1	22	25	NPAG	0.08
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	< 0.04	3.9	16	NPAG	< 0.05
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	< 0.04	4.2	21	NPAG	< 0.05
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	< 0.04	0.1	0.41	NPAG	< 0.05
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	< 0.04	3.6	17	NPAG	< 0.05
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	< 0.04	3.1	15	NPAG	< 0.05
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	< 0.04	5.1	25	NPAG	< 0.05
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	< 0.04	4.1	20	NPAG	< 0.05
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	< 0.04	4.7	23	NPAG	< 0.05

Annex D - Static Analysis Results

				Acid Base Accounting				
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Sulphide**	**Carbon (total)**	**Carbonate (HCl)**	**Classification**	**Mercury**
Unit				%	%	%		ug/g
Price Crustal Abundance								0.086
PWQO Guideline								
CCME Guideline								
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	< 0.04	0.025	< 0.04	NPAG	< 0.05
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	< 0.04	38	12	PAG	0.11
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	< 0.04	3.0	13	NPAG	< 0.05
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	0.04	0.041	0.09	NPAG	< 0.05
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	< 0.04	0.037	< 0.04	NPAG	< 0.05
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	< 0.04	0.033	< 0.04	NPAG	< 0.05
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	< 0.04	0.027	< 0.04	NPAG	< 0.05
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	0.07	0.028	< 0.04	NPAG	< 0.05
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	0.42	0.037	0.04	PAG	< 0.05
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	< 0.04	0.68	2.4	NPAG	< 0.05
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	< 0.04	0.81	0.6	NPAG	< 0.05
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	< 0.04	4.3	21	NPAG	< 0.05
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	0.05	0.079	0.28	NPAG	< 0.05
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	< 0.04	0.044	0.08	NPAG	< 0.05
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	< 0.04	0.036	< 0.04	NPAG	< 0.05
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	< 0.04	2.9	14	NPAG	< 0.05
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	< 0.04	3.1	15	NPAG	< 0.05
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	< 0.04	0.054	0.14	NPAG	< 0.05
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	0.06	0.18	0.81	NPAG	< 0.05
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	< 0.04	0.1	0.36	NPAG	< 0.05
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	< 0.04	0.034	< 0.04	NPAG	< 0.05

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Silver	Arsenic	Aluminum	Barium	Beryllium	Bismuth
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				0.08	1.8	8360	390	2	0.0082
PWQO Guideline									
CCME Guideline									
M22S008		Soil	Overburden	< 1	10	6600	35	0.2	< 0.09
M22S011		Soil	Overburden	< 1	30	19000	54	0.4	0.17
M22S028		Soil	Overburden	< 1	5.7	20000	91	0.61	0.21
M22S032		Soil	Overburden	< 1	2.0	15000	69	0.19	0.13
M22S044		Soil	Overburden	< 1	5.7	11000	61	0.22	0.11
M22S055		Soil	Overburden	< 1	3.6	21000	100	0.79	0.22
M22S096		Soil	Overburden	< 1	3.4	14000	96	0.5	0.16
M22S127		Soil	Overburden	< 1	6.1	13000	63	0.36	0.15
M22S154		Soil	Overburden	< 1	1.1	1400	25	0.06	< 0.09
M22S156		Soil	Overburden	< 1	7.3	610	15	0.03	< 0.09
M22S161		Soil	Overburden	< 1	3.8	22000	120	0.8	0.27
M22S258		Soil	Overburden	< 1	11	33000	140	1.0	0.3
M22S283		Soil	Overburden	< 1	3.3	4700	27	0.12	< 0.09
M22SAD1		Soil	Overburden	< 1	6.4	9200	27	0.22	< 0.09
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	< 1	2.0	4400	36	0.2	< 0.09
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	< 1	9.1	13000	99	0.53	0.19
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	< 1	2.3	5600	28	0.22	< 0.09
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	< 1	2.0	5500	43	0.24	< 0.09
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	< 1	1.8	5400	42	0.23	< 0.09
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	< 1	1.7	4100	31	0.17	< 0.09
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	< 1	2.6	4800	36	0.21	< 0.09
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	< 1	4.8	28000	190	1.1	0.4
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	< 1	4.0	21000	150	0.88	0.32
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	< 1	3.8	26000	190	1.1	0.39
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	< 1	1.9	4700	33	0.21	< 0.09
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	< 1	1.5	3400	30	0.14	< 0.09
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	< 1	1.9	4700	36	0.2	< 0.09
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	< 1	1.6	3500	29	0.15	< 0.09
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	< 1	1.7	4100	37	0.19	< 0.09
MW22-05 SA-1	MW22-05	Groundwater	Overburden	< 1	1.5	3200	16	0.14	< 0.09
MW22-05 SA-2	MW22-05	Groundwater	Overburden	< 1	1.9	4200	18	0.19	< 0.09
MW22-05 SA-4	MW22-05	Groundwater	Overburden	< 1	1.9	3700	17	0.16	< 0.09
MW22-05 SA-6	MW22-05	Groundwater	Overburden	< 1	1.7	3700	16	0.16	< 0.09
MW22-05 SA-7	MW22-05	Groundwater	Overburden	< 1	1.6	3300	16	0.16	< 0.09

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Silver	Arsenic	Aluminum	Barium	Beryllium	Bismuth
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				0.08	1.8	8360	390	2	0.0082
PWQO Guideline									
CCME Guideline									
MW22-06 SA-1	MW22-06	Groundwater	Overburden	< 1	2.5	8300	25	0.27	0.1
MW22-06 SA-4	MW22-06	Groundwater	Overburden	< 1	2.3	5700	18	0.19	< 0.09
MW22-06 SA-7	MW22-06	Groundwater	Overburden	< 1	2.2	5300	17	0.17	< 0.09
MW22-06 SA-8	MW22-06	Groundwater	Overburden	< 1	2.1	5000	19	0.17	< 0.09
MW22-06 SA-9	MW22-06	Groundwater	Overburden	< 1	2.0	4700	16	0.17	< 0.09
MW22-07 SA-1	MW22-07	Groundwater	Overburden	< 1	3.5	13000	38	0.43	0.13
MW22-07 SA-2	MW22-07	Groundwater	Overburden	< 1	1.6	3400	17	0.15	< 0.09
MW22-07 SA-4	MW22-07	Groundwater	Overburden	< 1	1.7	3100	13	0.13	< 0.09
MW22-07 SA-6	MW22-07	Groundwater	Overburden	< 1	1.8	3200	16	0.15	< 0.09
MW22-07 SA-8	MW22-07	Groundwater	Overburden	< 1	2.4	5500	27	0.26	< 0.09

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Silver	Arsenic	Aluminum	Barium	Beryllium	Bismuth
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				0.08	1.8	8360	390	2	0.0082
PWQO Guideline									
CCME Guideline									
MW22-08 SA-2	MW22-08	Groundwater	Overburden	< 1	4.0	11000	51	0.51	0.2
MW22-08 SA-3	MW22-08	Groundwater	Overburden	< 1	3.4	8500	41	0.39	0.17
MW22-08 SA-4	MW22-08	Groundwater	Overburden	< 1	3.0	8200	47	0.36	0.14
MW22-08 SA-6	MW22-08	Groundwater	Overburden	< 1	3.5	6200	38	0.3	0.13
MW22-08 SA-8	MW22-08	Groundwater	Overburden	< 1	2.8	6200	34	0.29	0.11
MW22-09 SA-1	MW22-09	Groundwater	Overburden	< 1	2.1	1500	27	0.07	0.11
MW22-09 SA-4	MW22-09	Groundwater	Overburden	< 1	2.8	9200	47	0.35	0.17
MW22-09 SA-5	MW22-09	Groundwater	Overburden	< 1	2.2	6000	33	0.27	0.11
MW22-09 SA-6	MW22-09	Groundwater	Overburden	< 1	2.5	5600	29	0.24	0.1
MW22-09 SA-7	MW22-09	Groundwater	Overburden	< 1	2.3	5900	32	0.26	0.11
MW22-10 SA-2	MW22-10	Groundwater	Overburden	< 1	3.6	12000	62	0.48	0.2
MW22-10 SA-3	MW22-10	Groundwater	Overburden	< 1	3.4	8300	46	0.37	0.15
MW22-10 SA-4	MW22-10	Groundwater	Overburden	< 1	3.8	9200	49	0.44	0.18
MW22-10 SA-5	MW22-10	Groundwater	Overburden	< 1	1.7	4500	21	0.19	< 0.09
MW22-10 SA-6	MW22-10	Groundwater	Overburden	< 1	1.6	4300	21	0.17	< 0.09
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	< 1	2.6	3500	28	0.12	< 0.09
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	< 1	4.7	6100	34	0.23	< 0.09
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	< 1	3.9	5100	28	0.2	< 0.09
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	< 1	1.7	3100	23	0.18	< 0.09
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	< 1	2.2	5400	37	0.32	< 0.09
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	< 1	2.3	12000	94	0.64	0.22
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	< 1	2.1	5200	38	0.29	0.09
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	< 1	1.5	2600	16	0.14	< 0.09
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	< 1	1.4	2100	11	0.12	< 0.09
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	< 1	1.5	3000	19	0.17	< 0.09
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	< 1	1.4	2900	18	0.16	< 0.09
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	< 1	1.9	3600	24	0.18	< 0.09
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	< 1	2.2	4000	26	0.2	< 0.09
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	< 1	2.4	4800	27	0.24	< 0.09
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	< 1	2.3	3900	24	0.21	< 0.09
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	< 1	2.0	5800	36	0.15	< 0.09
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	< 1	2.3	5800	32	0.16	< 0.09
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	< 1	1.7	8500	65	0.19	< 0.09
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	< 1	1.5	6500	34	0.17	< 0.09

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Silver	Arsenic	Aluminum	Barium	Beryllium	Bismuth
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				0.08	1.8	8360	390	2	0.0082
PWQO Guideline									
CCME Guideline									
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	< 1	2.1	6900	95	0.25	< 0.09
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	< 1	2.4	10000	59	0.37	0.09
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	< 1	1.8	6000	34	0.23	< 0.09
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	< 1	0.9	42000	350	1.2	0.58
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	< 1	4.0	10000	50	0.4	0.09
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	< 1	3.9	8100	20	0.26	< 0.09
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	< 1	4.8	7100	18	0.22	< 0.09
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	< 1	3.4	4600	21	0.18	< 0.09
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	< 1	5.0	10000	20	0.32	< 0.09

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Silver	Arsenic	Aluminum	Barium	Beryllium	Bismuth
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				0.08	1.8	8360	390	2	0.0082
PWQO Guideline									
CCME Guideline									
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	< 1	< 0.5	20000	230	0.08	< 0.09
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	< 1	1.5	2200	36	0.1	< 0.09
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	< 1	5.3	24000	140	0.94	0.23
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	< 1	< 0.5	22000	160	0.11	< 0.09
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	< 1	< 0.5	13000	110	0.11	< 0.09
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	< 1	0.6	9700	98	0.11	< 0.09
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	< 1	1.0	28000	120	0.34	0.13
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	< 1	0.9	37000	390	0.24	0.38
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	< 1	1.0	18000	430	0.29	0.4
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	< 1	2.7	7000	22	0.24	< 0.09
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	< 1	3.4	6400	22	0.2	< 0.09
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	< 1	3.7	6400	20	0.18	< 0.09
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	< 1	< 0.5	12000	34	0.15	0.17
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	< 1	< 0.5	4600	25	0.09	< 0.09
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	< 1	< 0.5	3300	35	0.07	< 0.09
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	< 1	3.6	8000	30	0.32	< 0.09
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	< 1	3.8	7600	29	0.33	< 0.09
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	< 1	3.7	11000	100	0.66	< 0.09
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	< 1	3.1	11000	110	0.65	< 0.09
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	< 1	2.7	11000	120	0.71	< 0.09
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	< 1	4.0	11000	110	0.69	< 0.09

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Calcium	Cadmium
Unit				µg/g	µg/g
Price Crustal Abundance				4660	2.6
PWQO Guideline					
CCME Guideline					
M22S008		Soil	Overburden	110000	0.1
M22S011		Soil	Overburden	2800	0.08
M22S028		Soil	Overburden	91000	0.09
M22S032		Soil	Overburden	22000	0.27
M22S044		Soil	Overburden	4200	0.21
M22S055		Soil	Overburden	100000	0.07
M22S096		Soil	Overburden	110000	0.12
M22S127		Soil	Overburden	32000	0.19
M22S154		Soil	Overburden	21000	0.13
M22S156		Soil	Overburden	13000	0.09
M22S161		Soil	Overburden	100000	0.06
M22S258		Soil	Overburden	51000	0.08
M22S283		Soil	Overburden	5000	0.2
M22SAD1		Soil	Overburden	60000	0.06
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	100000	0.04
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	89000	0.09
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	120000	0.04
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	110000	0.05
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	100000	0.04
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	89000	0.03
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	120000	0.04
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	72000	0.09
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	110000	0.1
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	90000	0.1
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	100000	0.04
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	69000	0.03
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	93000	0.04
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	72000	0.02
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	76000	0.04
MW22-05 SA-1	MW22-05	Groundwater	Overburden	78000	0.032
MW22-05 SA-2	MW22-05	Groundwater	Overburden	99000	0.044
MW22-05 SA-4	MW22-05	Groundwater	Overburden	96000	0.044
MW22-05 SA-6	MW22-05	Groundwater	Overburden	100000	0.044
MW22-05 SA-7	MW22-05	Groundwater	Overburden	98000	0.06

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Calcium	Cadmium
Unit				µg/g	µg/g
Price Crustal Abundance				4660	2.6
PWQO Guideline					
CCME Guideline					
MW22-06 SA-1	MW22-06	Groundwater	Overburden	50000	0.05
MW22-06 SA-4	MW22-06	Groundwater	Overburden	110000	0.032
MW22-06 SA-7	MW22-06	Groundwater	Overburden	120000	0.042
MW22-06 SA-8	MW22-06	Groundwater	Overburden	110000	0.036
MW22-06 SA-9	MW22-06	Groundwater	Overburden	110000	0.048
MW22-07 SA-1	MW22-07	Groundwater	Overburden	53000	0.05
MW22-07 SA-2	MW22-07	Groundwater	Overburden	110000	0.051
MW22-07 SA-4	MW22-07	Groundwater	Overburden	91000	0.04
MW22-07 SA-6	MW22-07	Groundwater	Overburden	100000	0.059
MW22-07 SA-8	MW22-07	Groundwater	Overburden	130000	0.062

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Calcium	Cadmium
Unit				µg/g	µg/g
Price Crustal Abundance				4660	2.6
PWQO Guideline					
CCME Guideline					
MW22-08 SA-2	MW22-08	Groundwater	Overburden	68000	0.078
MW22-08 SA-3	MW22-08	Groundwater	Overburden	100000	0.082
MW22-08 SA-4	MW22-08	Groundwater	Overburden	110000	0.061
MW22-08 SA-6	MW22-08	Groundwater	Overburden	110000	0.065
MW22-08 SA-8	MW22-08	Groundwater	Overburden	130000	0.074
MW22-09 SA-1	MW22-09	Groundwater	Overburden	23000	0.11
MW22-09 SA-4	MW22-09	Groundwater	Overburden	100000	0.06
MW22-09 SA-5	MW22-09	Groundwater	Overburden	130000	0.07
MW22-09 SA-6	MW22-09	Groundwater	Overburden	130000	0.07
MW22-09 SA-7	MW22-09	Groundwater	Overburden	130000	0.06
MW22-10 SA-2	MW22-10	Groundwater	Overburden	87000	0.083
MW22-10 SA-3	MW22-10	Groundwater	Overburden	100000	0.077
MW22-10 SA-4	MW22-10	Groundwater	Overburden	110000	0.079
MW22-10 SA-5	MW22-10	Groundwater	Overburden	110000	0.046
MW22-10 SA-6	MW22-10	Groundwater	Overburden	100000	0.038
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	41000	0.16
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	86000	0.08
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	140000	0.02
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	66000	0.05
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	82000	0.06
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	85000	0.1
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	74000	0.05
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	48000	0.03
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	55000	0.03
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	47000	0.1
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	49000	0.04
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	70000	0.03
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	85000	0.04
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	71000	0.06
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	94000	0.04
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	79000	0.05
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	78000	0.05
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	60000	0.03
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	73000	0.03

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Calcium	Cadmium
Unit				µg/g	µg/g
Price Crustal Abundance				4660	2.6
PWQO Guideline					
CCME Guideline					
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	41000	0.31
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	96000	0.08
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	71000	0.05
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	3500	0.04
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	89000	0.04
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	81000	0.04
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	140000	0.05
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	100000	0.05
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	120000	0.03

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Calcium	Cadmium
Unit				µg/g	µg/g
Price Crustal Abundance				4660	2.6
PWQO Guideline					
CCME Guideline					
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	880	0.06
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	31000	0.22
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	66000	0.12
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	3500	0.02
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	2800	< 0.02
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	1800	< 0.02
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	15000	0.02
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	5600	0.04
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	5100	0.08
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	63000	0.04
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	88000	0.03
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	130000	0.03
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	3400	0.03
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	1400	< 0.02
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	1500	< 0.02
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	71000	0.04
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	88000	0.04
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	7800	0.02
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	11000	< 0.02
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	8900	< 0.02
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	7400	< 0.02

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Cobalt	Chromium	Copper	Iron	Potassium	Lithium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				29	122	68	6220	1840	18
PWQO Guideline									
CCME Guideline									
M22S008		Soil	Overburden	5.3	21	12	14000	1200	7.0
M22S011		Soil	Overburden	8.0	43	10	25000	2600	17
M22S028		Soil	Overburden	13	50	22	29000	2900	19
M22S032		Soil	Overburden	9.7	69	20	29000	2100	17
M22S044		Soil	Overburden	8.5	26	5.0	22000	930	10
M22S055		Soil	Overburden	12	51	24	30000	4000	22
M22S096		Soil	Overburden	9.2	41	20	25000	3500	17
M22S127		Soil	Overburden	9.1	29	8.0	19000	1400	11
M22S154		Soil	Overburden	1.3	2.2	4.3	3900	210	< 2
M22S156		Soil	Overburden	0.35	1.4	3.3	1900	160	< 2
M22S161		Soil	Overburden	14	59	29	35000	4000	25
M22S258		Soil	Overburden	21	83	39	44000	4800	30
M22S283		Soil	Overburden	1.6	11	4.3	5100	350	2.0
M22SAD1		Soil	Overburden	7.0	28	6.8	18000	990	9.0
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	3.8	78	7.1	11000	1100	7.0
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	9.3	91	19	25000	3100	21
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	5.1	75	11	13000	1100	9.0
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	4.5	100	10	12000	1400	9.0
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	4.3	100	9.8	12000	1400	8.0
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	3.5	94	7.2	10000	1000	7.0
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	4.2	99	8.3	12000	1300	9.0
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	18	78	37	43000	6100	44
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	14	62	31	33000	5000	35
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	18	78	38	43000	6000	43
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	4.9	130	11	12000	1100	8.0
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	3.1	120	6.2	9700	890	5.0
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	3.7	110	8.4	11000	1200	7.0
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	3.2	140	6.5	11000	930	5.0
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	3.3	120	7.0	10000	1100	6.0
MW22-05 SA-1	MW22-05	Groundwater	Overburden	3.3	57	7.7	9700	570	6.1
MW22-05 SA-2	MW22-05	Groundwater	Overburden	4.2	57	8.5	10000	640	8.4
MW22-05 SA-4	MW22-05	Groundwater	Overburden	3.6	46	8.1	9500	650	7.5
MW22-05 SA-6	MW22-05	Groundwater	Overburden	3.7	50	8.8	9500	660	7.9
MW22-05 SA-7	MW22-05	Groundwater	Overburden	3.2	43	7.2	8200	660	7.3

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Cobalt	Chromium	Copper	Iron	Potassium	Lithium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				29	122	68	6220	1840	18
PWQO Guideline									
CCME Guideline									
MW22-06 SA-1	MW22-06	Groundwater	Overburden	5.9	170	10	16000	1200	12
MW22-06 SA-4	MW22-06	Groundwater	Overburden	5.4	73	12	14000	750	11
MW22-06 SA-7	MW22-06	Groundwater	Overburden	5.0	67	11	13000	650	11
MW22-06 SA-8	MW22-06	Groundwater	Overburden	4.4	62	9.9	11000	830	10
MW22-06 SA-9	MW22-06	Groundwater	Overburden	4.4	66	9.7	11000	640	9.4
MW22-07 SA-1	MW22-07	Groundwater	Overburden	8.6	130	12	23000	1600	16
MW22-07 SA-2	MW22-07	Groundwater	Overburden	3.1	35	6.6	8500	650	5.8
MW22-07 SA-4	MW22-07	Groundwater	Overburden	3.4	64	6.7	9800	500	5.4
MW22-07 SA-6	MW22-07	Groundwater	Overburden	3.3	38	7.3	8200	630	5.8
MW22-07 SA-8	MW22-07	Groundwater	Overburden	5.1	38	11	13000	1100	11

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Cobalt	Chromium	Copper	Iron	Potassium	Lithium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				29	122	68	6220	1840	18
PWQO Guideline									
CCME Guideline									
MW22-08 SA-2	MW22-08	Groundwater	Overburden	8.7	59	16	18000	2100	21
MW22-08 SA-3	MW22-08	Groundwater	Overburden	6.6	34	13	15000	2000	17
MW22-08 SA-4	MW22-08	Groundwater	Overburden	6.2	53	12	14000	2100	16
MW22-08 SA-6	MW22-08	Groundwater	Overburden	5.8	35	11	13000	1600	14
MW22-08 SA-8	MW22-08	Groundwater	Overburden	5.8	40	12	13000	1400	14
MW22-09 SA-1	MW22-09	Groundwater	Overburden	1.4	111	6.1	5100	300	< 2
MW22-09 SA-4	MW22-09	Groundwater	Overburden	7.3	69	15	16000	1800	16
MW22-09 SA-5	MW22-09	Groundwater	Overburden	5.3	60	11	13000	1400	12
MW22-09 SA-6	MW22-09	Groundwater	Overburden	5.1	51	11	13000	1200	12
MW22-09 SA-7	MW22-09	Groundwater	Overburden	5.3	41	11	13000	1300	12
MW22-10 SA-2	MW22-10	Groundwater	Overburden	9.2	44	19	21000	2100	22
MW22-10 SA-3	MW22-10	Groundwater	Overburden	6.6	44	13	15000	1800	17
MW22-10 SA-4	MW22-10	Groundwater	Overburden	7.5	36	14	17000	2200	19
MW22-10 SA-5	MW22-10	Groundwater	Overburden	4.3	50	9.2	11000	800	10
MW22-10 SA-6	MW22-10	Groundwater	Overburden	3.8	52	8.7	10000	840	8.8
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	2.6	410	14	12000	590	5.0
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	4.9	320	12	13000	1200	9.0
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	5.1	130	9.5	11000	1200	14
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	3.2	23	6.9	6700	500	7.0
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	5.0	40	11	11000	840	12
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	10	41	22	19000	2100	25
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	4.6	26	11	9500	850	11
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	2.6	78	6.5	5600	400	6.0
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	2.2	29	6.1	5500	270	4.0
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	2.8	83	8.9	7200	410	6.0
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	3.5	61	6.9	6800	440	6.0
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	3.6	38	9.0	8100	430	8.0
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	3.7	43	8.9	8100	560	9.0
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	4.2	39	9.6	9800	580	10
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	3.7	34	9.2	7900	490	9.0
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	3.5	140	7.5	11000	1100	5.0
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	3.7	120	8.4	11000	1100	6.0
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	5.2	160	15	15000	2600	10
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	3.8	110	8.3	11000	1300	7.0

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Cobalt	Chromium	Copper	Iron	Potassium	Lithium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				29	122	68	6220	1840	18
PWQO Guideline									
CCME Guideline									
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	3.9	360	30	13000	960	7.0
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	5.7	160	13	15000	1900	16
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	4.0	16	10	9700	610	7.0
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	26	130	35	55000	21000	83
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	6.4	48	16	17000	1200	14
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	6.7	98	12	19000	800	12
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	6.0	57	11	17000	720	12
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	4.1	48	10	10000	670	8.0
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	6.6	100	15	20000	1100	16

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Cobalt	Chromium	Copper	Iron	Potassium	Lithium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				29	122	68	6220	1840	18
PWQO Guideline									
CCME Guideline									
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	16	250	49	34000	15000	23
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	0.6	7.3	6.6	2600	130	< 2
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	16	67	32	38000	5000	39
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	12	67	17	32000	16000	32
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	6.3	34	6.4	18000	8500	20
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	4.4	20	8.5	13000	6100	16
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	10	180	1.5	13000	7300	39
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	27	350	24	41000	21000	97
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	16	110	89	34000	9300	55
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	5.0	25	11	15000	830	12
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	4.7	23	10	13000	1200	11
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	5.0	21	12	14000	810	11
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	7.5	41	23	18000	7100	19
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	2.2	14	7.9	7500	3100	8.0
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	1.0	7.5	5.9	4400	2300	4.0
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	5.4	23	13	15000	800	16
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	5.4	25	21	15000	1400	15
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	11	22	22	28000	7600	46
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	12	27	58	34000	8900	69
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	11	26	62	31000	8100	89
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	11	23	62	29000	7800	89

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Lead
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				2764	1060	1.2	99	1120	13
PWQO Guideline									
CCME Guideline									
M22S008		Soil	Overburden	23000	280	0.7	12	-	3.5
M22S011		Soil	Overburden	6400	450	0.6	24	-	7.2
M22S028		Soil	Overburden	23000	560	0.8	31	-	9.2
M22S032		Soil	Overburden	8200	360	0.8	28	-	5.9
M22S044		Soil	Overburden	4100	1800	0.8	12	-	5.1
M22S055		Soil	Overburden	25000	510	0.2	31	-	8.6
M22S096		Soil	Overburden	22000	580	1.4	24	-	6.2
M22S127		Soil	Overburden	15000	630	0.5	17	-	7.3
M22S154		Soil	Overburden	1600	160	0.2	1.8	-	1.2
M22S156		Soil	Overburden	1000	24	0.3	2.8	-	1.5
M22S161		Soil	Overburden	25000	540	0.2	36	-	9.6
M22S258		Soil	Overburden	21000	820	0.3	50	-	13
M22S283		Soil	Overburden	990	56	0.4	6.4	-	3.6
M22SAD1		Soil	Overburden	11000	290	0.9	16	-	3.6
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	22000	200	0.4	9.6	310	2.6
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	22000	350	0.4	24	490	7.6
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	18000	210	0.3	13	320	2.9
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	25000	260	0.4	12	360	3.6
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	21000	230	0.4	11	360	3.5
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	18000	180	0.5	9.1	300	2.7
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	20000	230	0.3	10	300	3.4
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	21000	610	0.4	47	480	15
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	25000	540	0.4	36	420	12
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	23000	590	0.4	47	480	15
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	19000	200	0.5	12	280	3.1
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	11000	130	0.3	7.3	300	2.4
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	22000	210	0.5	9.5	330	3.3
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	9800	150	0.5	7.7	320	2.5
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	17000	180	0.4	8.7	330	2.9
MW22-05 SA-1	MW22-05	Groundwater	Overburden	13000	180	1.7	8.1	320	2.2
MW22-05 SA-2	MW22-05	Groundwater	Overburden	18000	290	3.9	11	320	2.7
MW22-05 SA-4	MW22-05	Groundwater	Overburden	17000	180	1.3	8.7	310	2.5
MW22-05 SA-6	MW22-05	Groundwater	Overburden	20000	210	3.2	9.8	330	2.6
MW22-05 SA-7	MW22-05	Groundwater	Overburden	20000	200	1.0	8.0	300	2.7

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Lead
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				2764	1060	1.2	99	1120	13
PWQO Guideline									
CCME Guideline									
MW22-06 SA-1	MW22-06	Groundwater	Overburden	7100	220	13	19	220	4.0
MW22-06 SA-4	MW22-06	Groundwater	Overburden	14000	270	2.8	14	250	2.7
MW22-06 SA-7	MW22-06	Groundwater	Overburden	14000	250	4.1	14	230	2.7
MW22-06 SA-8	MW22-06	Groundwater	Overburden	13000	240	2.5	12	220	2.7
MW22-06 SA-9	MW22-06	Groundwater	Overburden	12000	230	4.4	13	220	2.4
MW22-07 SA-1	MW22-07	Groundwater	Overburden	9000	330	4.2	25	250	5.7
MW22-07 SA-2	MW22-07	Groundwater	Overburden	24000	200	2.1	7.9	290	2.4
MW22-07 SA-4	MW22-07	Groundwater	Overburden	12000	160	2.1	8.4	220	2.2
MW22-07 SA-6	MW22-07	Groundwater	Overburden	23000	230	2.4	8.1	310	2.5
MW22-07 SA-8	MW22-07	Groundwater	Overburden	24000	280	0.94	13	300	3.8

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Lead
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				2764	1060	1.2	99	1120	13
PWQO Guideline									
CCME Guideline									
MW22-08 SA-2	MW22-08	Groundwater	Overburden	16000	400	2.9	22	400	7.0
MW22-08 SA-3	MW22-08	Groundwater	Overburden	21000	260	0.58	17	340	5.7
MW22-08 SA-4	MW22-08	Groundwater	Overburden	20000	280	2.8	16	330	5.2
MW22-08 SA-6	MW22-08	Groundwater	Overburden	23000	280	0.93	14	320	4.6
MW22-08 SA-8	MW22-08	Groundwater	Overburden	23000	280	1.8	15	320	4.4
MW22-09 SA-1	MW22-09	Groundwater	Overburden	2500	118	4.0	8.0	350	2.7
MW22-09 SA-4	MW22-09	Groundwater	Overburden	21000	275	3.4	19	380	5.5
MW22-09 SA-5	MW22-09	Groundwater	Overburden	23000	259	1.9	14	330	3.9
MW22-09 SA-6	MW22-09	Groundwater	Overburden	23000	320	2.9	13	310	3.6
MW22-09 SA-7	MW22-09	Groundwater	Overburden	25000	274	1.1	13	310	4.0
MW22-10 SA-2	MW22-10	Groundwater	Overburden	17000	370	0.52	23	400	6.9
MW22-10 SA-3	MW22-10	Groundwater	Overburden	20000	300	1.9	17	350	5.6
MW22-10 SA-4	MW22-10	Groundwater	Overburden	21000	310	0.59	19	390	6.5
MW22-10 SA-5	MW22-10	Groundwater	Overburden	21000	220	3.1	11	330	3.0
MW22-10 SA-6	MW22-10	Groundwater	Overburden	17000	200	1.9	9.4	300	2.5
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	5600	170	1.6	12	270	2.4
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	15000	220	1.2	14	330	4.1
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	15000	240	0.4	9.6	270	2.6
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	16000	170	0.8	7.7	240	2.6
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	18000	280	0.8	13	240	3.9
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	17000	430	1.0	26	300	8.9
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	21000	220	1.0	12	250	4.1
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	6700	120	0.7	8.2	140	1.8
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	12000	95	0.6	5.5	280	1.9
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	6900	110	0.7	9.2	210	2.4
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	7200	120	0.9	10	180	2.1
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	14000	190	0.7	9.3	230	2.6
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	14000	180	0.6	10	210	3.0
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	15000	180	0.6	11	240	3.4
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	18000	190	0.5	9.7	200	3.1
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	18000	190	0.5	10	310	3.2
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	16000	170	0.5	9.2	290	3.1
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	15000	210	0.9	13	310	2.9
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	17000	190	0.5	10	290	2.7

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Lead
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				2764	1060	1.2	99	1120	13
PWQO Guideline									
CCME Guideline									
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	7900	140	2.1	14	310	3.5
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	21000	220	0.7	14	340	4.2
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	13000	222	< 0.1	10	230	4.3
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	19000	471	1.4	89	410	8.5
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	23000	300	0.2	17	420	5.7
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	14000	300	0.5	21	330	3.8
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	23000	330	0.4	16	330	3.4
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	21000	220	0.3	10	330	3.1
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	23000	260	0.5	23	300	4.0

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Lead
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				2764	1060	1.2	99	1120	13
PWQO Guideline									
CCME Guideline									
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	11000	440	1.6	53	280	6.1
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	2400	78	0.6	3.7	410	1.5
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	21000	610	0.3	42	420	13
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	15000	470	0.2	35	-	2.7
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	7600	270	0.2	19	-	5.6
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	5700	180	< 0.1	13	-	8.4
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	14000	140	2.5	95	1100	4.5
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	30000	520	1.0	210	660	4.7
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	12000	360	1.2	54	640	3.7
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	17000	380	0.3	13	410	3.3
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	19000	200	0.3	12	370	2.8
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	17000	250	0.4	11	320	2.7
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	5700	310	1.4	22	100	7.6
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	1800	110	0.8	7.2	87	8.4
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	890	64	0.2	3.4	96	7.0
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	18000	280	0.5	13	-	4.0
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	12000	340	0.5	13	-	4.0
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	9200	460	0.7	14	-	4.2
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	10000	540	5.4	16	-	4.5
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	11000	460	0.5	15	-	4.2
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	9400	420	0.7	15	-	3.5

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Antimony	Selenium	Tin
Unit				µg/g	µg/g	µg/g
Price Crustal Abundance				0.2	0.05	2.1
PWQO Guideline						
CCME Guideline						
M22S008		Soil	Overburden	< 6	< 0.7	< 2
M22S011		Soil	Overburden	< 6	< 0.7	< 2
M22S028		Soil	Overburden	< 6	< 0.7	< 2
M22S032		Soil	Overburden	< 6	< 0.7	< 2
M22S044		Soil	Overburden	< 6	< 0.7	< 2
M22S055		Soil	Overburden	< 6	< 0.7	< 2
M22S096		Soil	Overburden	< 6	< 0.7	< 2
M22S127		Soil	Overburden	< 6	< 0.7	< 2
M22S154		Soil	Overburden	< 6	< 0.7	< 2
M22S156		Soil	Overburden	< 6	< 0.7	< 2
M22S161		Soil	Overburden	< 6	< 0.7	< 2
M22S258		Soil	Overburden	< 6	< 0.7	< 2
M22S283		Soil	Overburden	< 6	< 0.7	4.0
M22SAD1		Soil	Overburden	< 6	< 0.7	< 2
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-05 SA-1	MW22-05	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-05 SA-2	MW22-05	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-05 SA-4	MW22-05	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-05 SA-6	MW22-05	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-05 SA-7	MW22-05	Groundwater	Overburden	< 6	< 0.7	< 2

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Antimony	Selenium	Tin
Unit				µg/g	µg/g	µg/g
Price Crustal Abundance				0.2	0.05	2.1
PWQO Guideline						
CCME Guideline						
MW22-06 SA-1	MW22-06	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-06 SA-4	MW22-06	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-06 SA-7	MW22-06	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-06 SA-8	MW22-06	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-06 SA-9	MW22-06	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-07 SA-1	MW22-07	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-07 SA-2	MW22-07	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-07 SA-4	MW22-07	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-07 SA-6	MW22-07	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-07 SA-8	MW22-07	Groundwater	Overburden	< 6	< 0.7	< 2

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Antimony	Selenium	Tin
Unit				µg/g	µg/g	µg/g
Price Crustal Abundance				0.2	0.05	2.1
PWQO Guideline						
CCME Guideline						
MW22-08 SA-2	MW22-08	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-08 SA-3	MW22-08	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-08 SA-4	MW22-08	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-08 SA-6	MW22-08	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-08 SA-8	MW22-08	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-09 SA-1	MW22-09	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-09 SA-4	MW22-09	Groundwater	Overburden	< 6	< 0.7	3.0
MW22-09 SA-5	MW22-09	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-09 SA-6	MW22-09	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-09 SA-7	MW22-09	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-10 SA-2	MW22-10	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-10 SA-3	MW22-10	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-10 SA-4	MW22-10	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-10 SA-5	MW22-10	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-10 SA-6	MW22-10	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	< 6	< 0.7	< 2

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Antimony	Selenium	Tin
Unit				µg/g	µg/g	µg/g
Price Crustal Abundance				0.2	0.05	2.1
PWQO Guideline						
CCME Guideline						
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	< 6	2.2	< 2
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	< 6	< 0.7	2.0
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	< 6	< 0.7	2.0

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Antimony	Selenium	Tin
Unit				µg/g	µg/g	µg/g
Price Crustal Abundance				0.2	0.05	2.1
PWQO Guideline						
CCME Guideline						
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	< 6	< 0.7	< 2
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	< 6	< 0.7	< 2
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	< 6	< 0.7	< 2
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	< 6	< 0.7	< 2
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	< 6	< 0.7	< 2
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	< 6	< 0.7	< 2
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	< 6	< 0.7	< 2
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	< 6	< 0.7	< 2
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	< 6	< 0.7	2.0
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	< 6	< 0.7	< 2
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	< 6	< 0.7	2.0

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Strontium	Titanium	Thallium	Uranium	Vanadium	Yttrium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				384	632	0.72	2.3	136	31
PWQO Guideline									
CCME Guideline									
M22S008		Soil	Overburden	63	620	0.07	0.84	23	6.0
M22S011		Soil	Overburden	11	1100	0.13	0.41	42	4.5
M22S028		Soil	Overburden	58	1200	0.16	0.65	51	10
M22S032		Soil	Overburden	21	1600	0.21	1.7	47	4.2
M22S044		Soil	Overburden	16	630	0.09	0.68	29	5.4
M22S055		Soil	Overburden	63	1400	0.17	0.62	53	13
M22S096		Soil	Overburden	91	1300	0.13	0.8	41	8.2
M22S127		Soil	Overburden	23	850	0.09	0.47	35	7.6
M22S154		Soil	Overburden	24	40	< 0.02	0.085	2.0	0.71
M22S156		Soil	Overburden	21	11	< 0.02	0.072	1.0	0.44
M22S161		Soil	Overburden	65	1500	0.19	0.65	57	13
M22S258		Soil	Overburden	45	1800	0.24	0.82	77	15
M22S283		Soil	Overburden	13	230	0.02	0.32	9.0	2.8
M22SAD1		Soil	Overburden	39	780	0.04	0.36	29	4.4
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	64	460	0.14	0.53	17	4.7
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	59	890	0.32	0.72	38	8.3
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	75	650	0.14	0.65	23	4.9
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	67	620	0.16	0.52	20	5.8
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	62	630	0.16	0.68	20	5.7
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	54	480	0.13	0.49	17	4.5
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	83	530	0.22	0.58	19	5.0
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	61	1400	0.64	1.0	69	12
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	79	1200	0.48	0.91	56	11
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	71	1500	0.5	1.1	68	12
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	62	540	0.22	0.9	20	4.6
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	46	430	0.08	0.41	16	4.0
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	56	510	0.14	0.45	18	5.1
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	48	460	0.1	0.45	18	4.2
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	49	480	0.14	0.5	17	4.7
MW22-05 SA-1	MW22-05	Groundwater	Overburden	53	420	0.028	0.41	16	4.5
MW22-05 SA-2	MW22-05	Groundwater	Overburden	64	460	0.067	0.43	17	5.5
MW22-05 SA-4	MW22-05	Groundwater	Overburden	64	450	0.045	0.43	16	4.8
MW22-05 SA-6	MW22-05	Groundwater	Overburden	69	470	0.038	0.86	16	5.2
MW22-05 SA-7	MW22-05	Groundwater	Overburden	65	420	0.038	0.71	14	5.0

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Strontium	Titanium	Thallium	Uranium	Vanadium	Yttrium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				384	632	0.72	2.3	136	31
PWQO Guideline									
CCME Guideline									
MW22-06 SA-1	MW22-06	Groundwater	Overburden	42	740	0.034	0.56	26	5.9
MW22-06 SA-4	MW22-06	Groundwater	Overburden	76	580	0.032	0.62	21	4.6
MW22-06 SA-7	MW22-06	Groundwater	Overburden	80	570	0.023	0.55	20	4.2
MW22-06 SA-8	MW22-06	Groundwater	Overburden	76	500	0.027	0.56	17	4.0
MW22-06 SA-9	MW22-06	Groundwater	Overburden	73	500	0.024	0.52	17	4.0
MW22-07 SA-1	MW22-07	Groundwater	Overburden	40	1200	0.045	0.71	41	8.0
MW22-07 SA-2	MW22-07	Groundwater	Overburden	68	430	0.027	0.4	15	4.9
MW22-07 SA-4	MW22-07	Groundwater	Overburden	62	420	0.024	0.35	16	3.6
MW22-07 SA-6	MW22-07	Groundwater	Overburden	63	380	0.046	0.39	14	4.7
MW22-07 SA-8	MW22-07	Groundwater	Overburden	85	570	0.038	0.63	21	5.9

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Strontium	Titanium	Thallium	Uranium	Vanadium	Yttrium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				384	632	0.72	2.3	136	31
PWQO Guideline									
CCME Guideline									
MW22-08 SA-2	MW22-08	Groundwater	Overburden	62	650	0.11	0.59	31	8.3
MW22-08 SA-3	MW22-08	Groundwater	Overburden	79	540	0.089	0.56	25	7.1
MW22-08 SA-4	MW22-08	Groundwater	Overburden	88	570	0.082	0.96	25	6.8
MW22-08 SA-6	MW22-08	Groundwater	Overburden	90	480	0.072	0.72	21	6.3
MW22-08 SA-8	MW22-08	Groundwater	Overburden	92	550	0.061	0.7	22	6.1
MW22-09 SA-1	MW22-09	Groundwater	Overburden	52	73	< 0.02	0.18	4.0	1.1
MW22-09 SA-4	MW22-09	Groundwater	Overburden	77	706	0.09	0.84	28	7.4
MW22-09 SA-5	MW22-09	Groundwater	Overburden	90	556	0.06	0.62	21	6.0
MW22-09 SA-6	MW22-09	Groundwater	Overburden	89	513	0.05	0.64	22	5.5
MW22-09 SA-7	MW22-09	Groundwater	Overburden	88	583	0.05	0.65	23	5.8
MW22-10 SA-2	MW22-10	Groundwater	Overburden	80	910	0.11	1.2	36	8.6
MW22-10 SA-3	MW22-10	Groundwater	Overburden	85	600	0.085	1.1	25	7.2
MW22-10 SA-4	MW22-10	Groundwater	Overburden	84	600	0.092	0.72	28	7.5
MW22-10 SA-5	MW22-10	Groundwater	Overburden	73	510	0.04	0.57	18	5.4
MW22-10 SA-6	MW22-10	Groundwater	Overburden	71	520	0.039	0.54	17	4.8
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	42	220	0.04	0.5	10	2.8
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	62	550	0.09	1.1	20	5.2
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	99	560	0.1	0.76	25	4.7
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	47	150	0.05	0.41	13	4.1
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	63	220	0.06	0.6	21	5.3
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	72	380	0.13	0.83	37	8.4
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	52	210	0.07	0.53	19	5.4
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	39	120	0.03	0.46	10	2.6
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	40	140	0.02	0.31	12	3.8
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	39	140	0.03	0.4	15	3.4
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	39	140	0.03	0.39	13	3.1
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	50	180	0.05	0.34	17	3.8
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	59	180	0.04	0.38	16	4.1
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	54	230	0.04	0.51	18	4.8
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	64	170	0.03	0.41	15	4.0
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	58	600	0.04	0.47	18	5.2
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	53	570	0.04	0.46	17	5.0
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	46	910	0.1	0.52	24	5.1
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	52	670	0.05	0.78	19	5.2

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Strontium	Titanium	Thallium	Uranium	Vanadium	Yttrium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				384	632	0.72	2.3	136	31
PWQO Guideline									
CCME Guideline									
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	37	330	0.05	13	22	6.5
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	63	690	0.12	0.95	25	6.4
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	56	220	0.08	0.51	17	5.3
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	6.5	3000	0.75	6.2	93	6.8
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	55	680	0.1	0.51	27	7.2
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	58	850	0.05	0.72	27	5.5
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	84	730	0.07	0.58	26	5.3
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	62	510	0.05	0.36	17	4.8
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	76	970	0.04	0.74	32	6.2

Annex D - Static Analysis Results

Elemental Analysis

Sample ID	Borehole ID	Sampling Program	Sample Type	Strontium	Titanium	Thallium	Uranium	Vanadium	Yttrium
Unit				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Price Crustal Abundance				384	632	0.72	2.3	136	31
PWQO Guideline									
CCME Guideline									
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	4.9	2300	0.55	2.7	70	6.3
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	42	39	< 0.02	0.31	4.0	1.7
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	56	1400	0.24	1.2	59	12
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	12	2500	0.57	0.79	66	8.8
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	14	1300	0.32	0.84	32	5.7
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	14	850	0.22	2.4	22	8.0
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	97	1300	0.23	0.53	27	1.0
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	24	2800	0.66	1.8	85	5.2
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	13	2000	0.25	4.0	70	7.0
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	40	800	0.05	0.56	23	5.7
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	59	790	0.07	0.55	21	5.2
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	88	740	0.04	0.46	25	4.5
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	8.3	1300	0.46	6.9	28	3.3
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	9.3	370	0.16	5.8	9.0	3.5
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	11	150	0.08	3.1	4.0	2.6
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	46	730	0.07	0.52	24	6.9
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	55	800	0.1	0.68	26	8.8
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	120	1500	0.13	0.79	54	9.7
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	140	1500	0.19	0.79	71	9.1
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	120	1500	0.22	1.1	65	9.0
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	150	1500	0.14	0.81	59	9.5

Annex D - Static Analysis Results

					Shake Flask Extractio				
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Zinc**	**Sample weight**	**Volume D.I. Water**	**Final pH**	**pH**	**Conductivity**
Unit				µg/g	g	mL	no unit	No unit	uS/cm
Price Crustal Abundance				76					
PWQO Guideline					-	-	-	6.5-8.5	-
CCME Guideline					-	-	-	6.5 - 9.0	-
M22S008		Soil	Overburden	22	250	750	7.6	8.5	251
M22S011		Soil	Overburden	72	250	750	5.6	8.0	154
M22S028		Soil	Overburden	51	250	750	7.4	9.0	414
M22S032		Soil	Overburden	54	100	300	6.0	8.1	451
M22S044		Soil	Overburden	63	250	750	6.8	8.1	162
M22S055		Soil	Overburden	51	250	750	7.4	8.1	734
M22S096		Soil	Overburden	54	250	750	8.1	9.5	323
M22S127		Soil	Overburden	39	250	750	7.3	8.4	316
M22S154		Soil	Overburden	14	90	270	5.5	8.3	208
M22S156		Soil	Overburden	9.9	30	270	6.2	8.9	301
M22S161		Soil	Overburden	58	250	750	8.0	9.3	321
M22S258		Soil	Overburden	81	250	750	7.2	8.6	505
M22S283		Soil	Overburden	18	60	180	5.4	8.8	273
M22SAD1		Soil	Overburden	23	250	750	7.6	9.0	254
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	25	250	750	9.0	7.6	125
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	54	250	750	8.5	8.3	222
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	29	215	645	9.1	7.5	78
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	28	250	750	9.0	8.4	146
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	28	250	750	8.8	7.8	148
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	23	250	750	9.0	7.7	130
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	26	250	750	8.8	7.8	151
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	95	250	750	8.5	8.5	165
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	77	250	750	8.5	8.6	170
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	98	250	750	8.2	8.4	210
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	26	250	750	8.8	8.3	159
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	19	250	750	8.7	8.4	94
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	24	250	750	8.5	8.5	163
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	20	250	750	8.5	8.2	110
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	21	250	750	9.0	8.1	113
MW22-05 SA-1	MW22-05	Groundwater	Overburden	14	250	750	8.4	7.9	103
MW22-05 SA-2	MW22-05	Groundwater	Overburden	14	250	750	8.6	7.8	100
MW22-05 SA-4	MW22-05	Groundwater	Overburden	14	250	750	8.8	7.8	86
MW22-05 SA-6	MW22-05	Groundwater	Overburden	15	250	750	8.3	8.3	147
MW22-05 SA-7	MW22-05	Groundwater	Overburden	14	250	750	8.4	8.3	134

Annex D - Static Analysis Results

					Shake Flask Extractio					
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Zinc**	**Sample weight**	**Volume D.I. Water**	**Final pH**	**pH**	**Conductivity**	
Unit				µg/g	g	mL	no unit	No unit	uS/cm	
Price Crustal Abundance				76						
PWQO Guideline					-	-	-	6.5-8.5	-	
CCME Guideline					-	-	-	6.5 - 9.0	-	
MW22-06 SA-1	MW22-06	Groundwater	Overburden	19	250	750	9.2	8.1	267	
MW22-06 SA-4	MW22-06	Groundwater	Overburden	22	250	750	9.3	7.8	87	
MW22-06 SA-7	MW22-06	Groundwater	Overburden	21	250	750	9.3	7.7	75	
MW22-06 SA-8	MW22-06	Groundwater	Overburden	19	250	750	9.3	7.7	72	
MW22-06 SA-9	MW22-06	Groundwater	Overburden	17	250	750	7.4	7.8	73	
MW22-07 SA-1	MW22-07	Groundwater	Overburden	30	250	750	7.2	7.9	291	
MW22-07 SA-2	MW22-07	Groundwater	Overburden	13	250	750	8.9	7.8	85	
MW22-07 SA-4	MW22-07	Groundwater	Overburden	12	250	750	9.0	7.8	73	
MW22-07 SA-6	MW22-07	Groundwater	Overburden	13	250	750	8.8	8.2	125	
MW22-07 SA-8	MW22-07	Groundwater	Overburden	23	250	750	8.5	8.8	219	

Annex D - Static Analysis Results

								Shake Flask Extractio	
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Zinc**	**Sample weight**	**Volume D.I. Water**	**Final pH**	**pH**	**Conductivity**
Unit				µg/g	g	mL	no unit	No unit	uS/cm
Price Crustal Abundance				76					
PWQO Guideline					-	-	-	6.5-8.5	-
CCME Guideline					-	-	-	6.5 - 9.0	-
MW22-08 SA-2	MW22-08	Groundwater	Overburden	37	145	435	7.3	8.5	373
MW22-08 SA-3	MW22-08	Groundwater	Overburden	32	250	750	8.2	9.0	171
MW22-08 SA-4	MW22-08	Groundwater	Overburden	29	250	750	8.0	8.8	214
MW22-08 SA-6	MW22-08	Groundwater	Overburden	27	250	750	8.0	8.6	245
MW22-08 SA-8	MW22-08	Groundwater	Overburden	26	250	750	8.2	8.4	246
MW22-09 SA-1	MW22-09	Groundwater	Overburden	15	200	600	6.5	8.6	473
MW22-09 SA-4	MW22-09	Groundwater	Overburden	35	250	750	7.7	8.1	236
MW22-09 SA-5	MW22-09	Groundwater	Overburden	24	250	750	8.3	8.1	179
MW22-09 SA-6	MW22-09	Groundwater	Overburden	23	250	750	8.3	8.1	210
MW22-09 SA-7	MW22-09	Groundwater	Overburden	24	50	150	8.1	8.2	246
MW22-10 SA-2	MW22-10	Groundwater	Overburden	41	250	750	7.5	8.7	355
MW22-10 SA-3	MW22-10	Groundwater	Overburden	31	250	750	7.8	8.3	244
MW22-10 SA-4	MW22-10	Groundwater	Overburden	37	250	750	8.2	8.6	190
MW22-10 SA-5	MW22-10	Groundwater	Overburden	19	250	750	8.9	8.8	128
MW22-10 SA-6	MW22-10	Groundwater	Overburden	16	200	600	8.8	8.2	133
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	21	-	-	-	-	-
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	19	195	750	7.7	8.3	264
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	15	250	750	8.4	8.0	178
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	14	250	750	8.2	8.7	160
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	23	250	750	8.1	8.5	212
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	49	250	750	8.0	9.0	191
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	22	250	750	8.0	8.4	268
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	11	190	570	8.9	9.1	115
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	8.6	250	750	8.3	8.7	115
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	12	250	750	8.2	8.9	152
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	11	250	750	8.5	8.8	138
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	13	250	750	8.7	8.6	94
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	15	250	750	8.7	9.0	112
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	17	250	750	8.7	9.0	118
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	14	250	750	8.7	8.8	111
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	34	250	750	8.9	8.0	92
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	32	250	750	8.8	8.0	99
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	37	250	750	8.7	8.0	106
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	25	250	750	9.0	7.9	94

Annex D - Static Analysis Results

										Shake Flask Extractio
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Zinc**		**Sample weight**	**Volume D.I. Water**	**Final pH**	**pH**	**Conductivity**
Unit				µg/g		g	mL	no unit	No unit	uS/cm
Price Crustal Abundance					76					
PWQO Guideline						-	-	-	6.5-8.5	-
CCME Guideline						-	-	-	6.5 - 9.0	-
MW22-15-4 SS1	MW22-15	Groundwater	Overburden		27	250	750	7.2	8.7	505
MW22-15-4 SS2	MW22-15	Groundwater	Overburden		34	250	750	8.0	8.2	216
MW22-16-2 SA2	MW22-16	Groundwater	Overburden		12	250	750	8.4	7.9	108
MW22-16-2 SA4	MW22-16	Groundwater	Overburden		81	250	750	8.5	7.7	95
MW22-19-1-AS1	MW22-19	Groundwater	Overburden		27	250	750	-	8.1	250
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden		25	86	257	-	7.8	101
MW22-19-1-SA3	MW22-19	Groundwater	Overburden		24	251	750	-	7.7	91
MW22-19-1-SA4	MW22-19	Groundwater	Overburden		16	250	750	-	7.9	95
MW22-19-1-SA5	MW22-19	Groundwater	Overburden		26	115	345	-	7.8	78

Annex D - Static Analysis Results

Shake Flask Extractio

Sample ID	Borehole ID	Sampling Program	Sample Type	Zinc	Sample weight	Volume D.I. Water	Final pH	pH	Conductivity
Unit				µg/g	g	mL	no unit	No unit	uS/cm
Price Crustal Abundance				76					
PWQO Guideline					-	-	-	6.5-8.5	-
CCME Guideline					-	-	-	6.5 - 9.0	-
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	66	251	750	-	7.3	111
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	8.8	69	687	-	7.7	111
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	81	250	750	-	8.1	239
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	63	250	750	-	7.6	55
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	38	250	750	-	7.7	50
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	28	250	750	-	7.6	50
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	24	250	750	-	7.7	52
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	73	250	750	-	7.7	57
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	44	250	750	-	7.7	71
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	22	154	461	-	7.8	84
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	21	134	402	-	7.8	78
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	19	215	645	-	7.8	83
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	42	250	750	-	7.6	72
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	14	250	750	-	7.7	49
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	9.5	250	750	-	7.8	47
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	21	116	349	-	7.9	110
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	24	150	450	-	7.6	49
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	62	250	750	-	7.5	66
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	67	250	750	-	7.8	72
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	63	250	750	-	7.6	61
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	61	250	750	-	7.6	73

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Alkalinity	Sulphate	Chloride	Fluoride	Nitrite (as N)
Unit				mg/L as Ca	mg/L	mg/L	mg/L	as N mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	-	-
CCME Guideline				-	-	120	0.12	-
M22S008		Soil	Overburden	120	< 20	-	-	-
M22S011		Soil	Overburden	67	6.0	-	-	-
M22S028		Soil	Overburden	228	< 2	-	-	-
M22S032		Soil	Overburden	57	170	-	-	-
M22S044		Soil	Overburden	55	< 2	-	-	-
M22S055		Soil	Overburden	94	310	-	-	-
M22S096		Soil	Overburden	159	8.0	-	-	-
M22S127		Soil	Overburden	163	< 20	-	-	-
M22S154		Soil	Overburden	82	< 50	-	-	-
M22S156		Soil	Overburden	123	< 50	-	-	-
M22S161		Soil	Overburden	110	60	-	-	-
M22S258		Soil	Overburden	270	< 2	-	-	-
M22S283		Soil	Overburden	78	6.0	-	-	-
M22SAD1		Soil	Overburden	128	< 20	-	-	-
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	36	22	3.0	0.29	< 0.3
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	99	14	< 2	0.54	< 0.3
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	35	< 2	< 2	0.15	< 0.3
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	71	< 2	< 2	0.65	< 0.3
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	46	23	< 2	0.4	< 0.3
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	40	21	< 2	0.31	< 0.3
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	51	19	< 2	0.35	< 0.3
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	80	3.1	< 2	0.87	< 0.3
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	83	3.0	< 2	0.81	< 0.3
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	94	11	< 2	0.54	< 0.3
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	61	18	< 2	0.31	< 0.3
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	48	< 2	< 2	0.22	< 0.3
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	80	< 2	2.7	0.42	< 0.3
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	62	2.2	2.3	0.29	< 0.3
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	55	2.2	< 2	0.29	< 0.3
MW22-05 SA-1	MW22-05	Groundwater	Overburden	48	< 2	1.0	0.23	< 0.03
MW22-05 SA-2	MW22-05	Groundwater	Overburden	47	< 2	< 1	0.29	< 0.03
MW22-05 SA-4	MW22-05	Groundwater	Overburden	36	< 2	2.0	0.26	< 0.03
MW22-05 SA-6	MW22-05	Groundwater	Overburden	61	20	2.0	0.28	< 0.03
MW22-05 SA-7	MW22-05	Groundwater	Overburden	46	17	1.0	0.28	< 0.03

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Alkalinity	Sulphate	Chloride	Fluoride	Nitrite (as N)
Unit				mg/L as Ca	mg/L	mg/L	mg/L	as N mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	-	-
CCME Guideline				-	-	120	0.12	-
MW22-06 SA-1	MW22-06	Groundwater	Overburden	133	< 2	1.0	0.11	< 0.03
MW22-06 SA-4	MW22-06	Groundwater	Overburden	35	< 2	6.0	0.17	< 0.03
MW22-06 SA-7	MW22-06	Groundwater	Overburden	33	< 2	3.0	0.14	< 0.03
MW22-06 SA-8	MW22-06	Groundwater	Overburden	30	< 2	2.0	0.14	< 0.03
MW22-06 SA-9	MW22-06	Groundwater	Overburden	34	< 2	2.0	0.14	< 0.03
MW22-07 SA-1	MW22-07	Groundwater	Overburden	146	< 2	2.0	0.08	< 0.03
MW22-07 SA-2	MW22-07	Groundwater	Overburden	36	< 2	4.0	0.25	< 0.03
MW22-07 SA-4	MW22-07	Groundwater	Overburden	32	< 2	3.0	0.19	< 0.03
MW22-07 SA-6	MW22-07	Groundwater	Overburden	53	2.0	5.0	0.31	< 0.03
MW22-07 SA-8	MW22-07	Groundwater	Overburden	75	29	4.0	0.56	< 0.03

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Alkalinity	Sulphate	Chloride	Fluoride	Nitrite (as N)
Unit				mg/L as Ca	mg/L	mg/L	mg/L	as N mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	-	-
CCME Guideline				-	-	120	0.12	-
MW22-08 SA-2	MW22-08	Groundwater	Overburden	202	< 20	2.0	0.26	< 0.03
MW22-08 SA-3	MW22-08	Groundwater	Overburden	86	< 2	< 1	0.48	< 0.03
MW22-08 SA-4	MW22-08	Groundwater	Overburden	99	4.0	< 1	1.2	< 0.03
MW22-08 SA-6	MW22-08	Groundwater	Overburden	97	27	< 1	0.8	< 0.03
MW22-08 SA-8	MW22-08	Groundwater	Overburden	96	23	1.0	0.59	< 0.03
MW22-09 SA-1	MW22-09	Groundwater	Overburden	243	3.0	4.0	0.42	<0.3
MW22-09 SA-4	MW22-09	Groundwater	Overburden	112	3.0	< 1	1.0	<0.3
MW22-09 SA-5	MW22-09	Groundwater	Overburden	78	5.0	1.0	1.2	<0.3
MW22-09 SA-6	MW22-09	Groundwater	Overburden	82	17	3.0	0.74	<0.3
MW22-09 SA-7	MW22-09	Groundwater	Overburden	65	25	9.0	0.65	< 0.3
MW22-10 SA-2	MW22-10	Groundwater	Overburden	186	< 2	< 1	0.63	< 0.03
MW22-10 SA-3	MW22-10	Groundwater	Overburden	118	< 2	< 1	0.88	< 0.03
MW22-10 SA-4	MW22-10	Groundwater	Overburden	90	4.0	< 1	0.53	< 0.03
MW22-10 SA-5	MW22-10	Groundwater	Overburden	58	4.0	1.0	0.45	< 0.03
MW22-10 SA-6	MW22-10	Groundwater	Overburden	50	11	3.0	0.34	< 0.03
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	-	-	-	-	-
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	136	22	< 1	0.22	0.55
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	70	22	3.0	0.2	1.2
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	67	17	< 2	0.37	< 0.3
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	84	26	< 2	0.49	< 0.3
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	103	2.8	< 2	0.53	< 0.3
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	125	18	< 2	0.35	< 0.3
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	54	9.4	< 2	0.2	< 0.3
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	56	4.2	< 2	0.2	0.41
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	77	5.6	< 2	0.27	< 0.3
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	64	7.6	< 2	0.29	< 0.3
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	47	< 2	< 2	0.33	< 0.3
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	57	< 2	< 2	0.5	< 0.3
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	58	< 2	< 2	0.54	< 0.3
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	57	< 2	< 2	0.51	< 0.3
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	45	< 2	< 2	0.19	< 0.3
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	47	< 2	< 2	0.28	< 0.3
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	60	< 2	< 2	0.36	< 0.3
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	39	4.9	< 2	0.29	< 0.3

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Alkalinity	Sulphate	Chloride	Fluoride	Nitrite (as N)
Unit				mg/L as Ca	mg/L	mg/L	mg/L	as N mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	-	-
CCME Guideline				-	-	120	0.12	-
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	273	10	< 2	0.49	< 0.3
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	98	8.8	< 2	0.35	< 0.3
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	59	< 2	< 2	0.18	< 0.3
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	42	4.4	< 2	0.25	< 0.3
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	101	< 2	4.0	0.44	< 0.3
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	44	< 2	6.0	0.17	< 0.3
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	38	< 2	6.0	0.21	< 0.3
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	48	< 2	2.0	0.23	< 0.3
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	38	< 2	< 1	0.13	< 0.3

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Alkalinity	Sulphate	Chloride	Fluoride	Nitrite (as N)
Unit				mg/L as Ca	mg/L	mg/L	mg/L	as N mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	-	-
CCME Guideline				-	-	120	0.12	-
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	11	25	13	0.2	< 0.3
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	35	< 20	6.0	< 0.06	< 0.3
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	107	18	< 1	0.43	< 0.3
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	24	< 2	< 1	0.09	< 0.3
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	23	< 2	< 1	< 0.06	< 0.3
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	21	2.0	< 1	< 0.06	< 0.3
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	25	< 2	< 1	0.12	< 0.3
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	22	3.0	3.0	< 0.06	< 0.3
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	26	4.0	1.0	0.14	< 0.3
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	40	< 2	< 1	0.09	< 0.3
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	38	< 2	< 1	0.09	< 0.3
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	41	< 2	< 1	0.11	< 0.3
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	27	4.0	2.0	0.09	< 0.3
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	21	< 2	< 1	< 0.06	< 0.3
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	20	< 2	< 1	< 0.06	< 0.3
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	54	< 2	1.0	0.35	< 0.3
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	26	< 2	< 1	0.18	< 0.3
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	25	6.0	3.0	0.22	< 0.3
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	57	6.0	9.0	0.18	< 0.3
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	25	3.0	< 1	0.19	< 0.3
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	26	12	11	0.15	< 0.3

Annex D - Static Analysis Results

						Shake Flask Extraction		
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Nitrate (as N)**	**Nitrate + Nitrite (as N)**	**Ammonia+ Ammonium (N)**	**Mercury**	**Silver**
Unit				as N mg/L	as N mg/L	as N mg/L	mg/L	mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	0.0002	0.0001
CCME Guideline				-	-	-	0.000026	0.00025
M22S008		Soil	Overburden	-	-	-	< 0.00001	< 0.00005
M22S011		Soil	Overburden	-	-	-	0.00001	< 0.00005
M22S028		Soil	Overburden	-	-	-	0.00002	< 0.00005
M22S032		Soil	Overburden	-	-	-	0.00003	0.00008
M22S044		Soil	Overburden	-	-	-	0.00001	< 0.00005
M22S055		Soil	Overburden	-	-	-	0.00003	< 0.00005
M22S096		Soil	Overburden	-	-	-	0.00002	< 0.00005
M22S127		Soil	Overburden	-	-	-	0.00002	< 0.00005
M22S154		Soil	Overburden	-	-	-	0.00003	0.00007
M22S156		Soil	Overburden	-	-	-	< 0.00001	0.00005
M22S161		Soil	Overburden	-	-	-	0.00002	< 0.00005
M22S258		Soil	Overburden	-	-	-	0.00001	< 0.00005
M22S283		Soil	Overburden	-	-	-	< 0.00001	< 0.00005
M22SAD1		Soil	Overburden	-	-	-	0.00001	< 0.00005
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	< 0.6	< 0.6	0.1	< 0.00001	< 0.00005
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-05 SA-1	MW22-05	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-05 SA-2	MW22-05	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-05 SA-4	MW22-05	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-05 SA-6	MW22-05	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-05 SA-7	MW22-05	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005

Annex D - Static Analysis Results

						Shake Flask Extraction		
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Nitrate (as N)**	**Nitrate + Nitrite (as N)**	**Ammonia+ Ammonium (N)**	**Mercury**	**Silver**
Unit				as N mg/L	as N mg/L	as N mg/L	mg/L	mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	0.0002	0.0001
CCME Guideline				-	-	-	0.000026	0.00025
MW22-06 SA-1	MW22-06	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	0.00002	< 0.00005
MW22-06 SA-4	MW22-06	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-06 SA-7	MW22-06	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-06 SA-8	MW22-06	Groundwater	Overburden	< 0.06	< 0.06	0.1	< 0.00001	< 0.00005
MW22-06 SA-9	MW22-06	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-07 SA-1	MW22-07	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	0.00001	< 0.00005
MW22-07 SA-2	MW22-07	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-07 SA-4	MW22-07	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-07 SA-6	MW22-07	Groundwater	Overburden	< 0.06	< 0.06	0.1	< 0.00001	< 0.00005
MW22-07 SA-8	MW22-07	Groundwater	Overburden	< 0.06	< 0.06	0.3	< 0.00001	< 0.00005

Annex D - Static Analysis Results

							Shake Flask Extraction	
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Nitrate (as N)**	**Nitrate + Nitrite (as N)**	**Ammonia+ Ammonium (N)**	**Mercury**	**Silver**
Unit				as N mg/L	as N mg/L	as N mg/L	mg/L	mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	0.0002	0.0001
CCME Guideline				-	-	-	0.000026	0.00025
MW22-08 SA-2	MW22-08	Groundwater	Overburden	0.06	0.06	0.1	< 0.00001	< 0.00005
MW22-08 SA-3	MW22-08	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-08 SA-4	MW22-08	Groundwater	Overburden	0.06	0.06	0.1	< 0.00001	< 0.00005
MW22-08 SA-6	MW22-08	Groundwater	Overburden	< 0.06	< 0.06	0.2	< 0.00001	< 0.00005
MW22-08 SA-8	MW22-08	Groundwater	Overburden	< 0.06	< 0.06	0.4	< 0.00001	< 0.00005
MW22-09 SA-1	MW22-09	Groundwater	Overburden	<0.6	<0.6	4.0	< 0.00001	< 0.00005
MW22-09 SA-4	MW22-09	Groundwater	Overburden	<0.6	<0.6	0.7	< 0.00001	< 0.00005
MW22-09 SA-5	MW22-09	Groundwater	Overburden	<0.6	<0.6	0.4	< 0.00001	< 0.00005
MW22-09 SA-6	MW22-09	Groundwater	Overburden	<0.6	<0.6	0.2	< 0.00001	< 0.00005
MW22-09 SA-7	MW22-09	Groundwater	Overburden	< 0.6	< 0.6	0.4	< 0.00001	< 0.00005
MW22-10 SA-2	MW22-10	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-10 SA-3	MW22-10	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-10 SA-4	MW22-10	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-10 SA-5	MW22-10	Groundwater	Overburden	< 0.06	< 0.06	0.1	< 0.00001	< 0.00005
MW22-10 SA-6	MW22-10	Groundwater	Overburden	< 0.06	< 0.06	< 0.1	< 0.00001	< 0.00005
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	-	-	-	-	-
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	< 0.6	1.2	< 0.1	< 0.00001	< 0.00005
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	< 0.6	< 0.6	0.3	< 0.00001	< 0.00005
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	< 0.6	< 0.6	0.5	< 0.00001	< 0.00005
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	< 0.6	< 0.6	0.3	< 0.00001	< 0.00005
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	< 0.6	< 0.6	0.2	< 0.00001	< 0.00005
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	< 0.6	< 0.6	0.2	< 0.00001	< 0.00005
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	< 0.6	< 0.6	0.1	< 0.00001	< 0.00005
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005

Annex D - Static Analysis Results

						Shake Flask Extraction		
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Nitrate (as N)**	**Nitrate + Nitrite (as N)**	**Ammonia+ Ammonium (N)**	**Mercury**	**Silver**
Unit				as N mg/L	as N mg/L	as N mg/L	mg/L	mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	0.0002	0.0001
CCME Guideline				-	-	-	0.000026	0.00025
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	< 0.6	< 0.6	0.7	< 0.00001	< 0.00005
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	< 0.6	< 0.6	< 0.1	< 0.00001	< 0.00005
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	< 0.6	< 0.6	0.1	< 0.00001	< 0.00005
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	< 0.6	< 0.6	0.2	< 0.00001	< 0.00005
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	< 0.6	-	0.3	-	< 0.00005
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	< 0.6	-	0.1	-	< 0.00005
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	< 0.6	-	< 0.1	-	< 0.00005
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	< 0.6	-	< 0.1	-	< 0.00005
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	< 0.6	-	0.1	-	< 0.00005

Annex D - Static Analysis Results

						Shake Flask Extraction		
Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Nitrate (as N)**	**Nitrate + Nitrite (as N)**	**Ammonia+ Ammonium (N)**	**Mercury**	**Silver**
Unit				as N mg/L	as N mg/L	as N mg/L	mg/L	mg/L
Price Crustal Abundance								
PWQO Guideline				-	-	-	0.0002	0.0001
CCME Guideline				-	-	-	0.000026	0.00025
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	< 0.6		-	< 0.1	-	< 0.00005
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	< 0.6		-	3.4	-	0.00034
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	< 0.6		-	0.3	-	< 0.00005
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	< 0.6		-	< 0.1	0.00004	< 0.00005
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	< 0.6		-	< 0.1	< 0.00001	< 0.00005
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	< 0.6		-	< 0.1	< 0.00001	< 0.00005
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	< 0.6		-	< 0.1	< 0.00001	0.00014
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	< 0.6		-	0.1	< 0.00001	0.00074
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	< 0.6		-	< 0.1	< 0.00001	0.00064
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	< 0.6		-	0.1	< 0.00001	0.00093
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	< 0.6		-	< 0.1	< 0.00001	0.00026
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	< 0.6		-	< 0.1	< 0.00001	< 0.00005
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	< 0.6		-	0.1	< 0.00001	< 0.00005
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	< 0.6		-	0.1	< 0.00001	0.00048
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	< 0.6		-	0.1	< 0.00001	0.00057
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	< 0.6		-	0.2	< 0.00001	< 0.00005
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	< 0.6		-	0.1	0.00004	< 0.00005
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	< 0.6		-	< 0.1	< 0.00001	< 0.00005
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	< 0.6		-	0.1	< 0.00001	0.00022
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	< 0.6		-	0.2	< 0.00001	< 0.00005
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	< 0.6		-	0.1	< 0.00001	0.00006

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Aluminum	Arsenic	Barium	Boron
Unit				mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance							
PWQO Guideline				0.075	0.005	-	0.2
CCME Guideline				0.005	0.005	-	1.5
M22S008		Soil	Overburden	0.14	0.014	0.015	0.29
M22S011		Soil	Overburden	1.5	0.0084	0.012	1.6
M22S028		Soil	Overburden	0.095	0.29	0.0099	0.73
M22S032		Soil	Overburden	0.18	0.26	0.016	0.82
M22S044		Soil	Overburden	0.94	0.3	0.01	0.55
M22S055		Soil	Overburden	0.016	0.059	0.021	0.009
M22S096		Soil	Overburden	0.42	0.017	0.011	0.47
M22S127		Soil	Overburden	0.12	0.0024	0.019	0.33
M22S154		Soil	Overburden	0.24	0.019	0.018	1.9
M22S156		Soil	Overburden	0.18	0.18	0.0063	1.6
M22S161		Soil	Overburden	0.2	0.061	0.0057	0.5
M22S258		Soil	Overburden	0.16	0.053	0.019	1.4
M22S283		Soil	Overburden	1.3	0.035	0.017	1.2
M22SAD1		Soil	Overburden	0.35	0.16	0.0098	0.41
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	0.082	0.0028	0.012	0.019
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	0.27	0.0034	0.018	0.032
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	0.16	0.0023	0.0026	0.016
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	0.044	0.0012	0.0042	0.011
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	0.041	0.0012	0.017	0.017
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	0.096	0.0022	0.015	0.015
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	0.059	0.0022	0.019	0.013
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	0.54	0.001	0.014	0.022
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	1.2	0.0009	0.02	0.028
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	1.9	0.0014	0.027	0.19
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	0.12	0.0032	0.012	0.014
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	0.2	0.0019	0.0035	0.01
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	0.24	0.0013	0.0036	0.014
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	0.24	0.0017	0.0034	0.01
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	0.32	0.0012	0.005	0.013
MW22-05 SA-1	MW22-05	Groundwater	Overburden	0.053	0.0008	0.0034	0.014
MW22-05 SA-2	MW22-05	Groundwater	Overburden	0.042	0.0007	0.0038	0.014
MW22-05 SA-4	MW22-05	Groundwater	Overburden	0.059	0.0011	0.0041	0.017
MW22-05 SA-6	MW22-05	Groundwater	Overburden	0.23	0.0024	0.0086	0.085
MW22-05 SA-7	MW22-05	Groundwater	Overburden	0.1	0.0024	0.0057	0.084

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Aluminum	Arsenic	Barium	Boron
Unit				mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance							
PWQO Guideline				0.075	0.005	-	0.2
CCME Guideline				0.005	0.005	-	1.5
MW22-06 SA-1	MW22-06	Groundwater	Overburden	0.071	0.0016	0.0063	0.011
MW22-06 SA-4	MW22-06	Groundwater	Overburden	0.37	0.0023	0.0023	0.026
MW22-06 SA-7	MW22-06	Groundwater	Overburden	0.41	0.0024	0.0047	0.018
MW22-06 SA-8	MW22-06	Groundwater	Overburden	0.37	0.0023	0.0022	0.059
MW22-06 SA-9	MW22-06	Groundwater	Overburden	0.35	0.002	0.0025	0.024
MW22-07 SA-1	MW22-07	Groundwater	Overburden	0.093	0.0027	0.016	0.038
MW22-07 SA-2	MW22-07	Groundwater	Overburden	0.092	0.0014	0.0024	0.008
MW22-07 SA-4	MW22-07	Groundwater	Overburden	0.17	0.0026	0.002	0.015
MW22-07 SA-6	MW22-07	Groundwater	Overburden	0.19	0.0015	0.0035	0.058
MW22-07 SA-8	MW22-07	Groundwater	Overburden	0.12	0.0026	0.019	0.17

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Aluminum	Arsenic	Barium	Boron
Unit				mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance							
PWQO Guideline				0.075	0.005	-	0.2
CCME Guideline				0.005	0.005	-	1.5
MW22-08 SA-2	MW22-08	Groundwater	Overburden	0.22	0.0017	0.026	0.45
MW22-08 SA-3	MW22-08	Groundwater	Overburden	0.17	0.0017	0.0066	0.29
MW22-08 SA-4	MW22-08	Groundwater	Overburden	0.14	0.0064	0.015	0.33
MW22-08 SA-6	MW22-08	Groundwater	Overburden	0.25	0.0031	0.026	0.18
MW22-08 SA-8	MW22-08	Groundwater	Overburden	0.13	0.0028	0.03	0.17
MW22-09 SA-1	MW22-09	Groundwater	Overburden	0.073	0.0065	0.026	0.78
MW22-09 SA-4	MW22-09	Groundwater	Overburden	0.049	0.0017	0.039	0.037
MW22-09 SA-5	MW22-09	Groundwater	Overburden	0.035	0.0014	0.029	0.034
MW22-09 SA-6	MW22-09	Groundwater	Overburden	0.027	0.0018	0.03	0.036
MW22-09 SA-7	MW22-09	Groundwater	Overburden	0.059	0.0017	0.015	0.51
MW22-10 SA-2	MW22-10	Groundwater	Overburden	0.075	0.0013	0.019	0.25
MW22-10 SA-3	MW22-10	Groundwater	Overburden	0.16	0.0017	0.018	0.24
MW22-10 SA-4	MW22-10	Groundwater	Overburden	0.21	0.0026	0.0084	0.27
MW22-10 SA-5	MW22-10	Groundwater	Overburden	0.25	0.0015	0.010	0.12
MW22-10 SA-6	MW22-10	Groundwater	Overburden	0.083	0.0017	0.0095	0.073
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	-	-	-	-
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	0.26	0.0068	0.012	0.15
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	0.44	0.0089	0.0087	0.14
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	0.38	0.0021	0.012	0.22
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	0.2	0.0017	0.019	0.27
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	1.5	0.014	0.016	0.52
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	0.15	0.0007	0.027	0.16
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	1.3	0.0044	0.013	0.1
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	2.3	0.0043	0.019	0.16
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	1.5	0.004	0.016	0.27
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	1.5	0.0056	0.016	0.27
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	0.42	0.0028	0.0054	0.099
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	0.27	0.0015	0.0048	0.13
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	0.28	0.0015	0.0049	0.11
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	0.38	0.0008	0.0058	0.13
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	0.16	0.0007	0.0033	0.004
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	0.098	0.001	0.0036	0.007
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	0.088	0.0009	0.0039	0.006
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	0.084	0.0011	0.0029	0.008

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Aluminum	Arsenic	Barium	Boron
Unit				mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance							
PWQO Guideline				0.075	0.005	-	0.2
CCME Guideline				0.005	0.005	-	1.5
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	0.097	0.002	0.042	0.73
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	0.075	0.0025	0.035	0.006
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	0.11	0.0005	0.0044	0.004
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	0.21	0.0009	0.0042	0.033
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	0.24	0.0027	0.0082	0.36
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	0.2	0.0011	0.0023	0.021
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	0.22	0.001	0.0014	0.023
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	0.14	0.002	0.0051	0.33
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	0.33	0.0017	0.004	0.014

Annex D - Static Analysis Results

Sample ID	**Borehole ID**	**Sampling Program**	**Sample Type**	**Aluminum**	**Arsenic**	**Barium**	**Boron**
Unit				mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance							
PWQO Guideline				0.075	0.005	-	0.2
CCME Guideline				0.005	0.005	-	1.5
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	0.32	0.0002	0.0066	0.02
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	0.12	0.0094	0.0084	0.23
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	0.059	0.0013	0.046	0.039
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	1.0	0.0004	0.0036	0.007
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	0.82	0.0008	0.0023	0.006
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	0.71	0.0012	0.004	0.008
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	0.38	0.0065	0.0048	0.015
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	0.84	0.001	0.012	0.009
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	0.48	0.0023	0.0072	0.016
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	0.23	0.0007	0.0054	0.004
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	0.23	0.0011	0.0049	0.006
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	0.42	0.0015	0.0047	0.017
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	0.56	0.0014	0.0016	0.016
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	0.78	0.0012	0.0014	0.006
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	0.72	0.0014	0.0018	0.005
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	0.23	0.0008	0.004	0.007
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	0.43	0.0006	0.0038	< 0.002
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	2.0	0.0019	0.024	0.007
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	5.1	0.0025	0.067	0.015
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	0.35	0.0024	0.0049	0.005
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	6.5	0.0054	0.12	0.007

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Beryllium	Bismuth	Calcium	Cadmium	Cobalt	Chromium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.011	-	-	0.0001	0.0009	-
CCME Guideline				-	-	-	0.00004	-	0.001
M22S008		Soil	Overburden	0.00001	0.00001	44	0.0001	0.00061	0.00078
M22S011		Soil	Overburden	0.00002	0.00001	7.9	0.00004	0.00069	0.0044
M22S028		Soil	Overburden	< 0.000007	< 0.00001	52	0.00004	0.0002	0.0023
M22S032		Soil	Overburden	0.000008	0.00001	54	0.000055	0.00026	0.0025
M22S044		Soil	Overburden	0.00003	0.00001	13	0.00004	0.001	0.0026
M22S055		Soil	Overburden	0.000008	< 0.00001	139	0.000019	0.00041	0.00031
M22S096		Soil	Overburden	0.00002	< 0.00001	26	0.000033	0.00019	0.0037
M22S127		Soil	Overburden	0.00002	0.00001	50	0.00018	0.00026	0.0024
M22S154		Soil	Overburden	0.00002	0.00003	17	0.00009	0.00054	0.0028
M22S156		Soil	Overburden	0.00008	0.00001	19	0.00022	0.00051	0.017
M22S161		Soil	Overburden	0.000011	< 0.00001	34	0.00001	0.00012	0.0016
M22S258		Soil	Overburden	0.00001	0.00001	59	0.00003	0.00024	0.0032
M22S283		Soil	Overburden	0.00001	0.00001	13	0.00003	0.0011	0.0066
M22SAD1		Soil	Overburden	< 0.000007	< 0.00001	40	0.00006	0.00045	0.0024
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	< 0.000007	< 0.00001	17	0.000005	0.000032	0.00027
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	0.000014	< 0.00001	31	0.000024	0.00023	0.00089
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	< 0.000007	< 0.00001	10	< 0.000003	0.000018	0.00022
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	< 0.000007	< 0.00001	14	0.000004	0.000029	0.0031
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	< 0.000007	< 0.00001	21	< 0.000003	0.000043	0.00026
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	< 0.000007	< 0.00001	18	0.000005	0.000053	0.00037
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	< 0.000007	< 0.00001	20	0.000005	0.000051	0.00032
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	0.000019	0.00002	28	0.000009	0.00035	0.0026
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	0.000043	0.00002	36	0.000012	0.00074	0.0029
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	0.000088	0.00003	20	0.000008	0.0013	0.0064
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	< 0.000007	< 0.00001	19	0.000006	0.000086	0.00035
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	< 0.000007	< 0.00001	11	< 0.000003	0.00012	0.00082
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	0.000009	< 0.00001	14	0.000005	0.0001	0.0009
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	0.000007	< 0.00001	11	0.000003	0.000096	0.00097
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	< 0.000007	< 0.00001	12	0.000008	0.00011	0.0013
MW22-05 SA-1	MW22-05	Groundwater	Overburden	0.000045	< 0.00001	16	0.000031	0.000065	0.0033
MW22-05 SA-2	MW22-05	Groundwater	Overburden	0.000019	< 0.00001	15	0.000042	0.000043	0.0037
MW22-05 SA-4	MW22-05	Groundwater	Overburden	0.000029	< 0.00001	13	0.000065	0.000048	0.0015
MW22-05 SA-6	MW22-05	Groundwater	Overburden	0.000016	< 0.00001	18	0.000095	0.00014	0.0019
MW22-05 SA-7	MW22-05	Groundwater	Overburden	0.000043	< 0.00001	15	0.00012	0.00011	0.0014

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Beryllium	Bismuth	Calcium	Cadmium	Cobalt	Chromium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.011	-	-	0.0001	0.0009	-
CCME Guideline				-	-	-	0.00004	-	0.001
MW22-06 SA-1	MW22-06	Groundwater	Overburden	0.000019	< 0.00001	52	0.000034	0.00028	0.00056
MW22-06 SA-4	MW22-06	Groundwater	Overburden	0.000011	< 0.00001	11	0.000087	0.000034	0.00075
MW22-06 SA-7	MW22-06	Groundwater	Overburden	0.000032	< 0.00001	10	0.00004	0.000026	0.00086
MW22-06 SA-8	MW22-06	Groundwater	Overburden	0.000037	< 0.00001	9.9	0.000096	0.000035	0.0016
MW22-06 SA-9	MW22-06	Groundwater	Overburden	0.000034	< 0.00001	10	0.000028	0.000021	0.0023
MW22-07 SA-1	MW22-07	Groundwater	Overburden	0.000071	< 0.00001	56	0.000066	0.00076	0.0012
MW22-07 SA-2	MW22-07	Groundwater	Overburden	0.000014	< 0.00001	13	0.00003	0.000069	0.00054
MW22-07 SA-4	MW22-07	Groundwater	Overburden	0.000012	< 0.00001	11	0.000099	0.000067	0.00088
MW22-07 SA-6	MW22-07	Groundwater	Overburden	0.000037	< 0.00001	11	0.000095	0.000092	0.0022
MW22-07 SA-8	MW22-07	Groundwater	Overburden	0.000029	< 0.00001	23	0.000022	0.00012	0.0012

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Beryllium	Bismuth	Calcium	Cadmium	Cobalt	Chromium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.011	-	-	0.0001	0.0009	-
CCME Guideline				-	-	-	0.00004	-	0.001
MW22-08 SA-2	MW22-08	Groundwater	Overburden	0.000044	< 0.00001	60	0.000039	0.00018	0.0017
MW22-08 SA-3	MW22-08	Groundwater	Overburden	0.000029	< 0.00001	24	0.000084	0.0001	0.003
MW22-08 SA-4	MW22-08	Groundwater	Overburden	0.00001	< 0.00001	24	0.000067	0.00012	0.0016
MW22-08 SA-6	MW22-08	Groundwater	Overburden	0.00004	< 0.00001	27	0.00012	0.00021	0.0019
MW22-08 SA-8	MW22-08	Groundwater	Overburden	0.000042	< 0.00001	23	0.000062	0.00018	0.0014
MW22-09 SA-1	MW22-09	Groundwater	Overburden	0.000034	< 0.00001	45	0.000084	0.00022	0.0033
MW22-09 SA-4	MW22-09	Groundwater	Overburden	0.000035	< 0.00001	37	0.000092	0.00013	0.00057
MW22-09 SA-5	MW22-09	Groundwater	Overburden	0.000027	< 0.00001	23	0.000068	0.000076	0.00044
MW22-09 SA-6	MW22-09	Groundwater	Overburden	0.000021	< 0.00001	27	0.000033	0.00013	0.00057
MW22-09 SA-7	MW22-09	Groundwater	Overburden	0.00006	0.00003	24	0.00002	0.00039	0.0026
MW22-10 SA-2	MW22-10	Groundwater	Overburden	0.00001	< 0.00001	49	0.000041	0.00017	0.0016
MW22-10 SA-3	MW22-10	Groundwater	Overburden	0.000033	< 0.00001	34	0.00011	0.00014	0.0019
MW22-10 SA-4	MW22-10	Groundwater	Overburden	0.000041	< 0.00001	24	0.000069	0.00012	0.003
MW22-10 SA-5	MW22-10	Groundwater	Overburden	0.000015	< 0.00001	15	0.000086	0.0002	0.0017
MW22-10 SA-6	MW22-10	Groundwater	Overburden	0.000037	< 0.00001	17	0.0001	0.00012	0.0017
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	-	-	-	-	-	-
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	0.00006	< 0.00001	36	0.00022	0.00013	0.0013
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	0.000026	0.00001	20	0.000022	0.00066	0.0013
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	0.000012	< 0.00001	21	0.000003	0.00015	0.00078
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	0.000009	< 0.00001	23	< 0.000003	0.000087	0.00087
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	0.000045	< 0.00001	16	0.000008	0.00057	0.0033
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	0.00001	< 0.00001	40	0.000004	0.000096	0.00063
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	0.000057	0.00001	14	0.000013	0.00075	0.0035
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	0.000098	0.00002	15	0.000017	0.0015	0.0056
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	0.000048	0.00001	19	< 0.000003	0.00069	0.0039
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	0.000052	0.00002	16	0.000015	0.00074	0.0035
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	0.000012	< 0.00001	11	< 0.000003	0.000097	0.00092
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	0.000008	< 0.00001	11	0.000003	0.000054	0.00095
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	0.00001	< 0.00001	11	0.000011	0.000075	0.00097
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	0.000017	< 0.00001	12	< 0.000003	0.00011	0.00086
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	< 0.000007	< 0.00001	14	< 0.000003	0.000043	0.00024
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	< 0.000007	< 0.00001	14	0.000006	0.000059	0.00018
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	< 0.000007	< 0.00001	16	0.000011	0.000059	0.00051
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	< 0.000007	0.00002	13	0.000003	0.000019	0.00015

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Beryllium	Bismuth	Calcium	Cadmium	Cobalt	Chromium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.011	-	-	0.0001	0.0009	-
CCME Guideline				-	-	-	0.00004	-	0.001
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	< 0.000007	< 0.00001	75	0.000016	0.00014	0.0025
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	< 0.000007	< 0.00001	39	0.000008	0.000059	0.00018
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	< 0.000007	< 0.00001	19	< 0.000003	0.0001	0.00072
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	0.000013	0.00001	11	0.000005	0.0002	0.00059
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	0.000021	< 0.00001	49	0.000016	0.00034	0.001
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	< 0.000007	0.00003	16	0.000003	0.000052	0.00043
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	< 0.000007	< 0.00001	11	< 0.000003	0.00002	0.00014
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	0.000008	< 0.00001	17	0.000003	0.000069	0.00048
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	< 0.000007	< 0.00001	11	< 0.000003	0.000008	< 0.00008

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Beryllium	Bismuth	Calcium	Cadmium	Cobalt	Chromium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.011	-	-	0.0001	0.0009	-
CCME Guideline				-	-	-	0.00004	-	0.001
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	< 0.000007	< 0.00001	2.3	0.00001	0.00056	0.00069
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	0.000008	< 0.00001	16	0.000037	0.00019	0.0003
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	< 0.000007	< 0.00001	45	0.000014	0.00017	0.00021
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	< 0.000007	< 0.00001	2.8	< 0.000003	0.000099	0.00052
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	< 0.000007	< 0.00001	3.2	< 0.000003	0.000015	0.00015
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	< 0.000007	< 0.00001	3.9	< 0.000003	0.000016	0.00012
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	< 0.000007	< 0.00001	3.5	0.000004	0.00005	0.0014
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	< 0.000007	< 0.00001	3.0	< 0.000003	0.000072	0.0004
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	< 0.000007	< 0.00001	3.0	< 0.000003	0.000093	0.00067
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	< 0.000007	< 0.00001	15	0.000009	0.000078	0.00032
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	< 0.000007	< 0.00001	12	0.000003	0.00012	0.00051
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	< 0.000007	< 0.00001	13	0.000008	0.000083	0.0004
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	< 0.000007	< 0.00001	6.8	0.000004	0.00013	0.0002
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	< 0.000007	< 0.00001	4.6	< 0.000003	0.00011	0.00012
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	< 0.000007	< 0.00001	4.9	0.000003	0.000018	0.00014
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	0.000009	< 0.00001	18	0.000006	0.00036	0.00037
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	0.000015	0.00001	8.0	0.000008	0.00017	0.00071
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	0.00012	< 0.00001	5.0	0.000004	0.002	0.0032
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	0.00064	< 0.00001	8.9	0.000024	0.0069	0.0081
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	0.000011	< 0.00001	3.6	< 0.000003	0.00015	0.0011
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	0.00035	0.00002	7.6	0.000014	0.0066	0.01

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Copper	Iron	Potassium	Lithium	Magnesium	Manganese
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.001	0.3	-	-	-	-
CCME Guideline				0.002	0.3	-	-	-	-
M22S008		Soil	Overburden	0.009	0.59	1.6	0.0014	3.6	0.023
M22S011		Soil	Overburden	0.0094	0.9	1.4	0.0016	2.1	0.033
M22S028		Soil	Overburden	0.0064	0.15	1.0	0.0012	8.6	0.0012
M22S032		Soil	Overburden	0.0035	0.28	2.6	0.003	8.2	0.026
M22S044		Soil	Overburden	0.0063	1.1	0.52	0.0013	2.5	0.23
M22S055		Soil	Overburden	0.0083	0.015	0.85	0.0005	16	0.13
M22S096		Soil	Overburden	0.0077	0.29	1.3	0.0043	3.1	0.0089
M22S127		Soil	Overburden	0.0051	0.1	1.9	0.0004	8.4	0.012
M22S154		Soil	Overburden	0.0037	0.37	2.4	< 0.0001	3.5	0.019
M22S156		Soil	Overburden	0.003	0.22	3.5	0.003	3.5	0.0022
M22S161		Soil	Overburden	0.0058	0.13	0.55	0.0019	4.5	0.0018
M22S258		Soil	Overburden	0.011	0.12	1.5	0.0029	9.6	0.0019
M22S283		Soil	Overburden	0.0095	0.88	6.4	0.0033	2.3	0.0076
M22SAD1		Soil	Overburden	0.0042	0.37	0.9	0.0008	2.2	0.0076
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	0.0015	0.012	3.7	0.0033	3.4	0.0046
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	0.0051	0.2	3.3	0.0045	5.3	0.026
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	0.0008	0.008	2.1	0.0016	2.1	0.001
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	0.001	0.014	1.9	0.0028	3.0	0.00071
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	0.002	0.013	3.7	0.0067	3.6	0.014
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	0.0019	0.034	3.4	0.01	3.2	0.0088
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	0.0025	0.023	4.2	0.0048	3.3	0.0084
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	0.0066	0.35	1.8	0.0051	3.4	0.031
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	0.0089	0.95	2.3	0.0089	5.1	0.067
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	0.011	1.8	2.4	0.011	3.3	0.049
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	0.004	0.047	2.3	0.0036	2.3	0.0093
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	0.0018	0.17	0.85	0.001	1.5	0.0038
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	0.0025	0.21	0.97	0.0005	2.1	0.0026
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	0.0015	0.15	1.1	0.0022	1.7	0.0038
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	0.0018	0.27	1.2	0.0021	2.0	0.0035
MW22-05 SA-1	MW22-05	Groundwater	Overburden	0.0022	0.022	0.97	0.0028	1.8	0.0083
MW22-05 SA-2	MW22-05	Groundwater	Overburden	0.0016	0.016	0.76	0.0014	1.7	0.0037
MW22-05 SA-4	MW22-05	Groundwater	Overburden	0.0014	0.024	1.1	0.0018	1.4	0.001
MW22-05 SA-6	MW22-05	Groundwater	Overburden	0.0038	0.15	1.9	0.0032	2.1	0.0051
MW22-05 SA-7	MW22-05	Groundwater	Overburden	0.003	0.09	1.4	0.0025	1.7	0.0032

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Copper	Iron	Potassium	Lithium	Magnesium	Manganese
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.001	0.3	-	-	-	-
CCME Guideline				0.002	0.3	-	-	-	-
MW22-06 SA-1	MW22-06	Groundwater	Overburden	0.0056	0.034	0.91	< 0.0001	2.1	0.039
MW22-06 SA-4	MW22-06	Groundwater	Overburden	0.0015	< 0.007	1.4	0.0012	1.7	0.00079
MW22-06 SA-7	MW22-06	Groundwater	Overburden	0.002	< 0.007	1.3	0.001	1.4	0.00079
MW22-06 SA-8	MW22-06	Groundwater	Overburden	0.0008	< 0.007	1.1	0.0014	1.2	0.00056
MW22-06 SA-9	MW22-06	Groundwater	Overburden	0.0011	< 0.007	1.1	0.0013	1.2	0.00071
MW22-07 SA-1	MW22-07	Groundwater	Overburden	0.0046	0.055	0.73	< 0.0001	3.3	0.029
MW22-07 SA-2	MW22-07	Groundwater	Overburden	0.0022	0.037	0.45	0.0002	1.6	0.0014
MW22-07 SA-4	MW22-07	Groundwater	Overburden	0.001	0.023	0.71	0.0007	0.99	0.0011
MW22-07 SA-6	MW22-07	Groundwater	Overburden	0.0013	0.14	0.7	0.0008	1.1	0.0017
MW22-07 SA-8	MW22-07	Groundwater	Overburden	0.0043	0.091	4.0	0.006	4.3	0.0028

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Copper	Iron	Potassium	Lithium	Magnesium	Manganese
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.001	0.3	-	-	-	-
CCME Guideline				0.002	0.3	-	-	-	-
MW22-08 SA-2	MW22-08	Groundwater	Overburden	0.008	0.19	1.8	0.0008	6.2	0.0086
MW22-08 SA-3	MW22-08	Groundwater	Overburden	0.0028	0.13	1.3	0.0017	2.4	0.0016
MW22-08 SA-4	MW22-08	Groundwater	Overburden	0.0061	0.1	2.8	0.0058	3.3	0.005
MW22-08 SA-6	MW22-08	Groundwater	Overburden	0.0061	0.18	3.5	0.0062	4.0	0.0092
MW22-08 SA-8	MW22-08	Groundwater	Overburden	0.0058	0.096	4.5	0.0077	4.4	0.0065
MW22-09 SA-1	MW22-09	Groundwater	Overburden	0.0025	0.051	3.2	0.004	9.5	0.018
MW22-09 SA-4	MW22-09	Groundwater	Overburden	0.0036	0.027	2.2	0.004	4.1	0.052
MW22-09 SA-5	MW22-09	Groundwater	Overburden	0.0033	0.02	3.3	0.005	3.4	0.022
MW22-09 SA-6	MW22-09	Groundwater	Overburden	0.0039	0.017	4.5	0.006	4.4	0.018
MW22-09 SA-7	MW22-09	Groundwater	Overburden	0.0044	0.16	3.1	0.01	6.6	0.004
MW22-10 SA-2	MW22-10	Groundwater	Overburden	0.0026	0.063	1.8	0.0051	5.9	0.042
MW22-10 SA-3	MW22-10	Groundwater	Overburden	0.0042	0.13	1.9	0.0053	3.9	0.014
MW22-10 SA-4	MW22-10	Groundwater	Overburden	0.0041	0.15	1.6	0.0041	2.3	0.0033
MW22-10 SA-5	MW22-10	Groundwater	Overburden	0.0049	0.19	1.2	0.0038	1.3	0.0048
MW22-10 SA-6	MW22-10	Groundwater	Overburden	0.0029	0.087	1.4	0.0046	1.5	0.0034
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	-	-	-	-	-	-
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	0.0029	0.25	0.83	0.0011	3.2	0.012
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	0.0059	0.46	0.62	0.0016	2.3	0.015
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	0.0021	0.24	1.0	0.0029	2.7	0.0062
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	0.003	0.14	3.3	0.0055	4.3	0.0097
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	0.0035	1.1	1.7	0.0058	3.1	0.015
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	0.0018	0.088	1.6	0.0044	5.3	0.032
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	0.0055	1.3	1.1	0.0032	2.0	0.019
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	0.016	2.3	0.93	0.0027	1.8	0.029
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	0.0078	1.3	1.2	0.0029	2.3	0.022
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	0.0061	1.4	1.3	0.0032	2.1	0.022
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	0.0013	0.31	0.59	0.0036	2.2	0.0029
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	0.0008	0.21	0.82	0.0043	2.6	0.0017
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	0.001	0.22	0.7	0.0041	2.6	0.002
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	0.0014	0.3	0.72	0.004	2.8	0.0024
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	0.0013	0.042	1.1	0.0012	2.1	0.0016
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	0.0008	0.023	3.6	0.0041	2.5	0.00099
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	0.0014	0.039	3.6	0.0052	2.7	0.008
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	0.0006	0.019	3.4	0.0047	2.5	0.0011

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Copper	Iron	Potassium	Lithium	Magnesium	Manganese
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.001	0.3	-	-	-	-
CCME Guideline				0.002	0.3	-	-	-	-
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	0.0027	0.074	3.0	0.0035	7.8	0.025
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	0.0012	0.042	5.4	0.0034	3.4	0.048
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	0.0007	0.084	0.13	0.0012	2.6	0.0034
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	0.0015	0.12	4.0	0.011	2.0	0.0031
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	0.0094	0.19	0.78	0.0016	5.9	0.009
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	0.0015	0.011	0.99	0.0012	2.5	0.002
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	0.0006	< 0.007	1.7	0.0011	3.2	0.00057
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	0.0015	0.081	1.3	0.0014	1.9	0.0025
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	0.0002	< 0.007	1.6	0.0058	1.6	0.00074

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Copper	Iron	Potassium	Lithium	Magnesium	Manganese
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.001	0.3	-	-	-	-
CCME Guideline				0.002	0.3	-	-	-	-
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	0.001	0.15	22	0.016	1.2	0.0041
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	0.003	0.096	2.7	0.0018	3.1	0.0083
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	0.0047	0.046	3.3	0.0076	2.5	0.032
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	0.0006	0.23	10	0.0056	0.38	0.0038
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	0.0003	0.034	8.8	0.0051	0.3	0.00065
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	0.0003	0.035	7.0	0.0049	0.49	0.00063
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	0.0015	0.31	9.8	0.025	0.53	0.0028
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	0.001	0.08	10	0.03	0.4	0.0011
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	0.0004	0.046	15	0.044	0.46	0.0024
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	0.0041	0.086	1.2	0.001	1.6	0.005
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	0.0037	0.24	1.6	0.0015	1.6	0.012
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	0.0022	0.12	2.1	0.0014	1.9	0.0041
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	0.0006	0.029	7.3	0.0056	0.95	0.00061
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	0.0003	0.028	4.9	0.0046	0.53	0.0028
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	0.0003	0.023	4.7	0.0027	0.5	0.00065
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	0.0027	0.15	0.64	0.001	3.0	0.0036
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	0.0036	0.34	0.64	0.0006	1.1	0.027
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	0.014	3.2	8.0	0.016	2.8	0.095
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	0.1	8.4	9.5	0.046	6.4	0.34
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	0.0018	0.68	8.1	0.016	0.74	0.0072
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	0.0084	10	12	0.078	8.4	0.26

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Molybdenum	Sodium	Nickel	Phosphorus	Lead	Antimony
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.04	-	0.025	-	0.01	0.02
CCME Guideline				0.073	-	0.025	-	0.001	-
M22S008		Soil	Overburden	0.0073	8.4	0.0029	-	0.00037	0.0014
M22S011		Soil	Overburden	0.00083	25	0.0029	-	0.00042	< 0.0009
M22S028		Soil	Overburden	0.00084	39	0.0014	-	0.00009	< 0.0009
M22S032		Soil	Overburden	0.002	26	0.0017	-	0.003	< 0.0009
M22S044		Soil	Overburden	0.0005	20	0.0029	-	0.00045	0.0011
M22S055		Soil	Overburden	0.0014	1.8	0.0026	-	< 0.00009	0.0013
M22S096		Soil	Overburden	0.041	53	0.0012	-	0.0003	< 0.0009
M22S127		Soil	Overburden	0.0012	7.3	0.0023	-	0.0001	< 0.0009
M22S154		Soil	Overburden	0.0011	35	0.0019	-	0.00026	< 0.0009
M22S156		Soil	Overburden	0.0013	46	0.0056	-	0.00016	< 0.0009
M22S161		Soil	Overburden	0.0012	33	0.0011	-	0.00027	< 0.0009
M22S258		Soil	Overburden	0.00066	53	0.0025	-	0.00031	< 0.0009
M22S283		Soil	Overburden	0.00068	52	0.0044	-	0.0004	0.0011
M22SAD1		Soil	Overburden	0.0014	19	0.0015	-	0.00036	< 0.0009
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	0.01	1.7	0.0008	0.003	< 0.00009	0.0011
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	0.0064	2.1	0.0044	0.11	0.00015	< 0.0009
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	0.0041	1.4	0.0002	< 0.003	< 0.00009	< 0.0009
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	0.014	1.1	0.0003	0.004	< 0.00009	< 0.0009
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	0.0034	1.4	0.0005	0.009	< 0.00009	0.0013
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	0.0047	1.4	0.0007	0.024	< 0.00009	0.0023
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	0.0082	1.5	0.0009	0.007	< 0.00009	0.0013
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	0.007	3.8	0.0074	0.045	0.00021	< 0.0009
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	0.0063	3.4	0.007	0.072	0.00057	0.001
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	0.0048	31	0.0074	0.076	0.0012	< 0.0009
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	0.0054	0.99	0.0012	0.008	< 0.00009	0.0022
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	0.002	0.51	0.0013	0.016	0.00014	< 0.0009
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	0.005	1.1	0.001	0.02	0.00015	< 0.0009
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	0.0056	1.1	0.0011	0.021	0.00011	0.0011
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	0.0077	0.89	0.0013	0.021	0.00016	0.0011
MW22-05 SA-1	MW22-05	Groundwater	Overburden	0.019	0.77	0.0007	0.023	< 0.00009	0.0009
MW22-05 SA-2	MW22-05	Groundwater	Overburden	0.013	0.73	0.0005	0.009	< 0.00009	< 0.0009
MW22-05 SA-4	MW22-05	Groundwater	Overburden	0.0061	0.79	0.0006	0.02	< 0.00009	< 0.0009
MW22-05 SA-6	MW22-05	Groundwater	Overburden	0.0084	7.8	0.001	0.018	0.00014	0.0013
MW22-05 SA-7	MW22-05	Groundwater	Overburden	0.0063	6.9	0.0007	0.021	0.00012	0.0011

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Molybdenum	Sodium	Nickel	Phosphorus	Lead	Antimony
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.04	-	0.025	-	0.01	0.02
CCME Guideline				0.073	-	0.025	-	0.001	-
MW22-06 SA-1	MW22-06	Groundwater	Overburden	0.0011	0.84	0.0008	0.017	< 0.00009	< 0.0009
MW22-06 SA-4	MW22-06	Groundwater	Overburden	0.0022	1.5	0.0004	0.005	< 0.00009	< 0.0009
MW22-06 SA-7	MW22-06	Groundwater	Overburden	0.0039	0.94	0.0003	< 0.003	< 0.00009	< 0.0009
MW22-06 SA-8	MW22-06	Groundwater	Overburden	0.0029	0.75	0.0004	0.008	< 0.00009	< 0.0009
MW22-06 SA-9	MW22-06	Groundwater	Overburden	0.0085	0.76	0.0004	< 0.003	< 0.00009	< 0.0009
MW22-07 SA-1	MW22-07	Groundwater	Overburden	0.0015	0.83	0.0014	0.014	< 0.00009	< 0.0009
MW22-07 SA-2	MW22-07	Groundwater	Overburden	0.0018	0.91	0.0007	0.006	< 0.00009	< 0.0009
MW22-07 SA-4	MW22-07	Groundwater	Overburden	0.0017	0.77	0.0007	0.015	< 0.00009	< 0.0009
MW22-07 SA-6	MW22-07	Groundwater	Overburden	0.0052	13	0.0006	0.025	0.00011	< 0.0009
MW22-07 SA-8	MW22-07	Groundwater	Overburden	0.0083	12	0.0011	0.013	< 0.00009	0.0017

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Molybdenum	Sodium	Nickel	Phosphorus	Lead	Antimony
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.04	-	0.025	-	0.01	0.02
CCME Guideline				0.073	-	0.025	-	0.001	-
MW22-08 SA-2	MW22-08	Groundwater	Overburden	0.0016	14	0.002	0.037	0.00033	< 0.0009
MW22-08 SA-3	MW22-08	Groundwater	Overburden	0.0022	13	0.0012	0.036	0.00012	< 0.0009
MW22-08 SA-4	MW22-08	Groundwater	Overburden	0.011	13	0.0016	0.035	< 0.00009	0.0009
MW22-08 SA-6	MW22-08	Groundwater	Overburden	0.011	15	0.0016	0.042	0.00011	0.0014
MW22-08 SA-8	MW22-08	Groundwater	Overburden	0.0086	15	0.0014	0.022	< 0.00009	0.0016
MW22-09 SA-1	MW22-09	Groundwater	Overburden	0.00074	37	0.0027	0.059	0.00027	< 0.0009
MW22-09 SA-4	MW22-09	Groundwater	Overburden	0.015	1.9	0.0017	0.027	< 0.00009	0.001
MW22-09 SA-5	MW22-09	Groundwater	Overburden	0.0072	2.1	0.001	0.019	< 0.00009	< 0.0009
MW22-09 SA-6	MW22-09	Groundwater	Overburden	0.0083	2.6	0.0012	0.013	< 0.00009	0.001
MW22-09 SA-7	MW22-09	Groundwater	Overburden	0.01	21	< 0.0001	0.22	0.00019	0.0016
MW22-10 SA-2	MW22-10	Groundwater	Overburden	0.0055	19	0.001	0.022	0.00013	< 0.0009
MW22-10 SA-3	MW22-10	Groundwater	Overburden	0.013	9.4	0.0011	0.034	0.00011	< 0.0009
MW22-10 SA-4	MW22-10	Groundwater	Overburden	0.0036	11	0.0011	0.038	0.00011	< 0.0009
MW22-10 SA-5	MW22-10	Groundwater	Overburden	0.0051	8.6	0.001	0.037	0.00024	< 0.0009
MW22-10 SA-6	MW22-10	Groundwater	Overburden	0.0059	6.2	0.0009	0.023	< 0.00009	< 0.0009
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	-	-	-	-	-	-
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	0.042	14	0.0007	0.03	0.00031	0.001
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	0.02	14	0.0019	0.033	0.00097	0.0011
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	0.0046	9.5	0.0007	< 0.003	0.00012	< 0.0009
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	0.0063	14	0.0013	0.004	< 0.00009	0.0011
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	0.0038	25	0.0022	0.035	0.00076	< 0.0009
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	0.013	8.0	0.0009	0.003	< 0.00009	< 0.0009
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	0.0024	9.9	0.0028	0.037	0.0012	< 0.0009
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	0.0058	11	0.0048	0.06	0.0026	0.0013
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	0.0072	14	0.0027	0.066	0.0011	0.0011
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	0.0059	13	0.0029	0.05	0.00094	0.0012
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	0.0034	7.9	0.0007	0.006	0.00013	0.0012
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	0.0086	9.7	0.0006	< 0.003	0.00009	0.0009
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	0.0073	11	0.0007	< 0.003	0.00012	< 0.0009
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	0.0099	8.2	0.0006	0.005	0.00014	< 0.0009
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	0.0045	0.84	0.0005	0.041	< 0.00009	< 0.0009
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	0.011	1.6	0.0004	0.051	< 0.00009	0.0009
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	0.03	1.9	0.0009	0.05	< 0.00009	0.0026
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	0.021	1.6	0.0004	0.032	< 0.00009	0.0018

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Molybdenum	Sodium	Nickel	Phosphorus	Lead	Antimony
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.04	-	0.025	-	0.01	0.02
CCME Guideline				0.073	-	0.025	-	0.001	-
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	0.012	38	0.0018	0.072	0.00012	< 0.0009
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	0.02	1.1	0.0007	0.054	< 0.00009	0.0017
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	0.0017	0.82	0.0011	0.009	< 0.00009	0.0022
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	0.0088	1.5	0.002	0.025	0.0001	< 0.0009
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	0.0022	4.0	0.0024	0.039	0.00027	< 0.0009
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	0.0039	2.0	0.0005	< 0.003	< 0.00009	< 0.0009
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	0.0032	1.7	0.0002	< 0.003	< 0.00009	< 0.0009
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	0.0048	1.7	0.0006	0.006	0.0016	< 0.0009
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	0.0013	2.6	0.0002	< 0.003	< 0.00009	0.0009

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Molybdenum	Sodium	Nickel	Phosphorus	Lead	Antimony
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.04	-	0.025	-	0.01	0.02
CCME Guideline				0.073	-	0.025	-	0.001	-
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	0.0047	2.6	0.0024	< 0.003	0.00017	< 0.0009
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	0.0003	1.2	0.0015	1.0	0.0013	0.0009
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	0.0084	3.2	0.0056	0.003	0.00011	< 0.0009
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	0.00026	1.5	0.0005	0.036	0.00017	< 0.0009
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	0.00019	1.2	< 0.0001	0.013	< 0.00009	< 0.0009
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	0.00033	1.4	< 0.0001	0.008	0.00012	< 0.0009
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	0.0018	1.6	0.0061	0.03	< 0.00009	< 0.0009
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	0.0015	1.8	0.023	0.018	< 0.00009	< 0.0009
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	0.0011	2.1	0.0004	0.011	< 0.00009	< 0.0009
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	0.0071	1.2	0.0091	0.004	0.00013	< 0.0009
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	0.0053	1.2	0.0021	< 0.003	0.00011	< 0.0009
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	0.0053	1.4	0.0004	0.004	0.00012	< 0.0009
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	0.0024	2.1	0.0009	0.003	< 0.00009	< 0.0009
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	0.0024	2.0	0.0003	0.012	0.0002	< 0.0009
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	0.0012	2.0	0.0017	0.019	0.00023	< 0.0009
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	0.0043	0.75	0.0011	0.009	0.00031	< 0.0009
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	0.0039	0.43	0.0006	< 0.003	0.00014	< 0.0009
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	0.001	3.4	0.0033	0.13	0.0014	< 0.0009
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	0.0018	3.5	0.0075	0.29	0.007	< 0.0009
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	0.00054	3.3	0.007	0.027	< 0.00009	< 0.0009
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	0.00029	3.8	0.0091	0.54	0.0021	< 0.0009

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Selenium	Silicon	Tin	Strontium	Titanium	Thallium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.1	-	-	-	-	-
CCME Guideline				0.001	-	-	-	-	0.0008
M22S008		Soil	Overburden	0.00044	2.7	0.00037	0.045	0.0071	< 0.000005
M22S011		Soil	Overburden	0.00043	7.3	0.00014	0.0081	0.061	0.00001
M22S028		Soil	Overburden	0.00075	7.0	< 0.00006	0.045	0.0032	< 0.000005
M22S032		Soil	Overburden	0.00027	9.3	< 0.00006	0.041	0.02	0.000015
M22S044		Soil	Overburden	0.00096	8.1	< 0.00006	0.021	0.038	< 0.000005
M22S055		Soil	Overburden	0.0023	4.9	< 0.00006	0.12	0.002	< 0.000005
M22S096		Soil	Overburden	0.00066	8.9	< 0.00006	0.058	0.024	0.000007
M22S127		Soil	Overburden	0.00075	2.5	< 0.00006	0.038	0.005	< 0.000005
M22S154		Soil	Overburden	0.00063	13	0.00015	0.016	0.0085	< 0.000005
M22S156		Soil	Overburden	0.0012	17	0.00035	0.024	0.0098	< 0.000005
M22S161		Soil	Overburden	0.00092	9.8	0.00008	0.029	0.0099	< 0.000005
M22S258		Soil	Overburden	0.00087	12	< 0.00006	0.063	0.01	< 0.000005
M22S283		Soil	Overburden	0.0011	11	0.00017	0.018	0.071	< 0.000005
M22SAD1		Soil	Overburden	0.00085	2.6	< 0.00006	0.031	0.029	< 0.000005
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	0.00054	3.0	< 0.00006	0.038	0.00063	0.000007
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	0.0028	6.1	< 0.00006	0.035	0.013	< 0.000005
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	0.00088	3.6	< 0.00006	0.017	0.00022	0.000015
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	0.00017	4.2	< 0.00006	0.017	0.00064	< 0.000005
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	0.00056	2.8	< 0.00006	0.03	0.00083	0.000005
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	0.00054	3.1	< 0.00006	0.03	0.0018	0.000005
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	0.00065	2.9	< 0.00006	0.032	0.0013	0.000007
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	0.00055	6.3	0.00013	0.04	0.021	< 0.000005
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	0.0005	9.0	0.00007	0.052	0.059	0.000009
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	0.00089	8.3	0.00007	0.031	0.09	0.000015
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	0.0081	3.6	< 0.00006	0.026	0.0038	0.000009
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	0.00023	3.5	< 0.00006	0.0088	0.0058	0.000005
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	0.00012	3.2	< 0.00006	0.013	0.0094	0.000005
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	0.0001	3.2	< 0.00006	0.013	0.0053	< 0.000005
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	0.00008	4.2	< 0.00006	0.012	0.01	< 0.000005
MW22-05 SA-1	MW22-05	Groundwater	Overburden	0.00058	1.5	< 0.00006	0.016	0.0013	0.000007
MW22-05 SA-2	MW22-05	Groundwater	Overburden	0.0009	1.6	< 0.00006	0.014	0.0013	< 0.000005
MW22-05 SA-4	MW22-05	Groundwater	Overburden	0.0011	1.5	< 0.00006	0.014	0.0019	0.000006
MW22-05 SA-6	MW22-05	Groundwater	Overburden	0.0029	1.3	< 0.00006	0.024	0.017	0.000005
MW22-05 SA-7	MW22-05	Groundwater	Overburden	0.0028	1.3	< 0.00006	0.02	0.0074	0.000009

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Selenium	Silicon	Tin	Strontium	Titanium	Thallium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.1	-	-	-	-	-
CCME Guideline				0.001	-	-	-	-	0.0008
MW22-06 SA-1	MW22-06	Groundwater	Overburden	0.00091	1.5	< 0.00006	0.048	0.0022	0.000007
MW22-06 SA-4	MW22-06	Groundwater	Overburden	0.00065	1.8	< 0.00006	0.019	0.0012	0.000011
MW22-06 SA-7	MW22-06	Groundwater	Overburden	0.00043	1.3	< 0.00006	0.016	0.00069	0.000013
MW22-06 SA-8	MW22-06	Groundwater	Overburden	0.0012	1.8	< 0.00006	0.014	0.0015	0.000012
MW22-06 SA-9	MW22-06	Groundwater	Overburden	0.00031	1.2	< 0.00006	0.014	0.00072	0.000012
MW22-07 SA-1	MW22-07	Groundwater	Overburden	0.0011	1.6	< 0.00006	0.046	0.0033	0.00001
MW22-07 SA-2	MW22-07	Groundwater	Overburden	0.00049	2.0	< 0.00006	0.015	0.0032	0.000006
MW22-07 SA-4	MW22-07	Groundwater	Overburden	0.001	2.2	< 0.00006	0.016	0.0025	0.00001
MW22-07 SA-6	MW22-07	Groundwater	Overburden	0.00048	2.2	< 0.00006	0.012	0.0079	0.000014
MW22-07 SA-8	MW22-07	Groundwater	Overburden	0.0013	2.0	< 0.00006	0.12	0.0044	0.00001

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Selenium	Silicon	Tin	Strontium	Titanium	Thallium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.1	-	-	-	-	-
CCME Guideline				0.001	-	-	-	-	0.0008
MW22-08 SA-2	MW22-08	Groundwater	Overburden	0.00051	4.6	< 0.00006	0.057	0.012	0.000009
MW22-08 SA-3	MW22-08	Groundwater	Overburden	0.00092	8.2	< 0.00006	0.022	0.0094	0.000007
MW22-08 SA-4	MW22-08	Groundwater	Overburden	0.0017	5.4	< 0.00006	0.11	0.0063	< 0.000005
MW22-08 SA-6	MW22-08	Groundwater	Overburden	0.0023	2.0	< 0.00006	0.17	0.011	0.000007
MW22-08 SA-8	MW22-08	Groundwater	Overburden	0.0018	1.7	< 0.00006	0.19	0.0054	0.000008
MW22-09 SA-1	MW22-09	Groundwater	Overburden	0.0012	4.8	0.00012	0.1	0.0048	0.000011
MW22-09 SA-4	MW22-09	Groundwater	Overburden	0.0011	0.9	0.00009	0.11	0.004	0.000021
MW22-09 SA-5	MW22-09	Groundwater	Overburden	0.001	0.91	< 0.00006	0.099	0.0021	0.000016
MW22-09 SA-6	MW22-09	Groundwater	Overburden	0.0012	1.3	< 0.00006	0.12	0.0012	0.00001
MW22-09 SA-7	MW22-09	Groundwater	Overburden	0.0012	5.6	0.00019	0.1	0.0024	0.00003
MW22-10 SA-2	MW22-10	Groundwater	Overburden	0.00051	5.7	< 0.00006	0.098	0.0042	< 0.000005
MW22-10 SA-3	MW22-10	Groundwater	Overburden	0.0016	3.5	< 0.00006	0.085	0.0087	0.000005
MW22-10 SA-4	MW22-10	Groundwater	Overburden	0.0014	4.3	< 0.00006	0.027	0.0091	0.000006
MW22-10 SA-5	MW22-10	Groundwater	Overburden	0.0025	2.2	0.00008	0.021	0.012	0.000005
MW22-10 SA-6	MW22-10	Groundwater	Overburden	0.0018	1.5	< 0.00006	0.028	0.005	0.00001
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	-	-	-	-	-	-
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	0.00096	28	0.0016	0.039	< 0.00005	< 0.000005
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	0.00057	2.5	< 0.00006	0.022	0.014	0.00001
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	0.00048	3.8	< 0.00006	0.021	0.018	< 0.000005
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	0.00073	4.0	< 0.00006	0.047	0.0084	0.000005
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	0.00062	9.2	< 0.00006	0.021	0.062	0.000012
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	0.0006	2.3	< 0.00006	0.041	0.0073	< 0.000005
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	0.00054	3.8	0.00008	0.013	0.059	0.000013
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	0.00078	4.3	0.00008	0.016	0.093	0.000022
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	0.00073	5.7	< 0.00006	0.021	0.076	0.00001
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	0.00068	5.7	< 0.00006	0.018	0.073	0.000012
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	0.00004	4.5	< 0.00006	0.013	0.013	< 0.000005
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	0.00006	4.4	< 0.00006	0.014	0.0087	< 0.000005
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	0.00007	4.3	< 0.00006	0.014	0.0081	< 0.000005
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	0.00012	4.5	< 0.00006	0.015	0.012	< 0.000005
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	< 0.00004	2.5	< 0.00006	0.01	0.0021	0.000008
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	< 0.00004	3.4	< 0.00006	0.014	0.001	< 0.000005
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	< 0.00004	3.7	< 0.00006	0.017	0.0018	< 0.000005
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	0.00069	3.4	0.00017	0.013	0.00085	< 0.000005

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Selenium	Silicon	Tin	Strontium	Titanium	Thallium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.1	-	-	-	-	-
CCME Guideline				0.001	-	-	-	-	0.0008
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	0.0012	5.2	< 0.00006	0.061	0.0027	0.000005
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	0.00074	1.4	< 0.00006	0.033	0.0033	< 0.000005
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	0.00005	4.1	< 0.00006	0.012	0.0047	< 0.000005
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	0.00028	2.8	< 0.00006	0.0076	0.0047	< 0.000005
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	0.00067	-	0.00024	0.04	0.012	0.000012
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	0.00017	-	0.00007	0.02	0.00038	0.000008
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	0.00011	-	0.00007	0.028	< 0.00007	0.000012
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	0.00012	-	0.00016	0.017	0.004	0.000012
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	0.00041	-	0.00085	0.021	0.00018	0.000006

Annex D - Static Analysis Results

Shake Flask Extraction

Sample ID	Borehole ID	Sampling Program	Sample Type	Selenium	Silicon	Tin	Strontium	Titanium	Thallium
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Price Crustal Abundance									
PWQO Guideline				0.1	-	-	-	-	-
CCME Guideline				0.001	-	-	-	-	0.0008
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	0.00091	-	0.00006	0.0093	0.011	0.000015
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	0.00009	-	0.00014	0.021	0.0013	0.000013
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	0.00077	-	< 0.00006	0.076	0.0023	0.000011
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	0.00005	-	0.00012	0.0087	0.019	0.000011
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	0.00005	-	< 0.00006	0.0083	0.0031	0.000007
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	0.00009	-	< 0.00006	0.014	0.0021	0.000005
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	< 0.00004	3.7	0.00007	0.0057	0.0023	0.000042
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	0.00009	2.3	0.00008	0.0095	0.0042	< 0.000005
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	0.0001	2.6	0.0001	0.0067	0.0032	0.00002
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	0.00009	1.6	0.00012	0.014	0.0036	< 0.000005
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	0.00015	2.4	0.00013	0.013	0.0035	< 0.000005
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	0.00013	2.7	< 0.00006	0.015	0.0062	0.000006
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	0.00034	3.5	0.0001	0.016	0.00043	0.000014
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	0.00008	3.9	0.00009	0.016	0.0024	0.000006
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	0.00008	4.3	0.00007	0.02	0.00089	< 0.000005
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	0.00012	-	0.00028	0.017	0.0074	0.000007
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	0.00009	-	0.00013	0.0096	0.015	0.000019
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	0.00011	-	< 0.00006	0.096	0.068	0.000028
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	0.00037	-	0.00011	0.10	0.11	0.00011
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	0.0001	-	0.00009	0.045	0.0048	0.000007
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	0.00021	-	< 0.00006	0.38	0.15	0.00012

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Uranium	Vanadium	Yttrium	Zinc	LOI Loss on Ignition at 550°C
Unit				mg/L	mg/L	mg/L	mg/L	%
Price Crustal Abundance								
PWQO Guideline				0.005	0.006	-	0.02	
CCME Guideline				0.015	-	-	0.0062586	
M22S008		Soil	Overburden	0.0021	0.0019	-	0.027	-
M22S011		Soil	Overburden	0.00012	0.0029	-	0.007	-
M22S028		Soil	Overburden	0.0014	0.00092	-	0.003	-
M22S032		Soil	Overburden	0.00034	0.0026	-	< 0.002	-
M22S044		Soil	Overburden	0.00025	0.0025	-	0.005	-
M22S055		Soil	Overburden	0.0022	0.00083	-	< 0.002	-
M22S096		Soil	Overburden	0.00074	0.0077	-	0.004	-
M22S127		Soil	Overburden	0.00056	0.00067	-	< 0.002	-
M22S154		Soil	Overburden	0.00009	0.0011	-	0.004	-
M22S156		Soil	Overburden	0.00009	0.0012	-	0.017	-
M22S161		Soil	Overburden	0.00036	0.0023	-	0.004	-
M22S258		Soil	Overburden	0.0019	0.0018	-	0.003	-
M22S283		Soil	Overburden	0.00015	0.011	-	0.004	-
M22SAD1		Soil	Overburden	0.00032	0.0015	-	0.005	-
MW22-01-1 SS8	MW22-01	Groundwater	Overburden	0.0016	0.0084	< 0.00002	< 0.002	0.87
MW22-01-2 SS4	MW22-01	Groundwater	Overburden	0.00041	0.0033	0.00013	< 0.002	3.2
MW22-01-2 SS6	MW22-01	Groundwater	Overburden	0.00058	0.0047	< 0.00002	< 0.002	0.56
MW22-02-1 SS5	MW22-02	Groundwater	Overburden	0.00071	0.0013	< 0.00002	< 0.002	1.4
MW22-02-1 SS6	MW22-02	Groundwater	Overburden	0.0017	0.0051	< 0.00002	< 0.002	1.2
MW22-02-1 SS7	MW22-02	Groundwater	Overburden	0.0022	0.0057	< 0.00002	< 0.002	0.81
MW22-02-1 SS8	MW22-03	Groundwater	Overburden	0.0028	0.0058	< 0.00002	< 0.002	1.1
MW22-03-1 SS3	MW22-03	Groundwater	Overburden	0.00055	0.0021	0.00015	0.002	3.8
MW22-03-1 SS4	MW22-03	Groundwater	Overburden	0.00053	0.0035	0.00053	0.004	4.8
MW22-03-1 SS5	MW22-03	Groundwater	Overburden	0.0009	0.0068	0.0007	0.008	3.9
MW22-03-1 SS6	MW22-03	Groundwater	Overburden	0.017	0.012	0.00003	< 0.002	0.84
MW22-04-1 SS10	MW22-04	Groundwater	Overburden	0.00048	0.0019	0.00007	< 0.002	0.47
MW22-04-1 SS6	MW22-04	Groundwater	Overburden	0.0002	0.0012	0.00014	< 0.002	0.61
MW22-04-1 SS7	MW22-04	Groundwater	Overburden	0.001	0.0016	0.00005	< 0.002	0.41
MW22-04-1 SS8	MW22-04	Groundwater	Overburden	0.00098	0.0017	0.00009	< 0.002	0.41
MW22-05 SA-1	MW22-05	Groundwater	Overburden	0.00033	0.00079	-	< 0.002	0.9
MW22-05 SA-2	MW22-05	Groundwater	Overburden	0.00047	0.0011	-	< 0.002	1.1
MW22-05 SA-4	MW22-05	Groundwater	Overburden	0.00032	0.00096	-	< 0.002	0.76
MW22-05 SA-6	MW22-05	Groundwater	Overburden	0.0089	0.0046	-	< 0.002	0.69
MW22-05 SA-7	MW22-05	Groundwater	Overburden	0.0059	0.003	-	< 0.002	0.75

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Uranium	Vanadium	Yttrium	Zinc	LOI Loss on Ignition at 550°C
Unit				mg/L	mg/L	mg/L	mg/L	%
Price Crustal Abundance								
PWQO Guideline				0.005	0.006	-	0.02	
CCME Guideline				0.015	-	-	0.0062586	
MW22-06 SA-1	MW22-06	Groundwater	Overburden	0.00053	0.00047	-	< 0.002	1.5
MW22-06 SA-4	MW22-06	Groundwater	Overburden	0.00023	0.0034	-	< 0.002	0.47
MW22-06 SA-7	MW22-06	Groundwater	Overburden	0.00021	0.0032	-	< 0.002	0.49
MW22-06 SA-8	MW22-06	Groundwater	Overburden	0.00017	0.0027	-	< 0.002	0.57
MW22-06 SA-9	MW22-06	Groundwater	Overburden	0.00019	0.0021	-	< 0.002	0.68
MW22-07 SA-1	MW22-07	Groundwater	Overburden	0.00045	0.00054	-	< 0.002	2.4
MW22-07 SA-2	MW22-07	Groundwater	Overburden	0.00016	0.0031	-	< 0.002	0.77
MW22-07 SA-4	MW22-07	Groundwater	Overburden	0.00018	0.0023	-	0.002	0.65
MW22-07 SA-6	MW22-07	Groundwater	Overburden	0.00011	0.0016	-	< 0.002	0.67
MW22-07 SA-8	MW22-07	Groundwater	Overburden	0.0025	0.0054	-	< 0.002	1.3

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Uranium	Vanadium	Yttrium	Zinc	LOI Loss on Ignition at 550°C
Unit				mg/L	mg/L	mg/L	mg/L	%
Price Crustal Abundance								
PWQO Guideline				0.005	0.006	-	0.02	
CCME Guideline				0.015	-	-	0.0062586	
MW22-08 SA-2	MW22-08	Groundwater	Overburden	0.00041	0.0016	-	0.003	4.2
MW22-08 SA-3	MW22-08	Groundwater	Overburden	0.00046	0.0018	-	< 0.002	1.8
MW22-08 SA-4	MW22-08	Groundwater	Overburden	0.005	0.0054	-	< 0.002	1.8
MW22-08 SA-6	MW22-08	Groundwater	Overburden	0.0031	0.0055	-	< 0.002	1.5
MW22-08 SA-8	MW22-08	Groundwater	Overburden	0.0041	0.0057	-	< 0.002	1.5
MW22-09 SA-1	MW22-09	Groundwater	Overburden	0.000057	0.0011	-	0.004	86
MW22-09 SA-4	MW22-09	Groundwater	Overburden	0.0013	0.0025	-	< 0.002	4.3
MW22-09 SA-5	MW22-09	Groundwater	Overburden	0.0018	0.0022	-	< 0.002	1.9
MW22-09 SA-6	MW22-09	Groundwater	Overburden	0.0031	0.0034	-	< 0.002	1.8
MW22-09 SA-7	MW22-09	Groundwater	Overburden	0.0032	0.0027	-	0.014	1.4
MW22-10 SA-2	MW22-10	Groundwater	Overburden	0.0017	0.0013	-	< 0.002	7.5
MW22-10 SA-3	MW22-10	Groundwater	Overburden	0.0022	0.0033	-	< 0.002	4.1
MW22-10 SA-4	MW22-10	Groundwater	Overburden	0.0016	0.0022	-	< 0.002	2.0
MW22-10 SA-5	MW22-10	Groundwater	Overburden	0.0010	0.0046	-	0.011	0.92
MW22-10 SA-6	MW22-10	Groundwater	Overburden	0.0011	0.0038	-	< 0.002	-
MW22-11-1 SS3	MW22-11	Groundwater	Overburden	-	-	-	-	55
MW22-11-1 SS4	MW22-11	Groundwater	Overburden	0.0014	0.0048	-	0.012	2.9
MW22-11-1 SS5	MW22-11	Groundwater	Overburden	0.0058	0.0071	-	0.003	1.2
MW22-12-1 SS11	MW22-12	Groundwater	Overburden	0.0008	0.0027	-	< 0.002	2.0
MW22-12-1 SS12	MW22-12	Groundwater	Overburden	0.0033	0.0018	-	< 0.002	2.0
MW22-12-1 SS4	MW22-12	Groundwater	Overburden	0.0015	0.0065	-	0.004	3.0
MW22-12-1 SS6	MW22-12	Groundwater	Overburden	0.00087	0.0014	-	0.002	3.0
MW22-13-1 SS10	MW22-13	Groundwater	Overburden	0.0073	0.0081	-	0.006	1.0
MW22-13-1 SS5	MW22-13	Groundwater	Overburden	0.00033	0.012	-	0.007	1.0
MW22-13-1 SS6	MW22-13	Groundwater	Overburden	0.00087	0.0085	-	0.004	1.0
MW22-13-1 SS8	MW22-13	Groundwater	Overburden	0.0019	0.01	-	0.005	1.0
MW22-14-1 SS3	MW22-14	Groundwater	Overburden	0.00022	0.0034	-	< 0.002	1.0
MW22-14-1 SS5	MW22-14	Groundwater	Overburden	0.00073	0.0019	-	< 0.002	1.0
MW22-14-1 SS7	MW22-14	Groundwater	Overburden	0.00099	0.0017	-	< 0.002	1.0
MW22-14-1 SS8	MW22-14	Groundwater	Overburden	0.00087	0.0017	-	< 0.002	1.0
MW22-15-1 SS2	MW22-15	Groundwater	Overburden	0.00028	0.0019	-	< 0.002	0.64
MW22-15-1 SS4	MW22-15	Groundwater	Overburden	0.00056	0.002	-	< 0.002	0.76
MW22-15-1 SS5	MW22-15	Groundwater	Overburden	0.00051	0.0027	-	< 0.002	1.0
MW22-15-2 SS6	MW22-15	Groundwater	Overburden	0.0023	0.0026	-	< 0.002	0.76

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Uranium	Vanadium	Yttrium	Zinc	LOI Loss on Ignition at 550°C
Unit				mg/L	mg/L	mg/L	mg/L	%
Price Crustal Abundance								
PWQO Guideline				0.005	0.006	-	0.02	
CCME Guideline				0.015	-	-	0.0062586	
MW22-15-4 SS1	MW22-15	Groundwater	Overburden	0.0022	0.0011	-	< 0.002	48
MW22-15-4 SS2	MW22-15	Groundwater	Overburden	0.0038	0.0016	-	< 0.002	2.6
MW22-16-2 SA2	MW22-16	Groundwater	Overburden	0.00016	0.0016	-	< 0.002	1.1
MW22-16-2 SA4	MW22-16	Groundwater	Overburden	0.0062	0.0016	-	< 0.002	1.0
MW22-19-1-AS1	MW22-19	Groundwater	Overburden	0.0005	0.0029	0.00054	0.005	2.0
MW22-19-1-SA2B	MW22-19	Groundwater	Overburden	0.00028	0.0018	< 0.00002	< 0.002	1.0
MW22-19-1-SA3	MW22-19	Groundwater	Overburden	0.00014	0.0022	< 0.00002	< 0.002	1.0
MW22-19-1-SA4	MW22-19	Groundwater	Overburden	0.00027	0.0015	0.00005	0.009	1.0
MW22-19-1-SA5	MW22-19	Groundwater	Overburden	0.0003	0.0034	< 0.00002	0.006	1.0

Annex D - Static Analysis Results

Sample ID	Borehole ID	Sampling Program	Sample Type	Uranium	Vanadium	Yttrium	Zinc	LOI Loss on Ignition at 550°C
Unit				mg/L	mg/L	mg/L	mg/L	%
Price Crustal Abundance								
PWQO Guideline				0.005	0.006	-	0.02	
CCME Guideline				0.015	-	-	0.0062586	
MW22-20-1-3.8-4.0 m	MW22-20	Groundwater	Bedrock	0.00015	0.0035	0.00004	0.002	-
MW22-20-1-SA1	MW22-20	Groundwater	Overburden	0.00043	0.00066	0.00015	0.007	87
MW22-20-1-SA3	MW22-20	Groundwater	Overburden	0.0051	0.001	0.00005	0.003	4.0
MW23-15-1 SA1	MW23-15	Groundwater	Bedrock	0.00019	0.0072	0.00011	< 0.002	0.11
MW23-15-1 SA2	MW23-15	Groundwater	Bedrock	0.00014	0.0052	< 0.00002	< 0.002	0.13
MW23-15-1 SA3	MW23-15	Groundwater	Bedrock	0.00054	0.0042	0.00004	< 0.002	0.15
MW23-16-1 SA1	MW23-16	Groundwater	Bedrock	0.00012	0.0088	-	< 0.002	0.22
MW23-16-1 SA2	MW23-16	Groundwater	Bedrock	0.00077	0.0074	-	< 0.002	0.19
MW23-16-1 SA3	MW23-16	Groundwater	Bedrock	0.00024	0.0064	-	0.002	0.31
MW23-17-1 SA3	MW23-17	Groundwater	Overburden	0.00014	0.0022	-	< 0.002	0.93
MW23-17-1 SA4	MW23-17	Groundwater	Overburden	0.00032	0.0052	-	< 0.002	0.52
MW23-17-1 SA5	MW23-17	Groundwater	Overburden	0.00036	0.0045	-	< 0.002	0.65
MW23-17-1 SA7	MW23-17	Groundwater	Bedrock	0.0021	0.0054	-	< 0.002	0.16
MW23-17-1 SA8	MW23-17	Groundwater	Bedrock	0.0025	0.0024	-	< 0.002	< 0.1
MW23-17-1 SA9	MW23-17	Groundwater	Bedrock	0.0034	0.0012	-	< 0.002	0.13
MW23-18-1 SA1	MW23-18	Groundwater	Overburden	0.00044	0.002	0.00016	0.003	1.4
MW23-18-1 SA2	MW23-18	Groundwater	Overburden	0.00054	0.0023	0.00034	0.003	1.2
MW23-18-1 SA3	MW23-18	Groundwater	Bedrock	0.00021	0.02	0.00069	0.013	0.29
MW23-18-1 SA4	MW23-18	Groundwater	Bedrock	0.0015	0.043	0.0018	0.035	0.36
MW23-18-1 SA5	MW23-18	Groundwater	Bedrock	0.00047	0.035	0.00003	0.002	0.5
MW23-18-1 SA6	MW23-18	Groundwater	Bedrock	0.00057	0.048	0.0016	0.04	0.17

Annex E – Shake Flask Extraction Results

Annex E - Shake Flask Extraction Results

Sample ID	Sampling Prograr	Sample Type	Classificatio	pH	Conductivity	Alkalinity	Sulphate	Chloride	Fluoride	Nitrite (as N)	Nitrate (as N)	Mercury	Silver	Aluminum
Unit				No unit	uS/cm	mg/L as CaCO3	mg/L	mg/L	mg/L	as N mg/L	as N mg/L	mg/L	mg/L	mg/L
CCME Guideline				6.5 - 9.0	-	-	-	120	0.12	-	-	0.000026	0.00025	0.1
PWQO Guideline				6.5-8.5	-	-	-	-	-	-	-	0.0002	0.0001	0.075
Borehole MW22-01-1 Range				7.97 - 8.11	435 - 470	254 - 288	5.17 - 5.45	0.25 - 0.29	0.053 - 0.09	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.001 - 0.0024
MW22-01-1 SS8	Groundwater	Soil	NPAG	**7.6**	125	36	22	3.0	0.29	< 0.3	< 0.6	< 0.00001	< 0.00005	0.082
Borehole MW22-01-2 Range				7.98 - 8.12	417 - 458	244 - 265	3.51 - 6	0.37 - 1.98	0.021 - 0.073	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.0000054	0.00001 - 0.00001	0.001 - 0.0016
MW22-01-2 SS4	Groundwater	Soil	NPAG	**8.3**	222	99	**14**	< 2	**0.54**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.27**
MW22-01-2 SS6	Groundwater	Soil	NPAG	**7.5**	78	35	< 2	< 2	**0.15**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.16**
Borehole MW22-02-1 Range				7.98 - 8.3	436 - 506	251 - 296	0.47 - 0.96	0.68 - 1.38	0.181 - 0.253	0.02 - 0.023	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.001 - 0.0017
MW22-02-1 SS5	Groundwater	Soil	NPAG	8.4	146	71	< 2	< 2	0.65	< 0.3	< 0.6	< 0.00001	< 0.00005	0.044
MW22-02-1 SS6	Groundwater	Soil	NPAG	**7.8**	148	46	23	< 2	0.4	< 0.3	< 0.6	< 0.00001	< 0.00005	0.041
MW22-02-1 SS7	Groundwater	Soil	NPAG	**7.7**	130	40	21	< 2	0.31	< 0.3	< 0.6	< 0.00001	< 0.00005	0.096
MW22-02-1 SS8	Groundwater	Soil	NPAG	**7.8**	151	51	19	< 2	0.35	< 0.3	< 0.6	< 0.00001	< 0.00005	0.059
Borehole MW22-03-1 Range				7.68 - 8.07	485 - 635	292 - 359	1.88 - 2.39	0.26 - 0.39	0.028 - 0.094	0.02 - 0.04	0.01 - 0.02	0.000005 - 0.000005	0.00001 - 0.00001	0.001 - 0.0042
MW22-03-1 SS3	Groundwater	Soil	NPAG	**8.5**	165	80	**3.1**	< 2	**0.87**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.54**
MW22-03-1 SS4	Groundwater	Soil	NPAG	**8.6**	170	83	**3.0**	< 2	**0.81**	< 0.3	< 0.6	< 0.00001	< 0.00005	**1.2**
MW22-03-1 SS5	Groundwater	Soil	NPAG	**8.4**	210	94	**11**	< 2	**0.54**	< 0.3	< 0.6	< 0.00001	< 0.00005	**1.9**
MW22-03-1 SS6	Groundwater	Soil	NPAG	**8.3**	159	61	**18**	< 2	**0.31**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.12**
Borehole MW22-04-1 Range				7.95 - 8.06	428 - 455	248 - 289	2.18 - 3.47	0.28 - 0.6	0.02 - 0.049	0.274 - 0.702	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.001 - 0.158
MW22-04-1 SS6	Groundwater	Soil	NPAG	**8.5**	163	80	< 2	**2.7**	**0.42**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.24**
MW22-04-1 SS7	Groundwater	Soil	NPAG	**8.2**	110	62	2.2	**2.3**	**0.29**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.24**
MW22-04-1 SS8	Groundwater	Soil	NPAG	**8.1**	113	55	2.2	< 2	**0.29**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.32**
MW22-04-1 SS10	Groundwater	Soil	NPAG	**8.4**	94	48	< 2	< 2	**0.22**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.2**
Borehole MW22-05-1 Range				7.97 - 8.37	390 - 459	237 - 260	2.82 - 5.75	0.38 - 1.61	0.032 - 0.048	0.02 - 0.256	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0016 - 0.0022
MW22-05 SA-1	Groundwater	Soil	NPAG	**7.9**	103	48	< 2	1.0	**0.23**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.053**
MW22-05 SA-2	Groundwater	Soil	NPAG	**7.8**	100	47	< 2	< 1	**0.29**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.042**
MW22-05 SA-4	Groundwater	Soil	NPAG	**7.8**	86	36	< 2	**2.0**	**0.26**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.059**
MW22-05 SA-6	Groundwater	Soil	NPAG	8.3	147	61	**20**	**2.0**	**0.28**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.23**
MW22-05 SA-7	Groundwater	Soil	NPAG	8.3	134	46	**17**	1.0	**0.28**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.1**
Borehole MW22-06-1 Range				8.07 - 8.23	351 - 382	198 - 221	1.41 - 1.73	0.3 - 0.44	0.02 - 0.034	0.027 - 0.039	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.001 - 0.0018
MW22-06 SA-1	Groundwater	Soil	NPAG	8.1	267	133	< 2	**1.0**	**0.11**	< 0.03	< 0.06	**0.00002**	< 0.00005	**0.071**
MW22-06 SA-4	Groundwater	Soil	NPAG	**7.8**	87	35	< 2	**6.0**	**0.17**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.37**
MW22-06 SA-7	Groundwater	Soil	NPAG	**7.7**	75	33	< 2	**3.0**	**0.14**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.41**
MW22-06 SA-8	Groundwater	Soil	NPAG	**7.7**	72	30	< 2	**2.0**	**0.14**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.37**
MW22-06 SA-9	Groundwater	Soil	NPAG	**7.8**	73	34	< 2	**2.0**	**0.14**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.35**
Borehole MW22-07-1 Range				8.08 - 8.34	481 - 486	268 - 312	0.3 - 0.3	4.86 - 7.57	0.134 - 0.171	0.02 - 0.052	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0053 - 0.0104
MW22-07 SA-1	Groundwater	Soil	NPAG	**7.9**	291	146	< 2	2.0	0.08	< 0.03	< 0.06	**0.00001**	< 0.00005	**0.093**
MW22-07 SA-2	Groundwater	Soil	NPAG	**7.8**	85	36	< 2	4.0	**0.25**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.092**
MW22-07 SA-4	Groundwater	Soil	NPAG	**7.8**	73	32	< 2	3.0	**0.19**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.17**
MW22-07 SA-6	Groundwater	Soil	NPAG	**8.2**	125	53	**2.0**	5.0	**0.31**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.19**
MW22-07 SA-8	Groundwater	Soil	NPAG	**8.8**	219	75	**29**	4.0	**0.56**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.12**
Borehole MW22-08-1 Range				8.14 - 8.36	489 - 517	293 - 317	0.3 - 0.56	0.26 - 0.7	0.262 - 0.414	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0014 - 0.0171
MW22-08 SA-2	Groundwater	Organic	NPAG	**8.5**	373	202	< 20	**2.0**	0.26	< 0.03	**0.06**	< 0.00001	< 0.00005	**0.22**
MW22-08 SA-3	Groundwater	Soil	NPAG	**9.0**	171	86	< 2	< 1	**0.48**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.17**
MW22-08 SA-4	Groundwater	Soil	NPAG	**8.8**	214	99	**4.0**	< 1	**1.2**	< 0.03	**0.06**	< 0.00001	< 0.00005	**0.14**
MW22-08 SA-6	Groundwater	Soil	NPAG	**8.6**	245	97	**27**	< 1	**0.8**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.25**
MW22-08 SA-8	Groundwater	Soil	NPAG	**8.4**	246	96	**23**	**1.0**	**0.59**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.13**
Borehole MW22-09-1 Range				7.8 - 8.16	605 - 660	354 - 393	0.3 - 0.6	5.82 - 6.86	0.23 - 0.288	0.02 - 0.04	0.01 - 0.02	0.000005 - 0.000005	0.00001 - 0.00001	0.0012 - 0.003
MW22-09 SA-1	Groundwater	Organic	NPAG	**8.6**	473	243	**3.0**	4.0	**0.42**	<0.3	<0.6	< 0.00001	< 0.00005	**0.073**
MW22-09 SA-4	Groundwater	Organic	NPAG	8.1	236	112	**3.0**	< 1	**1.0**	<0.3	<0.6	< 0.00001	< 0.00005	**0.049**
MW22-09 SA-5	Groundwater	Soil	NPAG	8.1	179	78	**5.0**	1.0	**1.2**	<0.3	<0.6	< 0.00001	< 0.00005	**0.035**
MW22-09 SA-6	Groundwater	Soil	NPAG	8.1	210	82	**17**	3.0	**0.74**	<0.3	<0.6	< 0.00001	< 0.00005	**0.027**
MW22-09 SA-7	Groundwater	Soil	NPAG	**8.2**	246	65	**25**	**9.0**	**0.65**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.059**
Borehole MW22-10-1 Range				7.62 - 8.02	567 - 617	362 - 400	0.95 - 2.55	0.31 - 0.64	0.02 - 0.085	0.02 - 0.04	0.01 - 0.02	0.000005 - 0.000005	0.00001 - 0.0001	0.0014 - 0.0239
MW22-10 SA-2	Groundwater	Organic	NPAG	**8.7**	355	186	< 2	< 1	**0.63**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.075**
MW22-10 SA-3	Groundwater	Soil	NPAG	**8.3**	244	118	< 2	< 1	**0.88**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.16**
MW22-10 SA-4	Groundwater	Soil	NPAG	**8.6**	190	90	**4.0**	< 1	**0.53**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.21**
MW22-10 SA-5	Groundwater	Soil	NPAG	**8.8**	128	58	**4.0**	**1.0**	**0.45**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.25**
MW22-10 SA-6	Groundwater	Soil	NPAG	**8.2**	133	50	**11**	**3.0**	**0.34**	< 0.03	< 0.06	< 0.00001	< 0.00005	**0.083**

Annex E - Shake Flask Extraction Results

Sample ID	Sampling Prograr	Sample Type	Classificatio	pH	Conductivity	Alkalinity	Sulphate	Chloride	Fluoride	Nitrite (as N)	Nitrate (as N)	Mercury	Silver	Aluminum
Unit				No unit	uS/cm	mg/L as CaCO3	mg/L	mg/L	mg/L	as N mg/L	as N mg/L	mg/L	mg/L	mg/L
CCME Guideline				6.5 - 9.0	-	-	-	120	0.12	-	-	0.000026	0.00025	0.1
PWQO Guideline				6.5-8.5	-	-	-	-	-	-	-	0.0002	0.0001	0.075
Borehole MW22-11-1 Range				7.99 - 8.23	329 - 342	198 - 217	0.3 - 0.52	0.1 - 0.37	0.02 - 0.026	0.02 - 0.664	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00002	0.1 - 0.105
MW22-11-1 SS5	Groundwater	Soil	NPAG	8.0	178	70	**22**	**3.0**	**0.2**	**1.2**	< 0.6	< 0.00001	< 0.00005	**0.44**
MW22-11-1 SS3	Groundwater	Organic	NPAG	---	---	---	---	---	---	---	---	---	---	---
MW22-11-1 SS4	Groundwater	Soil	NPAG	**8.3**	264	136	**22**	< 1	**0.22**	0.55	< 0.6	< 0.00001	< 0.00005	**0.26**
Borehole MW22-12-1 Range				8.09 - 8.32	507 - 523	297 - 324	0.3 - 0.3	0.96 - 1.16	0.036 - 0.082	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0022 - 0.0109
MW22-12-1 SS4	Groundwater	Soil	NPAG	**9.0**	191	103	**2.8**	< 2	**0.53**	< 0.3	< 0.6	< 0.00001	< 0.00005	**1.5**
MW22-12-1 SS6	Groundwater	Soil	NPAG	**8.4**	268	125	**18**	< 2	**0.35**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.15**
MW22-12-1 SS11	Groundwater	Soil	NPAG	**8.7**	160	67	**17**	< 2	**0.37**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.38**
MW22-12-1 SS12	Groundwater	Soil	NPAG	**8.5**	212	84	**26**	< 2	**0.49**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.2**
Borehole MW22-13-1 Range				7.97 - 8.3	461 - 485	268 - 284	6.38 - 7.61	0.24 - 0.58	0.092 - 0.125	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0013 - 0.0043
MW22-13-1 SS5	Groundwater	Soil	NPAG	**8.7**	115	56	4.2	< 2	**0.2**	**0.41**	< 0.6	< 0.00001	< 0.00005	**2.3**
MW22-13-1 SS6	Groundwater	Soil	NPAG	**8.9**	152	77	5.6	< 2	**0.27**	< 0.3	< 0.6	< 0.00001	< 0.00005	**1.5**
MW22-13-1 SS8	Groundwater	Soil	NPAG	**8.8**	138	64	7.6	< 2	**0.29**	< 0.3	< 0.6	< 0.00001	< 0.00005	**1.5**
MW22-13-1 SS10	Groundwater	Soil	NPAG	**9.1**	115	54	**9.4**	< 2	**0.2**	< 0.3	< 0.6	< 0.00001	< 0.00005	**1.3**
Max	MW22-14-1Max			7.9	504	299	6.6	0.93	0.11	0.02	0.01	0.000005	0.00001	0.016
Borehole MW22-14-1 Range				7.85 - 7.91	471 - 504	290 - 299	6.35 - 6.63	0.68 - 0.93	0.082 - 0.111	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0018 - 0.0164
MW22-14-1 SS3	Groundwater	Soil	NPAG	**8.6**	94	47	< 2	< 2	**0.33**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.42**
MW22-14-1 SS5	Groundwater	Soil	NPAG	**9.0**	112	57	< 2	< 2	**0.5**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.27**
MW22-14-1 SS7	Groundwater	Soil	NPAG	**9.0**	118	58	< 2	< 2	**0.54**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.28**
MW22-14-1 SS8	Groundwater	Soil	NPAG	**8.8**	111	57	< 2	< 2	**0.51**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.38**
Borehole MW22-15-1 Range				8.07 - 8.17	409 - 454	247 - 270	3.68 - 3.85	0.71 - 0.72	0.076 - 0.086	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0027 - 0.004
MW22-15-1 SA1	Groundwater	Bedrock	NPAG	**9.8**	55	24	< 2	< 1	**0.09**	< 0.3	< 0.6	**0.00004**	< 0.00005	**1.0**
MW22-15-1 SA2	Groundwater	Bedrock	NPAG	**9.2**	50	23	< 2	< 1	< 0.06	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.82**
MW22-15-1 SA3	Groundwater	Bedrock	NPAG	**9.3**	50	21	2.0	< 1	< 0.06	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.71**
Borehole MW22-15-3 Range				8.29 - 8.31	545 - 583	308 - 334	13 - 17	2.73 - 2.95	0.052 - 0.067	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0017 - 0.0108
MW22-15-1 SS2*	Groundwater	Soil	NPAG	**8.0**	92	45	< 2	< 2	**0.19**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.16**
MW22-15-1 SS4*	Groundwater	Soil	NPAG	**8.0**	99	47	< 2	< 2	**0.28**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.098**
MW22-15-1 SS5*	Groundwater	Soil	NPAG	**8.0**	106	60	< 2	< 2	**0.36**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.088**
MW22-15-2 SS6*	Groundwater	Soil	NPAG	**7.9**	94	39	4.9	< 2	**0.29**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.084**
MW22-15-4 SS1*	Groundwater	Organic	NPAG	**8.7**	505	273	10	< 2	**0.49**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.097**
MW22-15-4 SS2*	Groundwater	Soil	NPAG	**8.2**	216	98	8.8	< 2	**0.35**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.075**
Borehole MW22-16-1 Range				7.84 - 8.1	213 - 270	117 - 148	2.68 - 3.93	0.24 - 0.51	0.02 - 0.02	0.02 - 0.027	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0044 - 0.0053
MW22-16-1 SA1	Groundwater	Bedrock	NPAG	**9.5**	52	25	< 2	< 1	**0.12**	< 0.3	< 0.6	< 0.00001	**0.00014**	**0.38**
MW22-16-1 SA2	Groundwater	Bedrock	NPAG	**9.5**	57	22	3.0	**3.0**	< 0.06	< 0.3	< 0.6	< 0.00001	**0.00074**	**0.84**
MW22-16-1 SA3	Groundwater	Bedrock	PAG	**9.5**	71	26	**4.0**	**1.0**	**0.14**	< 0.3	< 0.6	< 0.00001	**0.00064**	**0.48**
Borehole MW22-16-2 Range				7.87 - 8.26	324 - 455	175 - 274	3.32 - 4.73	0.59 - 1.44	0.02 - 0.036	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0052 - 0.0069
MW22-16-02 SA2	Groundwater	Soil	NPAG	7.9	108	59	< 2	< 2	**0.18**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.11**
MW22-16-02 SA4	Groundwater	Soil	NPAG	7.7	95	42	4.4	< 2	**0.25**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.21**
Borehole MW22-17-1 Range				7.91 - 8.23	359 - 373	214 - 246	0.3 - 0.63	0.12 - 0.19	0.02 - 0.021	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00002	0.0051 - 0.0099
MW22-17-1 SA7	Groundwater	Bedrock	NPAG	**9.4**	72	27	**4.0**	**2.0**	**0.09**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.56**
MW22-17-1 SA8	Groundwater	Bedrock	NPAG	**9.5**	49	21	< 2	< 1	< 0.06	< 0.3	< 0.6	< 0.00001	**0.00048**	**0.78**
MW22-17-1 SA9	Groundwater	Bedrock	NPAG	**9.5**	47	20	< 2	< 1	< 0.06	< 0.3	< 0.6	< 0.00001	**0.00057**	**0.72**
Borehole MW22-17-2 Range				8.07 - 8.37	379 - 409	230 - 245	0.3 - 1.38	1.42 - 2.82	0.02 - 0.042	0.02 - 0.02	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.005 - 0.0085
MW23-17-1 SA3*	Groundwater	Soil	NPAG	**8.6**	84	40	< 2	< 1	**0.09**	< 0.3	< 0.6	< 0.00001	**0.00093**	**0.23**
MW23-17-1 SA4*	Groundwater	Soil	NPAG	**8.9**	78	38	< 2	< 1	**0.09**	< 0.3	< 0.6	< 0.00001	**0.00026**	**0.23**
MW23-17-1 SA5*	Groundwater	Soil	NPAG	**9.0**	83	41	< 2	< 1	**0.11**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.42**
Borehole MW22-18-1 Range				7.99 - 8.12	207 - 220	115 - 117	1.33 - 2.34	0.32 - 0.74	0.076 - 0.091	0.02 - 0.024	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00002	0.0091 - 0.0468
MW22-18-1 SA1**	Groundwater	Soil	NPAG	**8.3**	110	54	< 2	**1.0**	**0.35**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.23**
MW22-18-1 SA2**	Groundwater	Soil	NPAG	**8.3**	49	26	< 2	< 1	**0.18**	< 0.3	< 0.6	**0.00004**	< 0.00005	**0.43**
MW22-18-1 SA3	Groundwater	Bedrock	NPAG	**9.0**	66	25	**6.0**	**3.0**	**0.22**	< 0.3	< 0.6	< 0.00001	< 0.00005	**2.0**
MW22-18-1 SA4	Groundwater	Bedrock	NPAG	**9.4**	72	57	**6.0**	**9.0**	**0.18**	< 0.3	< 0.6	< 0.00001	**0.00022**	**5.1**
MW22-18-1 SA5	Groundwater	Bedrock	NPAG	**9.4**	61	25	**3.0**	< 1	**0.19**	< 0.3	< 0.6	< 0.00001	< 0.00005	**0.35**
MW22-18-1 SA6	Groundwater	Bedrock	NPAG	**9.3**	73	26	**12**	**11**	**0.15**	< 0.3	< 0.6	< 0.00001	**0.00006**	**6.5**
Borehole MW22-19-1 Range				7.94 - 8.11	498 - 517	292 - 334	4.69 - 14	0.21 - 0.75	0.02 - 0.031	0.068 - 0.21	0.01 - 0.01	0.000005 - 0.000005	0.00001 - 0.00001	0.0018 - 0.182
MW22-19-01-AS1	Groundwater	Soil	NPAG	**8.5**	250	101	< 2	**4.0**	**0.44**	< 0.3	< 0.6	#N/A	< 0.00005	**0.24**
MW22-19-01-SA2B	Groundwater	Soil	NPAG	**9.1**	101	44	< 2	**6.0**	**0.17**	< 0.3	< 0.6	#N/A	< 0.00005	**0.2**
MW22-19-01-SA3	Groundwater	Soil	NPAG	**9.3**	91	38	< 2	**6.0**	**0.21**	< 0.3	< 0.6	#N/A	< 0.00005	**0.22**
MW22-19-01-SA4	Groundwater	Soil	NPAG	**9.1**	95	48	< 2	**2.0**	**0.23**	< 0.3	< 0.6	#N/A	< 0.00005	0.14
MW22-19-01-SA5	Groundwater	Soil	NPAG	**9.2**	78	38	< 2	< 1	**0.13**	< 0.3	< 0.6	#N/A	< 0.00005	**0.33**
Borehole MW22-20-1 Range				7.9 - 8.15	592 - 655	326 - 357	10.4 - 15.8	4.04 - 5.02	0.115 - 0.15	0.02 - 0.04	0.01 - 0.02	0.000005 - 0.000005	0.00001 - 0.00001	0.0014 - 0.0141
MW22-20-01-3.8-4.0 m	Groundwater	Bedrock	NPAG	**9.1**	111	11	**25**	**13**	**0.2**	< 0.3	< 0.6	#N/A	< 0.00005	**0.32**
Borehole MW22-20-2 Range				7.59 - 8.13	521 - 627	314 - 375	0.3 - 0.3	0.1 - 1.05	0.02 - 0.035	0.02 - 0.16	0.01 - 0.01	0.000005 - 0.00005	0.00001 - 0.00001	0.0064 - 0.0161
MW22-20-01-SA1*	Groundwater	Organic	PAG	**6.0**	111	35	< 20	**6.0**	< 0.06	< 0.3	< 0.6	#N/A	**0.00034**	**0.12**
MW22-20-01-SA3*	Groundwater	Soil	NPAG	8.0	239	107	**18**	< 1	**0.43**	< 0.3	< 0.6	#N/A	< 0.00005	**0.059**

Bolded values indicate that they are out of the associated monitoring well range

Grey shaded values indicate that they greater than five times the associated monitoring well range

*Overburden samples were compared to different borehole number to sample location, as the associated borehole was installed in bedrock.

**Overburden samples were compared to groundwater borehole monitoring range, as there was no monitoring well installed in overburden at this location.

Annex E - Shake Flask Extraction Results

Sample ID	Sampling Prograr	Sample Type	Classificatio	Arsenic	Barium	Boron	Beryllium	Bismuth	Calcium	Cadmium	Cobalt	Chromium	Copper
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
CCME Guideline				0.005	-	1.5	-	-	-	0.00032	-	0.001	0.004
PWQO Guideline				0.005	-	0.2	0.011	-	-	0.0001	0.0009	-	0.001
Borehole MW22-01-1 Range				0.00025 - 0.0003	0.0202 - 0.0258	0.01 - 0.016	0.00002 - 0.00002	0.00005 - 0.00005	70.5 - 73	0.000005 - 0.000005	0.0001 - 0.00025	0.0005 - 0.0005	0.0002 - 0.0002
MW22-01-1 SS8	Groundwater	Soil	NPAG	0.0028	0.012	0.019	< 0.000007	< 0.00001	17	0.000005	0.000032	0.00027	0.0015
Borehole MW22-01-2 Range				0.00019 - 0.00056	0.0179 - 0.028	0.01 - 0.022	0.00002 - 0.00002	0.00005 - 0.00005	61.4 - 70.3	0.000005 - 0.000005	0.00018 - 0.00063	0.0005 - 0.0005	0.0002 - 0.00063
MW22-01-2 SS4	Groundwater	Soil	NPAG	**0.0034**	0.018	**0.032**	0.000014	< 0.00001	31	**0.000024**	0.00023	**0.00089**	**0.0051**
MW22-01-2 SS6	Groundwater	Soil	NPAG	**0.0023**	0.0026	0.016	< 0.000007	< 0.00001	10	< 0.000003	0.000018	0.00022	**0.0008**
Borehole MW22-02-1 Range				0.00015 - 0.00051	0.0374 - 0.0459	0.015 - 0.022	0.00002 - 0.00002	0.00005 - 0.00005	64 - 68.1	0.000005 - 0.0000178	0.0001 - 0.00018	0.0005 - 0.0005	0.0002 - 0.00042
MW22-02-1 SS5	Groundwater	Soil	NPAG	0.0012	0.0042	0.011	< 0.000007	< 0.00001	14	0.000004	0.000029	0.0031	0.001
MW22-02-1 SS6	Groundwater	Soil	NPAG	0.0012	0.017	0.017	< 0.000007	< 0.00001	21	< 0.000003	0.000043	0.00026	0.002
MW22-02-1 SS7	Groundwater	Soil	NPAG	0.0022	0.015	0.015	< 0.000007	< 0.00001	18	0.000005	0.000053	0.00037	0.0019
MW22-02-1 SS8	Groundwater	Soil	NPAG	0.0022	0.019	0.013	< 0.000007	< 0.00001	20	0.000005	0.000051	0.00032	0.0025
Borehole MW22-03-1 Range				0.00184 - 0.00211	0.0471 - 0.0563	0.012 - 0.015	0.00002 - 0.00002	0.00005 - 0.00005	84.4 - 102	0.000005 - 0.000005	0.00013 - 0.00018	0.0005 - 0.0005	0.0002 - 0.00275
MW22-03-1 SS3	Groundwater	Soil	NPAG	0.001	0.014	**0.022**	0.000019	0.00002	28	**0.000009**	**0.00035**	**0.0026**	**0.0066**
MW22-03-1 SS4	Groundwater	Soil	NPAG	0.0009	0.02	**0.028**	**0.000043**	0.00002	36	**0.000012**	**0.00074**	**0.0029**	**0.0089**
MW22-03-1 SS5	Groundwater	Soil	NPAG	0.0014	0.027	**0.19**	**0.000088**	0.00003	20	**0.000008**	**0.0013**	**0.0064**	**0.011**
MW22-03-1 SS6	Groundwater	Soil	NPAG	**0.0032**	0.012	0.014	< 0.000007	< 0.00001	19	**0.000006**	0.000086	0.00035	**0.004**
Borehole MW22-04-1 Range				0.0001 - 0.00034	0.0148 - 0.0176	0.01 - 0.01	0.00002 - 0.00002	0.00005 - 0.00005	67.6 - 80.7	0.000005 - 0.0000162	0.0001 - 0.0006	.00116 - 0.00165	0.00027 - 0.00132
MW22-04-1 SS6	Groundwater	Soil	NPAG	**0.0013**	0.0036	**0.014**	0.000009	< 0.00001	14	0.000005	0.0001	0.0009	**0.0025**
MW22-04-1 SS7	Groundwater	Soil	NPAG	**0.0017**	0.0034	0.01	0.000007	< 0.00001	11	0.000003	0.000096	0.00097	**0.0015**
MW22-04-1 SS8	Groundwater	Soil	NPAG	**0.0012**	0.005	**0.013**	< 0.000007	< 0.00001	12	0.000008	0.00011	0.0013	**0.0018**
MW22-04-1 SS10	Groundwater	Soil	NPAG	**0.0019**	0.0035	0.01	< 0.000007	< 0.00001	11	< 0.000003	0.00012	0.00082	**0.0018**
Borehole MW22-05-1 Range				0.0001 - 0.0044	0.0132 - 0.0179	0.01 - 0.01	0.00002 - 0.00002	0.00005 - 0.00005	69 - 74.8	0.000005 - 0.0000065	0.0001 - 0.00048	0.0005 - 0.00093	0.0002 - 0.00094
MW22-05 SA-1	Groundwater	Soil	NPAG	0.0008	0.0034	**0.014**	**0.000045**	< 0.00001	16	**0.000031**	0.000065	**0.0033**	**0.0022**
MW22-05 SA-2	Groundwater	Soil	NPAG	0.0007	0.0038	**0.014**	0.000019	< 0.00001	15	**0.000042**	0.000043	**0.0037**	**0.0016**
MW22-05 SA-4	Groundwater	Soil	NPAG	0.0011	0.0041	**0.017**	**0.000029**	< 0.00001	13	**0.000065**	0.000048	**0.0015**	**0.0014**
MW22-05 SA-6	Groundwater	Soil	NPAG	0.0024	0.0086	**0.085**	0.000016	< 0.00001	18	**0.000095**	0.00014	**0.0019**	**0.0038**
MW22-05 SA-7	Groundwater	Soil	NPAG	0.0024	0.0057	**0.084**	**0.000043**	< 0.00001	15	**0.00012**	0.00011	**0.0014**	**0.003**
Borehole MW22-06-1 Range				0.00017 - 0.00022	0.0106 - 0.0126	0.01 - 0.01	0.00002 - 0.00002	0.00005 - 0.00005	57.5 - 66	0.000005 - 0.0000192	0.0001 - 0.0001	0.0005 - 0.0005	0.00022 - 0.00067
MW22-06 SA-1	Groundwater	Soil	NPAG	**0.0016**	0.0063	**0.011**	0.000019	< 0.00001	52	**0.000034**	**0.00028**	**0.00056**	**0.0056**
MW22-06 SA-4	Groundwater	Soil	NPAG	**0.0023**	0.0023	**0.026**	0.000011	< 0.00001	11	**0.000087**	0.000034	**0.00075**	**0.0015**
MW22-06 SA-7	Groundwater	Soil	NPAG	**0.0024**	0.0047	**0.018**	**0.000032**	< 0.00001	10	**0.00004**	0.000026	**0.00086**	**0.002**
MW22-06 SA-8	Groundwater	Soil	NPAG	**0.0023**	0.0022	**0.059**	**0.000037**	< 0.00001	9.9	**0.000096**	0.000035	**0.0016**	**0.0008**
MW22-06 SA-9	Groundwater	Soil	NPAG	**0.002**	0.0025	**0.024**	**0.000034**	< 0.00001	10	**0.000028**	0.000021	**0.0023**	**0.0011**
Borehole MW22-07-1 Range				0.00359 - 0.0036	0.0309 - 0.0351	0.091 - 0.104	0.00002 - 0.00002	0.00005 - 0.00005	53.3 - 54.9	0.000005 - 0.0000214	0.00082 - 0.00082	0.0005 - 0.0005	0.00052 - 0.00121
MW22-07 SA-1	Groundwater	Soil	NPAG	0.0027	0.016	0.038	**0.000071**	< 0.00001	**56**	**0.000066**	0.00076	**0.0012**	**0.0046**
MW22-07 SA-2	Groundwater	Soil	NPAG	0.0014	0.0024	0.008	0.000014	< 0.00001	13	**0.00003**	0.000069	**0.00054**	**0.0022**
MW22-07 SA-4	Groundwater	Soil	NPAG	0.0026	0.002	0.015	0.000012	< 0.00001	11	**0.000099**	0.000067	**0.00088**	0.001
MW22-07 SA-6	Groundwater	Soil	NPAG	0.0015	0.0035	0.058	**0.000037**	< 0.00001	11	**0.000095**	0.000092	**0.0022**	**0.0013**
MW22-07 SA-8	Groundwater	Soil	NPAG	0.0026	0.019	**0.17**	**0.000029**	< 0.00001	23	**0.000022**	0.00012	**0.0012**	**0.0043**
Borehole MW22-08-1 Range				0.0055 - 0.0139	0.0374 - 0.055	0.079 - 0.111	0.00002 - 0.00002	0.00005 - 0.00005	53.8 - 61.5	0.000005 - 0.000005	0.00026 - 0.00037	0.0005 - 0.0005	0.0002 - 0.00058
MW22-08 SA-2	Groundwater	Organic	NPAG	0.0017	0.026	**0.45**	**0.000044**	< 0.00001	60	**0.000039**	0.00018	**0.0017**	**0.008**
MW22-08 SA-3	Groundwater	Soil	NPAG	0.0017	0.0066	**0.29**	**0.000029**	< 0.00001	24	**0.000084**	0.0001	**0.003**	**0.0028**
MW22-08 SA-4	Groundwater	Soil	NPAG	0.0064	0.015	**0.33**	0.00001	< 0.00001	24	**0.000067**	0.00012	**0.0016**	**0.0061**
MW22-08 SA-6	Groundwater	Soil	NPAG	0.0031	0.026	**0.18**	**0.00004**	< 0.00001	27	**0.00012**	0.00021	**0.0019**	**0.0061**
MW22-08 SA-8	Groundwater	Soil	NPAG	0.0028	0.03	**0.17**	**0.000042**	< 0.00001	23	**0.000062**	0.00018	**0.0014**	**0.0058**
Borehole MW22-09-1 Range				0.00632 - 0.0249	0.0688 - 0.0923	0.063 - 0.074	0.00002 - 0.00002	0.00005 - 0.00005	70.7 - 78.9	0.000005 - 0.0000051	0.0001 - 0.00033	0.0005 - 0.0005	0.0002 - 0.00045
MW22-09 SA-1	Groundwater	Organic	NPAG	0.0065	0.026	**0.78**	**0.000034**	< 0.00001	45	**0.000084**	0.00022	**0.0033**	**0.0025**
MW22-09 SA-4	Groundwater	Organic	NPAG	0.0017	0.039	0.037	**0.000035**	< 0.00001	37	**0.000092**	0.00013	**0.00057**	**0.0036**
MW22-09 SA-5	Groundwater	Soil	NPAG	0.0014	0.029	0.034	**0.000027**	< 0.00001	23	**0.000068**	0.000076	0.00044	**0.0033**
MW22-09 SA-6	Groundwater	Soil	NPAG	0.0018	0.03	0.036	**0.000021**	< 0.00001	27	**0.000033**	0.00013	**0.00057**	**0.0039**
MW22-09 SA-7	Groundwater	Soil	NPAG	0.0017	0.015	**0.51**	**0.00006**	0.00003	24	**0.00002**	**0.00039**	**0.0026**	**0.0044**
Borehole MW22-10-1 Range				0.00251 - 0.00553	0.0403 - 0.0718	0.012 - 0.02	0.00002 - 0.00002	0.00005 - 0.00005	92.9 - 105	0.0000051 - 0.0000101	0.00036 - 0.00046	0.0005 - 0.0005	0.0002 - 0.00109
MW22-10 SA-2	Groundwater	Organic	NPAG	0.0013	0.019	**0.25**	0.00001	< 0.00001	49	**0.000041**	0.00017	**0.0016**	**0.0026**
MW22-10 SA-3	Groundwater	Soil	NPAG	0.0017	0.018	**0.24**	**0.000033**	< 0.00001	34	**0.00011**	0.00014	**0.0019**	**0.0042**
MW22-10 SA-4	Groundwater	Soil	NPAG	0.0026	0.0084	**0.27**	**0.000041**	< 0.00001	24	**0.000069**	0.00012	**0.003**	**0.0041**
MW22-10 SA-5	Groundwater	Soil	NPAG	0.0015	0.010	**0.12**	0.000015	< 0.00001	15	**0.000086**	0.0002	**0.0017**	**0.0049**
MW22-10 SA-6	Groundwater	Soil	NPAG	0.0017	0.0095	**0.073**	**0.000037**	< 0.00001	17	**0.0001**	0.00012	**0.0017**	**0.0029**

Annex E - Shake Flask Extraction Results

Sample ID	Sampling Prograr	Sample Type	Classificatio	Arsenic	Barium	Boron	Beryllium	Bismuth	Calcium	Cadmium	Cobalt	Chromium	Copper
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
CCME Guideline				0.005	-	1.5	-	-	-	0.00032	-	0.001	0.004
PWQO Guideline				0.005	-	0.2	0.011	-	-	0.0001	0.0009	-	0.001
Borehole MW22-11-1 Range				0.00119 - 0.00138	0.0116 - 0.0154	0.01 - 0.02	0.000026 - 0.00004	0.00005 - 0.0001	59.2 - 64.4	0.000005 - 0.00001	0.00017 - 0.00059	0.00053 - 0.001	0.00031 - 0.0005
MW22-11-1 SS5	Groundwater	Soil	NPAG	**0.0089**	0.0087	**0.14**	0.000026	0.00001	20	**0.000022**	**0.00066**	**0.0013**	**0.0059**
MW22-11-1 SS3	Groundwater	Organic	NPAG	---	---	---	---	---	---	---	---	---	---
MW22-11-1 SS4	Groundwater	Soil	NPAG	**0.0068**	0.012	**0.15**	**0.00006**	< 0.00001	36	**0.00022**	0.00013	**0.0013**	**0.0029**
Borehole MW22-12-1 Range				0.00048 - 0.00117	0.0322 - 0.0349	0.011 - 0.012	0.00002 - 0.00002	0.00005 - 0.00005	79.8 - 86.1	0.000005 - 0.0000287	0.0001 - 0.00039	0.0005 - 0.00095	0.0002 - 0.00167
MW22-12-1 SS4	Groundwater	Soil	NPAG	**0.014**	0.016	**0.52**	**0.000045**	< 0.00001	16	0.000008	**0.00057**	**0.0033**	**0.0035**
MW22-12-1 SS6	Groundwater	Soil	NPAG	0.0007	0.027	**0.16**	0.00001	< 0.00001	40	0.000004	0.000096	0.00063	**0.0018**
MW22-12-1 SS11	Groundwater	Soil	NPAG	**0.0021**	0.012	**0.22**	0.000012	< 0.00001	21	0.000003	0.00015	0.00078	**0.0021**
MW22-12-1 SS12	Groundwater	Soil	NPAG	**0.0017**	0.019	**0.27**	0.000009	< 0.00001	23	< 0.000003	0.000087	0.00087	**0.003**
Borehole MW22-13-1 Range				0.00154 - 0.00206	0.023 - 0.0362	0.01 - 0.013	0.00002 - 0.00002	0.00005 - 0.00005	69.8 - 76	0.000005 - 0.000005	0.0001 - 0.0001	0.0005 - 0.0005	0.0002 - 0.00032
MW22-13-1 SS5	Groundwater	Soil	NPAG	**0.0043**	0.019	**0.16**	**0.000098**	0.00002	15	**0.000017**	**0.0015**	**0.0056**	**0.016**
MW22-13-1 SS6	Groundwater	Soil	NPAG	**0.004**	0.016	**0.27**	**0.000048**	0.00001	19	< 0.000003	**0.00069**	**0.0039**	**0.0078**
MW22-13-1 SS8	Groundwater	Soil	NPAG	**0.0056**	0.016	**0.27**	**0.000052**	0.00002	16	**0.000015**	**0.00074**	**0.0035**	**0.0061**
MW22-13-1 SS10	Groundwater	Soil	NPAG	**0.0044**	0.013	**0.1**	**0.000057**	0.00001	14	**0.000013**	**0.00075**	**0.0035**	**0.0055**
Max	MW22-14-1Max			0.00022	0.026	0.01	0.00002	0.00005	81	0.000012	0.00036	0.0005	0.0003
Borehole MW22-14-1 Range				0.0002 - 0.00022	0.0256 - 0.0264	0.01 - 0.01	0.00002 - 0.00002	0.00005 - 0.00005	80.4 - 80.6	0.000005 - 0.0000119	0.00028 - 0.00036	0.0005 - 0.0005	0.00026 - 0.0003
MW22-14-1 SS3	Groundwater	Soil	NPAG	**0.0028**	0.0054	**0.099**	0.000012	< 0.00001	11	< 0.000003	0.000097	**0.00092**	**0.0013**
MW22-14-1 SS5	Groundwater	Soil	NPAG	**0.0015**	0.0048	**0.13**	0.000008	< 0.00001	11	0.000003	0.000054	**0.00095**	**0.0008**
MW22-14-1 SS7	Groundwater	Soil	NPAG	**0.0015**	0.0049	**0.11**	0.00001	< 0.00001	11	0.000011	0.000075	**0.00097**	**0.001**
MW22-14-1 SS8	Groundwater	Soil	NPAG	**0.0008**	0.0058	**0.13**	0.000017	< 0.00001	12	< 0.000003	0.00011	**0.00086**	**0.0014**
Borehole MW22-15-1 Range				0.00034 - 0.00046	0.0256 - 0.0307	0.012 - 0.015	0.00002 - 0.00002	0.00005 - 0.00005	64.1 - 75	0.000005 - 0.000005	0.0001 - 0.00037	0.0005 - 0.0005	0.0002 - 0.00158
MW22-15-1 SA1	Groundwater	Bedrock	NPAG	0.0004	0.0036	0.007	< 0.000007	< 0.00001	2.8	< 0.000003	0.000099	**0.00052**	0.0006
MW22-15-1 SA2	Groundwater	Bedrock	NPAG	**0.0008**	0.0023	0.006	< 0.000007	< 0.00001	3.2	< 0.000003	0.000015	0.00015	0.0003
MW22-15-1 SA3	Groundwater	Bedrock	NPAG	**0.0012**	0.004	0.008	< 0.000007	< 0.00001	3.9	< 0.000003	0.000016	0.00012	0.0003
Borehole MW22-15-3 Range				0.00048 - 0.00055	0.0427 - 0.0431	0.01 - 0.01	0.00002 - 0.00002	0.00005 - 0.00005	85.7 - 89.2	0.0000074 - 0.0000238	0.0008 - 0.00104	0.0005 - 0.0005	0.00122 - 0.00132
MW22-15-1 SS2*	Groundwater	Soil	NPAG	**0.0007**	0.0033	0.004	< 0.000007	< 0.00001	14	< 0.000003	0.000043	0.00024	0.0013
MW22-15-1 SS4*	Groundwater	Soil	NPAG	**0.001**	0.0036	0.007	< 0.000007	< 0.00001	14	0.000006	0.000059	0.00018	0.0008
MW22-15-1 SS5*	Groundwater	Soil	NPAG	**0.0009**	0.0039	0.006	< 0.000007	< 0.00001	16	0.000011	0.000059	**0.00051**	**0.0014**
MW22-15-2 SS6*	Groundwater	Soil	NPAG	**0.0011**	0.0029	0.008	< 0.000007	0.00002	13	0.000003	0.000019	0.00015	0.0006
MW22-15-4 SS1*	Groundwater	Organic	NPAG	**0.002**	0.042	**0.73**	< 0.000007	< 0.00001	75	0.000016	0.00014	**0.0025**	**0.0027**
MW22-15-4 SS2*	Groundwater	Soil	NPAG	**0.0025**	0.035	0.006	< 0.000007	< 0.00001	39	0.000008	0.000059	0.00018	0.0012
Borehole MW22-16-1 Range				0.00022 - 0.00025	0.0411 - 0.042	0.01 - 0.01	0.00002 - 0.00002	0.00005 - 0.00005	31.8 - 36.9	0.0000158 - 0.0000201	0.00015 - 0.00043	0.0005 - 0.0005	0.00124 - 0.00174
MW22-16-1 SA1	Groundwater	Bedrock	NPAG	**0.0065**	0.0048	**0.015**	< 0.000007	< 0.00001	3.5	0.000004	0.00005	**0.0014**	0.0015
MW22-16-1 SA2	Groundwater	Bedrock	NPAG	**0.001**	0.012	0.009	< 0.000007	< 0.00001	3.0	< 0.000003	0.000072	0.0004	0.001
MW22-16-1 SA3	Groundwater	Bedrock	PAG	**0.0023**	0.0072	**0.016**	< 0.000007	< 0.00001	3.0	< 0.000003	0.000093	**0.00067**	0.0004
Borehole MW22-16-2 Range				0.00019 - 0.00047	0.0256 - 0.0377	0.023 - 0.047	0.00002 - 0.00002	0.00005 - 0.00005	51 - 63.7	0.0000138 - 0.0000263	0.00011 - 0.0011	0.0005 - 0.00187	0.00145 - 0.00171
MW22-16-02 SA2	Groundwater	Soil	NPAG	**0.0005**	0.0044	0.004	< 0.000007	< 0.00001	19	< 0.000003	0.0001	0.00072	0.0007
MW22-16-02 SA4	Groundwater	Soil	NPAG	**0.0009**	0.0042	0.033	0.000013	0.00001	11	0.000005	0.0002	0.00059	0.0015
Borehole MW22-17-1 Range				0.00036 - 0.00039	0.0236 - 0.0271	0.01 - 0.02	0.00002 - 0.00004	0.00005 - 0.0001	57.6 - 60.4	0.000005 - 0.00001	0.00051 - 0.0007	0.0005 - 0.001	0.0002 - 0.0004
MW22-17-1 SA7	Groundwater	Bedrock	NPAG	**0.0014**	0.0016	0.016	< 0.000007	< 0.00001	6.8	0.000004	0.00013	0.0002	**0.0006**
MW22-17-1 SA8	Groundwater	Bedrock	NPAG	**0.0012**	0.0014	0.006	< 0.000007	< 0.00001	4.6	< 0.000003	0.00011	0.00012	0.0003
MW22-17-1 SA9	Groundwater	Bedrock	NPAG	**0.0014**	0.0018	0.005	< 0.000007	< 0.00001	4.9	0.000003	0.000018	0.00014	0.0003
Borehole MW22-17-2 Range				0.00128 - 0.00206	0.019 - 0.0196	0.067 - 0.074	0.00002 - 0.00002	0.00005 - 0.00005	55.4 - 62.4	0.000005 - 0.0000212	0.0002 - 0.00023	0.0005 - 0.0005	0.00052 - 0.00157
MW23-17-1 SA3*	Groundwater	Soil	NPAG	0.0007	0.0054	0.004	< 0.000007	< 0.00001	15	0.000009	0.000078	0.00032	**0.0041**
MW23-17-1 SA4*	Groundwater	Soil	NPAG	0.0011	0.0049	0.006	< 0.000007	< 0.00001	12	0.000003	0.00012	**0.00051**	**0.0037**
MW23-17-1 SA5*	Groundwater	Soil	NPAG	0.0015	0.0047	0.017	< 0.000007	< 0.00001	13	0.000008	0.000083	0.0004	**0.0022**
Borehole MW22-18-1 Range				0.0005 - 0.00085	0.029 - 0.0337	0.01 - 0.02	000375 - 0.000396	0.00005 - 0.0001	24.8 - 30	0.00001 - 0.0000191	0.00019 - 0.00022	.00091 - 0.00128	0.00077 - 0.00107
MW22-18-1 SA1**	Groundwater	Soil	NPAG	0.0008	0.004	0.007	0.000009	< 0.00001	18	0.000006	**0.00036**	0.00037	**0.0027**
MW22-18-1 SA2**	Groundwater	Soil	NPAG	0.0006	0.0038	< 0.002	0.000015	0.00001	8.0	0.000008	0.00017	0.00071	**0.0036**
MW22-18-1 SA3	Groundwater	Bedrock	NPAG	**0.0019**	0.024	0.007	0.00012	< 0.00001	5.0	0.000004	**0.002**	**0.0032**	**0.014**
MW22-18-1 SA4	Groundwater	Bedrock	NPAG	**0.0025**	**0.067**	0.015	**0.00064**	< 0.00001	8.9	**0.000024**	**0.0069**	**0.0081**	**0.1**
MW22-18-1 SA5	Groundwater	Bedrock	NPAG	**0.0024**	0.0049	0.005	0.000011	< 0.00001	3.6	< 0.000003	0.00015	0.0011	**0.0018**
MW22-18-1 SA6	Groundwater	Bedrock	NPAG	**0.0054**	**0.12**	0.007	0.00035	0.00002	7.6	0.000014	**0.0066**	**0.01**	**0.0084**
Borehole MW22-19-1 Range				0.00029 - 0.00059	0.0136 - 0.0163	0.01 - 0.01	0.00002 - 0.00002	0.00005 - 0.00005	83.6 - 92	0.0000082 - 0.0000151	0.00044 - 0.00204	0.0005 - 0.00078	0.00143 - 0.00344
MW22-19-01-AS1	Groundwater	Soil	NPAG	**0.0027**	0.0082	**0.36**	**0.000021**	< 0.00001	49	**0.000016**	0.00034	**0.001**	**0.0094**
MW22-19-01-SA2B	Groundwater	Soil	NPAG	**0.0011**	0.0023	**0.021**	< 0.000007	0.00003	16	0.000003	0.000052	0.00043	0.0015
MW22-19-01-SA3	Groundwater	Soil	NPAG	**0.001**	0.0014	**0.023**	< 0.000007	< 0.00001	11	< 0.000003	0.00002	0.00014	0.0006
MW22-19-01-SA4	Groundwater	Soil	NPAG	**0.002**	0.0051	**0.33**	0.000008	< 0.00001	17	0.000003	0.000069	0.00048	0.0015
MW22-19-01-SA5	Groundwater	Soil	NPAG	**0.0017**	0.004	**0.014**	< 0.000007	< 0.00001	11	< 0.000003	0.000008	< 0.00008	0.0002
Borehole MW22-20-1 Range				0.00042 - 0.00123	0.0307 - 0.0389	0.034 - 0.043	0.00002 - 0.00002	0.00005 - 0.00005	71.7 - 79.9	0.000005 - 0.0000065	0.00027 - 0.00093	0.0005 - 0.0005	0.0002 - 0.00136
MW22-20-01-3.8-4.0 m	Groundwater	Bedrock	NPAG	0.0002	0.0066	0.02	< 0.000007	< 0.00001	2.3	**0.00001**	0.00056	**0.00069**	0.001
Borehole MW22-20-2 Range				0.00103 - 0.00182	0.0271 - 0.0598	0.01 - 0.014	0.00002 - 0.00002	0.00005 - 0.00005	96.5 - 122	0.000005 - 0.0000054	0.0002 - 0.00033	0.0005 - 0.00059	0.0002 - 0.0006
MW22-20-01-SA1*	Groundwater	Organic	PAG	**0.0094**	0.0084	**0.23**	0.000008	< 0.00001	16	**0.000037**	0.00019	0.0003	**0.003**
MW22-20-01-SA3*	Groundwater	Soil	NPAG	0.0013	0.046	**0.039**	< 0.000007	< 0.00001	45	**0.000014**	0.00017	0.00021	**0.0047**

Bolded values indicate that they are out of the associated monitoring well range

Grey shaded values indicate that they greater than five times the associated monitoring v

*Overburden samples were compared to different borehole number to sample location, a

**Overburden samples were compared to groundwater borehole monitoring range, as the

Annex E - Shake Flask Extraction Results

Sample ID	Sampling Prograr	Sample Type	Classificatio	Iron	Potassium	Lithium	Magnesium	Manganese	Molybdenum	Sodium	Nickel	Phosphorus	Lead	Antimony
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
CCME Guideline				0.3	-	-	-	-	0.073	-	0.15	-	0.007	-
PWQO Guideline				0.3	-	-	-	-	0.04	-	0.025	-	0.01	0.02
Borehole MW22-01-1 Range				0.485 - 0.709	1.71 - 2.11	0.0035 - 0.0044	16.5 - 17.6	0.0406 - 0.0595	0.000442 - 0.00058	2.76 - 4.46	0.0005 - 0.0005	0.05 - 0.05	0.00005 - 0.00005	0.0001 - 0.0001
MW22-01-1 SS8	Groundwater	Soil	NPAG	0.012	3.7	0.0033	3.4	0.0046	0.01	1.7	0.0008	0.003	< 0.00009	0.0011
Borehole MW22-01-2 Range				0.045 - 0.198	1.97 - 2.7	0.0027 - 0.004	16.1 - 18.5	0.0757 - 0.195	0.000866 - 0.0035	2.02 - 3.49	0.0005 - 0.00138	0.05 - 0.05	0.00005 - 0.00005	0.0001 - 0.00016
MW22-01-2 SS4	Groundwater	Soil	NPAG	0.2	**3.3**	**0.0045**	5.3	0.026	**0.0064**	2.1	**0.0044**	**0.11**	**0.00015**	< 0.0009
MW22-01-2 SS6	Groundwater	Soil	NPAG	0.008	2.1	0.0016	2.1	0.001	**0.0041**	1.4	0.0002	< 0.003	< 0.00009	< 0.0009
Borehole MW22-02-1 Range				0.01 - 1.36	3.07 - 3.83	0.0092 - 0.0109	20.5 - 23.2	0.0145 - 0.0698	0.00172 - 0.00344	7.39 - 8.58	0.0005 - 0.0005	0.05 - 0.05	0.00005 - 0.00005	0.00065 - 0.0016
MW22-02-1 SS5	Groundwater	Soil	NPAG	0.014	1.9	0.0028	3.0	0.00071	0.014	1.1	0.0003	0.004	< 0.00009	< 0.0009
MW22-02-1 SS6	Groundwater	Soil	NPAG	0.013	3.7	0.0067	3.6	0.014	0.0034	1.4	0.0005	0.009	< 0.00009	0.0013
MW22-02-1 SS7	Groundwater	Soil	NPAG	0.034	3.4	0.01	3.2	0.0088	0.0047	1.4	0.0007	0.024	< 0.00009	0.0023
MW22-02-1 SS8	Groundwater	Soil	NPAG	0.023	4.2	0.0048	3.3	0.0084	0.0082	1.5	0.0009	0.007	< 0.00009	0.0013
Borehole MW22-03-1 Range				0.365 - 0.985	1.72 - 1.83	0.0039 - 0.0054	15.7 - 20.4	0.186 - 0.233	0.000441 - 0.00117	5.59 - 7.09	0.0005 - 0.0005	0.05 - 0.05	0.00005 - 0.000093	0.0001 - 0.00028
MW22-03-1 SS3	Groundwater	Soil	NPAG	0.35	1.8	0.0051	3.4	0.031	**0.007**	3.8	**0.0074**	0.045	**0.00021**	< 0.0009
MW22-03-1 SS4	Groundwater	Soil	NPAG	0.95	**2.3**	**0.0089**	5.1	0.067	**0.0063**	3.4	**0.007**	**0.072**	**0.00057**	**0.001**
MW22-03-1 SS5	Groundwater	Soil	NPAG	**1.8**	**2.4**	**0.011**	3.3	0.049	**0.0048**	**31**	**0.0074**	**0.076**	**0.0012**	< 0.0009
MW22-03-1 SS6	Groundwater	Soil	NPAG	0.047	**2.3**	0.0036	2.3	0.0093	**0.0054**	0.99	**0.0012**	0.008	< 0.00009	**0.0022**
Borehole MW22-04-1 Range				0.01 - 0.42	1.05 - 1.12	0.0038 - 0.0044	17.5 - 18.8	0.00038 - 0.0295	0.000192 - 0.000479	1.63 - 1.79	0.0005 - 0.00074	0.05 - 0.05	0.00005 - 0.000641	0.0001 - 0.00018
MW22-04-1 SS6	Groundwater	Soil	NPAG	0.21	0.97	0.0005	2.1	0.0026	**0.005**	1.1	**0.001**	0.02	0.00015	< 0.0009
MW22-04-1 SS7	Groundwater	Soil	NPAG	0.15	1.1	0.0022	1.7	0.0038	**0.0056**	1.1	**0.0011**	0.021	0.00011	**0.0011**
MW22-04-1 SS8	Groundwater	Soil	NPAG	0.27	**1.2**	0.0021	2.0	0.0035	**0.0077**	0.89	**0.0013**	0.021	0.00016	**0.0011**
MW22-04-1 SS10	Groundwater	Soil	NPAG	0.17	0.85	0.001	1.5	0.0038	**0.002**	0.51	**0.0013**	0.016	0.00014	< 0.0009
Borehole MW22-05-1 Range				0.01 - 0.714	0.863 - 1.57	0.0028 - 0.003	13.5 - 16.5	0.00067 - 0.429	0.00036 - 0.00252	1.53 - 2.18	0.0005 - 0.00074	0.05 - 0.05	0.00005 - 0.00005	0.0001 - 0.00019
MW22-05 SA-1	Groundwater	Soil	NPAG	0.022	0.97	0.0028	1.8	0.0083	**0.019**	0.77	0.0007	0.023	< 0.00009	**0.0009**
MW22-05 SA-2	Groundwater	Soil	NPAG	0.016	0.76	0.0014	1.7	0.0037	**0.013**	0.73	0.0005	0.009	< 0.00009	< 0.0009
MW22-05 SA-4	Groundwater	Soil	NPAG	0.024	1.1	0.0018	1.4	0.001	**0.0061**	0.79	0.0006	0.02	< 0.00009	< 0.0009
MW22-05 SA-6	Groundwater	Soil	NPAG	0.15	**1.9**	**0.0032**	2.1	0.0051	**0.0084**	**7.8**	**0.001**	0.018	**0.00014**	**0.0013**
MW22-05 SA-7	Groundwater	Soil	NPAG	0.09	1.4	0.0025	1.7	0.0032	**0.0063**	**6.9**	0.0007	0.021	**0.00012**	**0.0011**
Borehole MW22-06-1 Range				0.01 - 0.01	0.642 - 0.793	0.0014 - 0.0024	10.5 - 11.7	0.00061 - 0.0174	0.000202 - 0.00029	1.09 - 1.2	0.0005 - 0.0005	0.05 - 0.05	0.00005 - 0.00005	0.0001 - 0.0001
MW22-06 SA-1	Groundwater	Soil	NPAG	**0.034**	**0.91**	< 0.0001	2.1	**0.039**	**0.0011**	0.84	**0.0008**	0.017	< 0.00009	< 0.0009
MW22-06 SA-4	Groundwater	Soil	NPAG	< 0.007	**1.4**	0.0012	1.7	0.00079	**0.0022**	**1.5**	0.0004	0.005	< 0.00009	< 0.0009
MW22-06 SA-7	Groundwater	Soil	NPAG	< 0.007	**1.3**	0.001	1.4	0.00079	**0.0039**	0.94	0.0003	< 0.003	< 0.00009	< 0.0009
MW22-06 SA-8	Groundwater	Soil	NPAG	< 0.007	**1.1**	0.0014	1.2	0.00056	**0.0029**	0.75	0.0004	0.008	< 0.00009	< 0.0009
MW22-06 SA-9	Groundwater	Soil	NPAG	< 0.007	**1.1**	0.0013	1.2	0.00071	**0.0085**	0.76	0.0004	< 0.003	< 0.00009	< 0.0009
Borehole MW22-07-1 Range				0.123 - 0.457	4.08 - 5.05	0.0039 - 0.0071	20.8 - 21.1	0.203 - 0.204	0.00901 - 0.0105	22.5 - 23.6	0.00183 - 0.0146	0.05 - 0.05	0.00005 - 0.00005	.00024 - 0.00059
MW22-07 SA-1	Groundwater	Soil	NPAG	0.055	0.73	< 0.0001	3.3	0.029	0.0015	0.83	0.0014	0.014	< 0.00009	< 0.0009
MW22-07 SA-2	Groundwater	Soil	NPAG	0.037	0.45	0.0002	1.6	0.0014	0.0018	0.91	0.0007	0.006	< 0.00009	< 0.0009
MW22-07 SA-4	Groundwater	Soil	NPAG	0.023	0.71	0.0007	0.99	0.0011	0.0017	0.77	0.0007	0.015	< 0.00009	< 0.0009
MW22-07 SA-6	Groundwater	Soil	NPAG	0.14	0.7	0.0008	1.1	0.0017	0.0052	13	0.0006	0.025	**0.00011**	< 0.0009
MW22-07 SA-8	Groundwater	Soil	NPAG	0.091	4.0	0.006	4.3	0.0028	0.0083	12	0.0011	0.013	< 0.00009	**0.0017**
Borehole MW22-08-1 Range				0.157 - 1.24	1.92 - 2.65	0.0044 - 0.0056	17.5 - 20.4	0.166 - 0.226	0.00639 - 0.00729	26.8 - 29.6	0.0005 - 0.0005	0.05 - 0.161	0.00005 - 0.00005	0.0001 - 0.0001
MW22-08 SA-2	Groundwater	Organic	NPAG	0.19	1.8	0.0008	6.2	0.0086	0.0016	14	**0.002**	0.037	**0.00033**	< 0.0009
MW22-08 SA-3	Groundwater	Soil	NPAG	0.13	1.3	0.0017	2.4	0.0016	0.0022	13	**0.0012**	0.036	**0.00012**	< 0.0009
MW22-08 SA-4	Groundwater	Soil	NPAG	0.1	**2.8**	**0.0058**	3.3	0.005	**0.011**	13	**0.0016**	0.035	< 0.00009	**0.0009**
MW22-08 SA-6	Groundwater	Soil	NPAG	0.18	**3.5**	**0.0062**	4.0	0.0092	**0.011**	15	**0.0016**	0.042	**0.00011**	**0.0014**
MW22-08 SA-8	Groundwater	Soil	NPAG	0.096	**4.5**	**0.0077**	4.4	0.0065	**0.0086**	15	**0.0014**	0.022	< 0.00009	**0.0016**
Borehole MW22-09-1 Range				0.55 - 2.77	2.7 - 3.23	0.0068 - 0.0105	31.1 - 35.8	0.0312 - 0.0721	0.00178 - 0.00335	17.9 - 19.3	0.0005 - 0.0005	0.05 - 0.156	0.00005 - 0.00005	0.0001 - 0.0001
MW22-09 SA-1	Groundwater	Organic	NPAG	0.051	3.2	0.004	9.5	0.018	0.00074	**37**	**0.0027**	0.059	**0.00027**	< 0.0009
MW22-09 SA-4	Groundwater	Organic	NPAG	0.027	2.2	0.004	4.1	0.052	**0.015**	1.9	**0.0017**	0.027	< 0.00009	**0.001**
MW22-09 SA-5	Groundwater	Soil	NPAG	0.02	**3.3**	0.005	3.4	0.022	**0.0072**	2.1	**0.001**	0.019	< 0.00009	< 0.0009
MW22-09 SA-6	Groundwater	Soil	NPAG	0.017	**4.5**	0.006	4.4	0.018	**0.0083**	2.6	**0.0012**	0.013	< 0.00009	**0.001**
MW22-09 SA-7	Groundwater	Soil	NPAG	0.16	3.1	0.01	6.6	0.004	**0.01**	**21**	< 0.0001	**0.22**	**0.00019**	**0.0016**
Borehole MW22-10-1 Range				0.01 - 0.853	0.99 - 1.92	0.0033 - 0.0056	17.4 - 18	0.332 - 0.389	0.000815 - 0.00256	3.93 - 9.32	.00098 - 0.00111	0.05 - 0.05	0.00005 - 0.000053	0.0001 - 0.0001
MW22-10 SA-2	Groundwater	Organic	NPAG	0.063	1.8	0.0051	5.9	0.042	**0.0055**	**19**	0.001	0.022	**0.00013**	< 0.0009
MW22-10 SA-3	Groundwater	Soil	NPAG	0.13	**1.9**	0.0053	3.9	0.014	**0.013**	**9.4**	0.0011	0.034	**0.00011**	< 0.0009
MW22-10 SA-4	Groundwater	Soil	NPAG	0.15	1.6	0.0041	2.3	0.0033	**0.0036**	**11**	0.0011	0.038	**0.00011**	< 0.0009
MW22-10 SA-5	Groundwater	Soil	NPAG	0.19	1.2	0.0038	1.3	0.0048	**0.0051**	8.6	0.001	0.037	**0.00024**	< 0.0009
MW22-10 SA-6	Groundwater	Soil	NPAG	0.087	1.4	0.0046	1.5	0.0034	**0.0059**	6.2	0.0009	0.023	< 0.00009	< 0.0009

Annex E - Shake Flask Extraction Results

Sample ID	Sampling Prograr	Sample Type	Classificatio	Iron	Potassium	Lithium	Magnesium	Manganese	Molybdenum	Sodium	Nickel	Phosphorus	Lead	Antimony
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
CCME Guideline				0.3	-	-	-	-	0.073	-	0.15	-	0.007	-
PWQO Guideline				0.3	-	-	-	-	0.04	-	0.025	-	0.01	0.02
Borehole MW22-11-1 Range				1.79 - 1.91	0.1 - 0.127	0.001 - 0.002	9.53 - 10.1	0.138 - 0.162	0.0001 - 0.000136	1.55 - 1.65	0.0005 - 0.001	0.05 - 0.1	0.00005 - 0.0001	0.0001 - 0.0002
MW22-11-1 SS5	Groundwater	Soil	NPAG	0.46	**0.62**	0.0016	2.3	0.015	**0.02**	**14**	**0.0019**	0.033	**0.00097**	**0.0011**
MW22-11-1 SS3	Groundwater	Organic	NPAG	---	---	---	---	---	---	---	---	---	---	---
MW22-11-1 SS4	Groundwater	Soil	NPAG	0.25	**0.83**	0.0011	3.2	0.012	**0.042**	**14**	0.0007	0.03	**0.00031**	**0.001**
Borehole MW22-12-1 Range				0.828 - 3.06	1.17 - 1.22	0.0053 - 0.0062	15.3 - 16.3	0.15 - 0.155	0.0035 - 0.00578	3.46 - 3.6	0.0005 - 0.012	0.05 - 0.05	0.00005 - 0.000091	0.00013 - 0.00049
MW22-12-1 SS4	Groundwater	Soil	NPAG	1.1	**1.7**	0.0058	3.1	0.015	0.0038	**25**	0.0022	0.035	**0.00076**	< 0.0009
MW22-12-1 SS6	Groundwater	Soil	NPAG	0.088	**1.6**	0.0044	5.3	0.032	**0.013**	**8.0**	0.0009	0.003	< 0.00009	< 0.0009
MW22-12-1 SS11	Groundwater	Soil	NPAG	0.24	1.0	0.0029	2.7	0.0062	0.0046	**9.5**	0.0007	< 0.003	**0.00012**	< 0.0009
MW22-12-1 SS12	Groundwater	Soil	NPAG	0.14	**3.3**	0.0055	4.3	0.0097	**0.0063**	**14**	0.0013	0.004	< 0.00009	**0.0011**
Borehole MW22-13-1 Range				1.01 - 2.96	0.551 - 0.967	0.0025 - 0.004	15 - 17.2	0.111 - 0.164	0.000659 - 0.00111	2.39 - 13.4	0.0005 - 0.0005	0.05 - 0.072	0.00005 - 0.00005	0.0001 - 0.0001
MW22-13-1 SS5	Groundwater	Soil	NPAG	2.3	0.93	0.0027	1.8	0.029	**0.0058**	11	**0.0048**	0.06	**0.0026**	**0.0013**
MW22-13-1 SS6	Groundwater	Soil	NPAG	1.3	**1.2**	0.0029	2.3	0.022	**0.0072**	**14**	**0.0027**	0.066	**0.0011**	**0.0011**
MW22-13-1 SS8	Groundwater	Soil	NPAG	1.4	**1.3**	0.0032	2.1	0.022	**0.0059**	13	**0.0029**	0.05	**0.00094**	**0.0012**
MW22-13-1 SS10	Groundwater	Soil	NPAG	1.3	**1.1**	0.0032	2.0	0.019	**0.0024**	9.9	**0.0028**	0.037	**0.0012**	< 0.0009
Max	MW22-14-1Max			0.016	1.2	0.0089	25	0.13	0.0017	7.2	0.00085	0.05	0.00005	0.00049
Borehole MW22-14-1 Range				0.012 - 0.016	1.21 - 1.23	0.008 - 0.0089	21.6 - 24.7	0.0673 - 0.132	0.00118 - 0.00172	6.88 - 7.16	0.0006 - 0.00085	0.05 - 0.05	0.00005 - 0.00005	0.00024 - 0.00049
MW22-14-1 SS3	Groundwater	Soil	NPAG	**0.31**	0.59	0.0036	2.2	0.0029	**0.0034**	**7.9**	0.0007	0.006	**0.00013**	**0.0012**
MW22-14-1 SS5	Groundwater	Soil	NPAG	**0.21**	0.82	0.0043	2.6	0.0017	**0.0086**	**9.7**	0.0006	< 0.003	**0.00009**	**0.0009**
MW22-14-1 SS7	Groundwater	Soil	NPAG	**0.22**	0.7	0.0041	2.6	0.002	**0.0073**	**11**	0.0007	< 0.003	**0.00012**	< 0.0009
MW22-14-1 SS8	Groundwater	Soil	NPAG	**0.3**	0.72	0.004	2.8	0.0024	**0.0099**	**8.2**	0.0006	0.005	**0.00014**	< 0.0009
Borehole MW22-15-1 Range				0.011 - 0.112	4.95 - 5.85	0.0032 - 0.0037	15.7 - 17.7	0.00028 - 0.194	0.00739 - 0.0137	3.68 - 3.84	0.00179 - 0.00308	0.05 - 0.05	0.00005 - 0.00005	0.00014 - 0.00017
MW22-15-1 SA1	Groundwater	Bedrock	NPAG	**0.23**	**10**	**0.0056**	0.38	0.0038	0.00026	1.5	0.0005	0.036	**0.00017**	< 0.0009
MW22-15-1 SA2	Groundwater	Bedrock	NPAG	0.034	**8.8**	**0.0051**	0.3	0.00065	0.00019	1.2	< 0.0001	0.013	< 0.00009	< 0.0009
MW22-15-1 SA3	Groundwater	Bedrock	NPAG	0.035	**7.0**	**0.0049**	0.49	0.00063	0.00033	1.4	< 0.0001	0.008	**0.00012**	< 0.0009
Borehole MW22-15-3 Range				0.01 - 0.01	6.78 - 7.94	0.0037 - 0.004	17.6 - 18.7	0.466 - 0.636	0.00675 - 0.00719	12.9 - 13.3	0.00065 - 0.00221	0.05 - 0.05	0.00005 - 0.00005	0.0001 - 0.0001
MW22-15-1 SS2*	Groundwater	Soil	NPAG	**0.042**	1.1	0.0012	2.1	0.0016	0.0045	0.84	0.0005	0.041	< 0.00009	< 0.0009
MW22-15-1 SS4*	Groundwater	Soil	NPAG	**0.023**	3.6	**0.0041**	2.5	0.00099	**0.011**	1.6	0.0004	**0.051**	< 0.00009	**0.0009**
MW22-15-1 SS5*	Groundwater	Soil	NPAG	**0.039**	3.6	**0.0052**	2.7	0.008	**0.03**	1.9	0.0009	0.05	< 0.00009	**0.0026**
MW22-15-2 SS6*	Groundwater	Soil	NPAG	**0.019**	3.4	**0.0047**	2.5	0.0011	**0.021**	1.6	0.0004	0.032	< 0.00009	**0.0018**
MW22-15-4 SS1*	Groundwater	Organic	NPAG	**0.074**	3.0	0.0035	7.8	0.025	**0.012**	**38**	0.0018	**0.072**	**0.00012**	< 0.0009
MW22-15-4 SS2*	Groundwater	Soil	NPAG	**0.042**	5.4	0.0034	3.4	0.048	**0.02**	1.1	0.0007	**0.054**	< 0.00009	**0.0017**
Borehole MW22-16-1 Range				0.01 - 0.01	2.86 - 3.77	0.0071 - 0.0099	7.6 - 9.82	0.00742 - 0.014	0.000429 - 0.000634	1.65 - 2.03	0.00197 - 0.00354	0.05 - 0.05	0.00005 - 0.00005	0.0001 - 0.0001
MW22-16-1 SA1	Groundwater	Bedrock	NPAG	**0.31**	**9.8**	**0.025**	0.53	0.0028	**0.0018**	1.6	**0.0061**	0.03	< 0.00009	< 0.0009
MW22-16-1 SA2	Groundwater	Bedrock	NPAG	**0.08**	**10**	**0.03**	0.4	0.0011	**0.0015**	1.8	**0.023**	0.018	< 0.00009	< 0.0009
MW22-16-1 SA3	Groundwater	Bedrock	PAG	**0.046**	**15**	**0.044**	0.46	0.0024	**0.0011**	**2.1**	0.0004	0.011	< 0.00009	< 0.0009
Borehole MW22-16-2 Range				0.01 - 0.01	5.08 - 6.38	0.0067 - 0.0085	9.84 - 15.8	0.0313 - 0.53	0.00287 - 0.00511	3.84 - 6.01	0.00135 - 0.00363	0.05 - 0.05	0.00005 - 0.00005	0.00045 - 0.00045
MW22-16-02 SA2	Groundwater	Soil	NPAG	**0.084**	0.13	0.0012	2.6	0.0034	0.0017	0.82	0.0011	0.009	< 0.00009	**0.0022**
MW22-16-02 SA4	Groundwater	Soil	NPAG	**0.12**	4.0	**0.011**	2.0	0.0031	**0.0088**	1.5	0.002	0.025	**0.0001**	< 0.0009
Borehole MW22-17-1 Range				0.401 - 0.569	2.94 - 3.11	0.0034 - 0.0035	11 - 12.2	0.556 - 0.628	0.00117 - 0.00326	1.69 - 3.37	0.00122 - 0.00212	0.05 - 0.1	0.00005 - 0.0001	0.0001 - 0.0002
MW22-17-1 SA7	Groundwater	Bedrock	NPAG	0.029	**7.3**	**0.0056**	0.95	0.00061	0.0024	2.1	0.0009	0.003	< 0.00009	< 0.0009
MW22-17-1 SA8	Groundwater	Bedrock	NPAG	0.028	**4.9**	**0.0046**	0.53	0.0028	0.0024	2.0	0.0003	0.012	**0.0002**	< 0.0009
MW22-17-1 SA9	Groundwater	Bedrock	NPAG	0.023	**4.7**	0.0027	0.5	0.00065	0.0012	2.0	0.0017	0.019	**0.00023**	< 0.0009
Borehole MW22-17-2 Range				0.064 - 0.175	2.47 - 2.71	0.0013 - 0.0018	11.3 - 12.3	0.263 - 0.282	0.00581 - 0.00735	5.49 - 19.1	0.00113 - 0.00244	0.05 - 0.05	0.00005 - 0.00005	0.0001 - 0.00012
MW23-17-1 SA3*	Groundwater	Soil	NPAG	0.086	1.2	0.001	1.6	0.005	0.0071	1.2	**0.0091**	0.004	**0.00013**	< 0.0009
MW23-17-1 SA4*	Groundwater	Soil	NPAG	**0.24**	1.6	0.0015	1.6	0.012	0.0053	1.2	0.0021	< 0.003	**0.00011**	< 0.0009
MW23-17-1 SA5*	Groundwater	Soil	NPAG	0.12	2.1	0.0014	1.9	0.0041	0.0053	1.4	0.0004	0.004	**0.00012**	< 0.0009
Borehole MW22-18-1 Range				0.5 - 0.693	1.99 - 2.1	0.0149 - 0.0167	7.2 - 7.79	0.39 - 0.49	0.00174 - 0.00511	4.48 - 8.58	0.00111 - 0.00133	0.05 - 0.1	0.000087 - 0.000264	0.0001 - 0.00046
MW22-18-1 SA1**	Groundwater	Soil	NPAG	0.15	0.64	0.001	3.0	0.0036	0.0043	0.75	0.0011	0.009	**0.00031**	< 0.0009
MW22-18-1 SA2**	Groundwater	Soil	NPAG	0.34	0.64	0.0006	1.1	0.027	0.0039	0.43	0.0006	< 0.003	0.00014	< 0.0009
MW22-18-1 SA3	Groundwater	Bedrock	NPAG	**3.2**	**8.0**	0.016	2.8	0.095	0.001	3.4	**0.0033**	**0.13**	**0.0014**	< 0.0009
MW22-18-1 SA4	Groundwater	Bedrock	NPAG	**8.4**	**9.5**	**0.046**	6.4	0.34	0.0018	3.5	**0.0075**	**0.29**	**0.007**	< 0.0009
MW22-18-1 SA5	Groundwater	Bedrock	NPAG	0.68	**8.1**	0.016	0.74	0.0072	0.00054	3.3	**0.007**	0.027	< 0.00009	< 0.0009
MW22-18-1 SA6	Groundwater	Bedrock	NPAG	**10**	**12**	**0.078**	**8.4**	0.26	0.00029	3.8	**0.0091**	**0.54**	**0.0021**	< 0.0009
Borehole MW22-19-1 Range				0.01 - 0.281	1.05 - 1.12	0.0092 - 0.0164	15.8 - 17.9	0.0393 - 0.0916	0.00124 - 0.00516	5.58 - 13.6	0.00116 - 0.00245	0.05 - 0.05	0.00005 - 0.000354	0.00013 - 0.00037
MW22-19-01-AS1	Groundwater	Soil	NPAG	0.19	0.78	0.0016	5.9	0.009	0.0022	4.0	0.0024	0.039	0.00027	< 0.0009
MW22-19-01-SA2B	Groundwater	Soil	NPAG	0.011	0.99	0.0012	2.5	0.002	0.0039	2.0	0.0005	< 0.003	< 0.00009	< 0.0009
MW22-19-01-SA3	Groundwater	Soil	NPAG	< 0.007	**1.7**	0.0011	3.2	0.00057	0.0032	1.7	0.0002	< 0.003	< 0.00009	< 0.0009
MW22-19-01-SA4	Groundwater	Soil	NPAG	0.081	**1.3**	0.0014	1.9	0.0025	0.0048	1.7	0.0006	0.006	**0.0016**	< 0.0009
MW22-19-01-SA5	Groundwater	Soil	NPAG	< 0.007	**1.6**	0.0058	1.6	0.00074	0.0013	2.6	0.0002	< 0.003	< 0.00009	**0.0009**
Borehole MW22-20-1 Range				1.27 - 4.17	3.22 - 3.64	0.0118 - 0.0127	17 - 18.3	0.171 - 0.388	0.00375 - 0.00531	34.4 - 39.5	0.00055 - 0.00314	0.05 - 0.11	0.00005 - 0.00005	0.0001 - 0.0001
MW22-20-01-3.8-4.0 m	Groundwater	Bedrock	NPAG	0.15	**22**	**0.016**	1.2	0.0041	0.0047	2.6	0.0024	< 0.003	**0.00017**	< 0.0009
Borehole MW22-20-2 Range				1.02 - 1.88	0.234 - 0.503	0.0016 - 0.0036	10.2 - 11.6	0.11 - 0.14	0.000344 - 0.00109	3.21 - 5.32	0.00051 - 0.0051	0.05 - 0.05	0.00005 - 0.00005	0.0001 - 0.0001
MW22-20-01-SA1*	Groundwater	Organic	PAG	0.096	**2.7**	0.0018	3.1	0.0083	0.0003	1.2	0.0015	**1.0**	**0.0013**	**0.0009**
MW22-20-01-SA3*	Groundwater	Soil	NPAG	0.046	**3.3**	**0.0076**	2.5	0.032	**0.0084**	3.2	**0.0056**	0.003	**0.00011**	< 0.0009

Bolded values indicate that they are out of the associated monitoring well range

Grey shaded values indicate that they greater than five times the associated monitoring v

*Overburden samples were compared to different borehole number to sample location, a

**Overburden samples were compared to groundwater borehole monitoring range, as the

Annex E - Shake Flask Extraction Results

Sample ID	Sampling Prograr	Sample Type	Classificatio	Selenium	Silicon	Tin	Strontium	Titanium	Thallium	Uranium	Vanadium	Zinc
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
CCME Guideline				0.001	-	-	-	-	0.0008	0.015	-	0.016
PWQO Guideline				0.1	-	-	-	-	-	0.005	0.006	0.02
Borehole MW22-01-1 Range				0.00005 - 0.00005	5.46 - 6.71	0.0003 - 0.0003	1.44 - 1.89	0.0001 - 0.00021	0.0001 - 0.0001	0.0005 - 0.0005	0.001 - 0.001	0.0003 - 0.0003
MW22-01-1 SS8	Groundwater	Soil	NPAG	0.00054	3.0	< 0.00006	0.038	0.00063	0.000007	0.0016	0.0084	< 0.002
Borehole MW22-01-2 Range				0.00005 - 0.00005	4.49 - 5.13	0.0003 - 0.0003	1.36 - 2.11	0.0001 - 0.00037	0.0001 - 0.0001	0.0005 - 0.0005	0.0011 - 0.003	0.0003 - 0.0003
MW22-01-2 SS4	Groundwater	Soil	NPAG	**0.0028**	**6.1**	< 0.00006	0.035	**0.013**	< 0.000005	0.00041	**0.0033**	< 0.002
MW22-01-2 SS6	Groundwater	Soil	NPAG	**0.00088**	3.6	< 0.00006	0.017	0.00022	0.000015	**0.00058**	**0.0047**	< 0.002
Borehole MW22-02-1 Range				0.00005 - 0.00005	8.86 - 9.6	0.0003 - 0.0003	0.5 - 0.65	0.00012 - 0.00016	0.0001 - 0.0001	0.0005 - 0.0005	0.001 - 0.0032	0.0003 - 0.0003
MW22-02-1 SS5	Groundwater	Soil	NPAG	0.00017	4.2	< 0.00006	0.017	0.00064	< 0.000005	0.00071	0.0013	< 0.002
MW22-02-1 SS6	Groundwater	Soil	NPAG	0.00056	2.8	< 0.00006	0.03	0.00083	0.000005	0.0017	0.0051	< 0.002
MW22-02-1 SS7	Groundwater	Soil	NPAG	0.00054	3.1	< 0.00006	0.03	0.0018	0.000005	0.0022	0.0057	< 0.002
MW22-02-1 SS8	Groundwater	Soil	NPAG	0.00065	2.9	< 0.00006	0.032	0.0013	0.000007	0.0028	0.0058	< 0.002
Borehole MW22-03-1 Range				0.00005 - 0.00008	7.28 - 8.6	0.0003 - 0.0003	0.56 - 0.92	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.0005	0.001 - 0.0026	0.0003 - 0.0003
MW22-03-1 SS3	Groundwater	Soil	NPAG	**0.00055**	6.3	0.00013	0.04	**0.021**	< 0.000005	**0.00055**	0.0021	**0.002**
MW22-03-1 SS4	Groundwater	Soil	NPAG	**0.0005**	**9.0**	0.00007	0.052	**0.059**	0.000009	**0.00053**	**0.0035**	**0.004**
MW22-03-1 SS5	Groundwater	Soil	NPAG	**0.00089**	8.3	0.00007	0.031	**0.09**	0.000015	**0.0009**	**0.0068**	**0.008**
MW22-03-1 SS6	Groundwater	Soil	NPAG	**0.0081**	3.6	< 0.00006	0.026	**0.0038**	0.000009	**0.017**	**0.012**	< 0.002
Borehole MW22-04-1 Range				0.000054 - 0.00007	5.44 - 5.75	0.0003 - 0.00764	0.54 - 1.33	0.0001 - 0.0001	0.0001 - 0.00017	0.0005 - 0.00081	0.001 - 0.0021	0.0003 - 0.00057
MW22-04-1 SS6	Groundwater	Soil	NPAG	**0.00012**	3.2	< 0.00006	0.013	**0.0094**	0.000005	0.0002	0.0012	< 0.002
MW22-04-1 SS7	Groundwater	Soil	NPAG	**0.0001**	3.2	< 0.00006	0.013	**0.0053**	< 0.000005	**0.001**	0.0016	< 0.002
MW22-04-1 SS8	Groundwater	Soil	NPAG	**0.00008**	4.2	< 0.00006	0.012	**0.01**	< 0.000005	**0.00098**	0.0017	< 0.002
MW22-04-1 SS10	Groundwater	Soil	NPAG	**0.00023**	3.5	< 0.00006	0.0088	**0.0058**	0.000005	0.00048	0.0019	< 0.002
Borehole MW22-05-1 Range				0.00005 - 0.0004	4.54 - 6.82	0.0003 - 0.0003	1.11 - 1.93	0.0001 - 0.00022	0.0001 - 0.0001	0.0005 - 0.0005	0.001 - 0.0022	0.0003 - 0.0003
MW22-05 SA-1	Groundwater	Soil	NPAG	**0.00058**	1.5	< 0.00006	0.016	**0.0013**	0.000007	0.00033	0.00079	< 0.002
MW22-05 SA-2	Groundwater	Soil	NPAG	**0.0009**	1.6	< 0.00006	0.014	**0.0013**	< 0.000005	0.00047	0.0011	< 0.002
MW22-05 SA-4	Groundwater	Soil	NPAG	**0.0011**	1.5	< 0.00006	0.014	**0.0019**	0.000006	0.00032	0.00096	< 0.002
MW22-05 SA-6	Groundwater	Soil	NPAG	**0.0029**	1.3	< 0.00006	0.024	**0.017**	0.000005	**0.0089**	**0.0046**	< 0.002
MW22-05 SA-7	Groundwater	Soil	NPAG	**0.0028**	1.3	< 0.00006	0.02	**0.0074**	0.000009	**0.0059**	**0.003**	< 0.002
Borehole MW22-06-1 Range				0.000055 - 0.000066	4.24 - 4.48	0.0003 - 0.0003	0.5 - 0.61	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.0005	0.001 - 0.0021	0.0003 - 0.0003
MW22-06 SA-1	Groundwater	Soil	NPAG	**0.00091**	1.5	< 0.00006	0.048	**0.0022**	0.000007	**0.00053**	0.00047	< 0.002
MW22-06 SA-4	Groundwater	Soil	NPAG	**0.00065**	1.8	< 0.00006	0.019	**0.0012**	0.000011	0.00023	**0.0034**	< 0.002
MW22-06 SA-7	Groundwater	Soil	NPAG	**0.00043**	1.3	< 0.00006	0.016	**0.00069**	0.000013	0.00021	**0.0032**	< 0.002
MW22-06 SA-8	Groundwater	Soil	NPAG	**0.0012**	1.8	< 0.00006	0.014	**0.0015**	0.000012	0.00017	**0.0027**	< 0.002
MW22-06 SA-9	Groundwater	Soil	NPAG	**0.00031**	1.2	< 0.00006	0.014	**0.00072**	0.000012	0.00019	**0.0021**	< 0.002
Borehole MW22-07-1 Range				0.000068 - 0.000081	8.22 - 8.66	0.0003 - 0.0003	0.5 - 0.5	0.00015 - 0.00016	0.0001 - 0.0001	0.0005 - 0.0005	0.002 - 0.0269	0.0003 - 0.0003
MW22-07 SA-1	Groundwater	Soil	NPAG	**0.0011**	1.6	< 0.00006	0.046	**0.0033**	0.00001	0.00045	0.00054	< 0.002
MW22-07 SA-2	Groundwater	Soil	NPAG	**0.00049**	2.0	< 0.00006	0.015	**0.0032**	0.000006	0.00016	0.0031	< 0.002
MW22-07 SA-4	Groundwater	Soil	NPAG	**0.001**	2.2	< 0.00006	0.016	**0.0025**	0.00001	0.00018	0.0023	**0.002**
MW22-07 SA-6	Groundwater	Soil	NPAG	**0.00048**	2.2	< 0.00006	0.012	**0.0079**	0.000014	0.00011	0.0016	< 0.002
MW22-07 SA-8	Groundwater	Soil	NPAG	**0.0013**	2.0	< 0.00006	0.12	**0.0044**	0.00001	**0.0025**	0.0054	< 0.002
Borehole MW22-08-1 Range				0.00005 - 0.000074	7.73 - 8.24	0.0003 - 0.00102	0.5 - 0.83	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.00068	0.001 - 0.001	0.0003 - 0.0003
MW22-08 SA-2	Groundwater	Organic	NPAG	**0.00051**	4.6	< 0.00006	0.057	**0.012**	0.000009	0.00041	**0.0016**	**0.003**
MW22-08 SA-3	Groundwater	Soil	NPAG	**0.00092**	8.2	< 0.00006	0.022	**0.0094**	0.000007	0.00046	**0.0018**	< 0.002
MW22-08 SA-4	Groundwater	Soil	NPAG	**0.0017**	5.4	< 0.00006	0.11	**0.0063**	< 0.000005	**0.005**	**0.0054**	< 0.002
MW22-08 SA-6	Groundwater	Soil	NPAG	**0.0023**	2.0	< 0.00006	0.17	**0.011**	0.000007	**0.0031**	**0.0055**	< 0.002
MW22-08 SA-8	Groundwater	Soil	NPAG	**0.0018**	1.7	< 0.00006	0.19	**0.0054**	0.000008	**0.0041**	**0.0057**	< 0.002
Borehole MW22-09-1 Range				0.00005 - 0.000059	9.09 - 9.68	0.0003 - 0.0003	0.5 - 0.5	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.0005	0.001 - 0.0012	0.0003 - 0.0003
MW22-09 SA-1	Groundwater	Organic	NPAG	**0.0012**	4.8	0.00012	0.1	**0.0048**	0.000011	0.000057	0.0011	**0.004**
MW22-09 SA-4	Groundwater	Organic	NPAG	**0.0011**	0.9	0.00009	0.11	**0.004**	0.000021	**0.0013**	**0.0025**	< 0.002
MW22-09 SA-5	Groundwater	Soil	NPAG	**0.001**	0.91	< 0.00006	0.099	**0.0021**	0.000016	**0.0018**	**0.0022**	< 0.002
MW22-09 SA-6	Groundwater	Soil	NPAG	**0.0012**	1.3	< 0.00006	0.12	**0.0012**	0.00001	**0.0031**	**0.0034**	< 0.002
MW22-09 SA-7	Groundwater	Soil	NPAG	**0.0012**	5.6	0.00019	0.1	**0.0024**	0.00003	**0.0032**	**0.0027**	**0.014**
Borehole MW22-10-1 Range				0.00005 - 0.000617	8.18 - 8.77	0.0003 - 0.00207	0.5 - 1.07	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.00082	0.001 - 0.0052	0.0003 - 0.0003
MW22-10 SA-2	Groundwater	Organic	NPAG	0.00051	5.7	< 0.00006	0.098	**0.0042**	< 0.000005	**0.0017**	0.0013	< 0.002
MW22-10 SA-3	Groundwater	Soil	NPAG	**0.0016**	3.5	< 0.00006	0.085	**0.0087**	0.000005	**0.0022**	0.0033	< 0.002
MW22-10 SA-4	Groundwater	Soil	NPAG	**0.0014**	4.3	< 0.00006	0.027	**0.0091**	0.000006	**0.0016**	0.0022	< 0.002
MW22-10 SA-5	Groundwater	Soil	NPAG	**0.0025**	2.2	0.00008	0.021	**0.012**	0.000005	**0.0010**	0.0046	**0.011**
MW22-10 SA-6	Groundwater	Soil	NPAG	**0.0018**	1.5	< 0.00006	0.028	**0.005**	0.00001	**0.0011**	0.0038	< 0.002

Annex E - Shake Flask Extraction Results

Sample ID	Sampling Prograr	Sample Type	Classificatio	Selenium	Silicon	Tin	Strontium	Titanium	Thallium	Uranium	Vanadium	Zinc
Unit				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
CCME Guideline				0.001	-	-	-	-	0.0008	0.015	-	0.016
PWQO Guideline				0.1	-	-	-	-	-	0.005	0.006	0.02
Borehole MW22-11-1 Range				0.000107 - 0.000556	3.44 - 3.54	.00338 - 0.00406	0.5 - 1	0.0002 - 0.00114	0.0002 - 0.00022	.00153 - 0.00162	0.0016 - 0.002	0.001 - 0.00117
MW22-11-1 SS5	Groundwater	Soil	NPAG	**0.00057**	2.5	< 0.00006	0.022	**0.014**	0.00001	**0.0058**	**0.0071**	**0.003**
MW22-11-1 SS3	Groundwater	Organic	NPAG	---	---	---	---	---	---	---	---	---
MW22-11-1 SS4	Groundwater	Soil	NPAG	**0.00096**	**28**	0.0016	0.039	< 0.00005	< 0.000005	0.0014	**0.0048**	**0.012**
Borehole MW22-12-1 Range				0.00005 - 0.00005	7.89 - 8.34	0.0003 - 0.00047	0.5 - 0.5	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.00051	0.0012 - 0.194	.00049 - 0.00091
MW22-12-1 SS4	Groundwater	Soil	NPAG	**0.00062**	**9.2**	< 0.00006	0.021	**0.062**	0.000012	**0.0015**	0.0065	**0.004**
MW22-12-1 SS6	Groundwater	Soil	NPAG	**0.0006**	2.3	< 0.00006	0.041	**0.0073**	< 0.000005	**0.00087**	0.0014	**0.002**
MW22-12-1 SS11	Groundwater	Soil	NPAG	**0.00048**	3.8	< 0.00006	0.021	**0.018**	< 0.000005	**0.0008**	0.0027	< 0.002
MW22-12-1 SS12	Groundwater	Soil	NPAG	**0.00073**	4.0	< 0.00006	0.047	**0.0084**	0.000005	**0.0033**	0.0018	< 0.002
Borehole MW22-13-1 Range				0.00005 - 0.000361	6.46 - 6.86	0.0003 - 0.00049	2.04 - 2.8	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.00063	0.001 - 0.0013	0.0003 - 0.00074
MW22-13-1 SS5	Groundwater	Soil	NPAG	**0.00078**	4.3	0.00008	0.016	**0.093**	0.000022	0.00033	**0.012**	**0.007**
MW22-13-1 SS6	Groundwater	Soil	NPAG	**0.00073**	5.7	< 0.00006	0.021	**0.076**	0.00001	**0.00087**	**0.0085**	**0.004**
MW22-13-1 SS8	Groundwater	Soil	NPAG	**0.00068**	5.7	< 0.00006	0.018	**0.073**	0.000012	**0.0019**	**0.01**	**0.005**
MW22-13-1 SS10	Groundwater	Soil	NPAG	**0.00054**	3.8	0.00008	0.013	**0.059**	0.000013	**0.0073**	**0.0081**	**0.006**
Max	MW22-14-1Max			0.00038	6.6	0.00077	2.3	0.0001	0.0001	0.0005	0.0015	0.0003
Borehole MW22-14-1 Range				0.000348 - 0.000379	5.9 - 6.56	0.0003 - 0.00077	2.15 - 2.3	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.0005	0.001 - 0.0015	0.0003 - 0.0003
MW22-14-1 SS3	Groundwater	Soil	NPAG	0.00004	4.5	< 0.00006	0.013	**0.013**	< 0.000005	0.00022	**0.0034**	< 0.002
MW22-14-1 SS5	Groundwater	Soil	NPAG	0.00006	4.4	< 0.00006	0.014	**0.0087**	< 0.000005	**0.00073**	**0.0019**	< 0.002
MW22-14-1 SS7	Groundwater	Soil	NPAG	0.00007	4.3	< 0.00006	0.014	**0.0081**	< 0.000005	**0.00099**	**0.0017**	< 0.002
MW22-14-1 SS8	Groundwater	Soil	NPAG	0.00012	4.5	< 0.00006	0.015	**0.012**	< 0.000005	**0.00087**	**0.0017**	< 0.002
Borehole MW22-15-1 Range				0.00005 - 0.00005	4.58 - 4.96	0.0003 - 0.0003	1.03 - 1.52	0.0149 - 0.0176	0.0001 - 0.0001	0.0005 - 0.0005	0.0011 - 0.003	0.0003 - 0.0003
MW22-15-1 SA1	Groundwater	Bedrock	NPAG	0.00005	#N/A	0.00012	0.0087	**0.019**	0.000011	0.00019	**0.0072**	< 0.002
MW22-15-1 SA2	Groundwater	Bedrock	NPAG	0.00005	#N/A	< 0.00006	0.0083	0.0031	0.000007	0.00014	**0.0052**	< 0.002
MW22-15-1 SA3	Groundwater	Bedrock	NPAG	**0.00009**	#N/A	< 0.00006	0.014	0.0021	0.000005	**0.00054**	**0.0042**	< 0.002
Borehole MW22-15-3 Range				0.00005 - 0.00005	6.41 - 6.99	0.0003 - 0.0003	4.51 - 4.67	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.0005	.0014 - 0.0272	0.0003 - 0.0003
MW22-15-1 SS2*	Groundwater	Soil	NPAG	< 0.00004	2.5	< 0.00006	0.01	**0.0021**	0.000008	0.00028	0.0019	< 0.002
MW22-15-1 SS4*	Groundwater	Soil	NPAG	< 0.00004	3.4	< 0.00006	0.014	**0.001**	< 0.000005	**0.00056**	0.002	< 0.002
MW22-15-1 SS5*	Groundwater	Soil	NPAG	< 0.00004	3.7	< 0.00006	0.017	**0.0018**	< 0.000005	**0.00051**	0.0027	< 0.002
MW22-15-2 SS6*	Groundwater	Soil	NPAG	**0.00069**	3.4	0.00017	0.013	**0.00085**	< 0.000005	**0.0023**	0.0026	< 0.002
MW22-15-4 SS1*	Groundwater	Organic	NPAG	**0.0012**	5.2	< 0.00006	0.061	**0.0027**	0.000005	**0.0022**	0.0011	< 0.002
MW22-15-4 SS2*	Groundwater	Soil	NPAG	**0.00074**	1.4	< 0.00006	0.033	**0.0033**	< 0.000005	**0.0038**	0.0016	< 0.002
Borehole MW22-16-1 Range				0.000087 - 0.000106	3.99 - 4.19	0.0003 - 0.0003	0.85 - 1.53	0.00666 - 0.0335	0.0001 - 0.0001	0.0005 - 0.0005	0.001 - 0.0014	0.0003 - 0.0003
MW22-16-1 SA1	Groundwater	Bedrock	NPAG	< 0.00004	3.7	0.00007	0.0057	0.0023	0.000042	0.00012	**0.0088**	< 0.002
MW22-16-1 SA2	Groundwater	Bedrock	NPAG	0.00009	2.3	0.00008	0.0095	0.0042	< 0.000005	**0.00077**	**0.0074**	< 0.002
MW22-16-1 SA3	Groundwater	Bedrock	PAG	0.0001	2.6	0.0001	0.0067	0.0032	0.00002	0.00024	**0.0064**	**0.002**
Borehole MW22-16-2 Range				0.000082 - 0.000127	4.13 - 4.94	0.0003 - 0.0003	1.36 - 1.67	0.0001 - 0.00016	0.0001 - 0.0001	0.0005 - 0.00061	.0017 - 0.0018	0.0003 - 0.00039
MW22-16-02 SA2	Groundwater	Soil	NPAG	0.00005	4.1	< 0.00006	0.012	**0.0047**	< 0.000005	0.00016	0.0016	< 0.002
MW22-16-02 SA4	Groundwater	Soil	NPAG	**0.00028**	2.8	< 0.00006	0.0076	**0.0047**	< 0.000005	**0.0062**	0.0016	< 0.002
Borehole MW22-17-1 Range				0.000051 - 0.000661	4.99 - 5.2	0.0003 - 0.0006	0.5 - 1	0.00294 - 0.0152	0.0001 - 0.0002	0.00075 - 0.001	0.001 - 0.0174	0.0008 - 0.00092
MW22-17-1 SA7	Groundwater	Bedrock	NPAG	0.00034	3.5	0.0001	0.016	0.00043	0.000014	**0.0021**	0.0054	< 0.002
MW22-17-1 SA8	Groundwater	Bedrock	NPAG	0.00008	3.9	0.00009	0.016	0.0024	0.000006	**0.0025**	0.0024	< 0.002
MW22-17-1 SA9	Groundwater	Bedrock	NPAG	0.00008	4.3	0.00007	0.02	0.00089	< 0.000005	**0.0034**	0.0012	< 0.002
Borehole MW22-17-2 Range				0.000066 - 0.000106	5.58 - 6.2	0.0003 - 0.00041	0.5 - 0.5	0.0201 - 0.0226	0.0001 - 0.0001	0.0005 - 0.00082	.0012 - 0.0032	.00076 - 0.00121
MW23-17-1 SA3*	Groundwater	Soil	NPAG	0.00009	1.6	0.00012	0.014	0.0036	< 0.000005	0.00014	0.0022	< 0.002
MW23-17-1 SA4*	Groundwater	Soil	NPAG	**0.00015**	2.4	0.00013	0.013	0.0035	< 0.000005	0.00032	**0.0052**	< 0.002
MW23-17-1 SA5*	Groundwater	Soil	NPAG	**0.00013**	2.7	< 0.00006	0.015	0.0062	0.000006	0.00036	**0.0045**	< 0.002
Borehole MW22-18-1 Range				0.000215 - 0.000269	14.8 - 15.9	0.0016 - 0.00214	0.5 - 1	0.00914 - 0.0361	.00026 - 0.00031	.00437 - 0.00484	.0012 - 0.0024	.00248 - 0.00306
MW22-18-1 SA1**	Groundwater	Soil	NPAG	0.00012	#N/A	0.00028	0.017	0.0074	0.000007	0.00044	0.002	0.003
MW22-18-1 SA2**	Groundwater	Soil	NPAG	0.00009	#N/A	0.00013	0.0096	0.015	0.000019	0.00054	0.0023	0.003
MW22-18-1 SA3	Groundwater	Bedrock	NPAG	0.00011	#N/A	< 0.00006	0.096	**0.068**	0.000028	0.00021	**0.02**	**0.013**
MW22-18-1 SA4	Groundwater	Bedrock	NPAG	**0.00037**	#N/A	0.00011	0.10	**0.11**	0.00011	0.0015	**0.043**	**0.035**
MW22-18-1 SA5	Groundwater	Bedrock	NPAG	0.0001	#N/A	0.00009	0.045	0.0048	0.000007	0.00047	**0.035**	0.002
MW22-18-1 SA6	Groundwater	Bedrock	NPAG	0.00021	#N/A	< 0.00006	0.38	**0.15**	0.00012	0.00057	**0.048**	**0.04**
Borehole MW22-19-1 Range				0.000439 - 0.00109	4.73 - 6.16	0.0003 - 0.00942	2.32 - 4.08	0.0306 - 0.0898	0.0001 - 0.00012	0.0005 - 0.00111	.0016 - 0.0055	0.0003 - 0.00068
MW22-19-01-AS1	Groundwater	Soil	NPAG	0.00067	#N/A	0.00024	0.04	0.012	0.000012	0.0005	0.0029	**0.005**
MW22-19-01-SA2B	Groundwater	Soil	NPAG	0.00017	#N/A	0.00007	0.02	0.00038	0.000008	0.00028	0.0018	< 0.002
MW22-19-01-SA3	Groundwater	Soil	NPAG	0.00011	#N/A	0.00007	0.028	< 0.00007	0.000012	0.00014	0.0022	< 0.002
MW22-19-01-SA4	Groundwater	Soil	NPAG	0.00012	#N/A	0.00016	0.017	0.004	0.000012	0.00027	0.0015	**0.009**
MW22-19-01-SA5	Groundwater	Soil	NPAG	0.00041	#N/A	0.00085	0.021	0.00018	0.000006	0.0003	0.0034	**0.006**
Borehole MW22-20-1 Range				0.00005 - 0.000061	8.47 - 9.55	0.0003 - 0.00052	2.73 - 8.72	0.00804 - 0.0282	0.0001 - 0.0001	0.0005 - 0.0005	0.001 - 0.0322	.00072 - 0.00192
MW22-20-01-3.8-4.0 m	Groundwater	Bedrock	NPAG	**0.00091**	#N/A	0.00006	0.0093	0.011	0.000015	0.00015	0.0035	**0.002**
Borehole MW22-20-2 Range				0.00005 - 0.000072	6.3 - 8.02	0.0003 - 0.00031	0.5 - 0.66	0.0001 - 0.0001	0.0001 - 0.0001	0.0005 - 0.0005	0.0028 - 0.0194	0.0003 - 0.0003
MW22-20-01-SA1*	Groundwater	Organic	PAG	**0.00009**	#N/A	0.00014	0.021	**0.0013**	0.000013	0.00043	0.00066	**0.007**
MW22-20-01-SA3*	Groundwater	Soil	NPAG	**0.00077**	#N/A	< 0.00006	0.076	**0.0023**	0.000011	**0.0051**	0.001	**0.003**

Bolded values indicate that they are out of the associated monitoring well range

Grey shaded values indicate that they greater than five times the associated monitoring v

*Overburden samples were compared to different borehole number to sample location, a

**Overburden samples were compared to groundwater borehole monitoring range, as the

Attachment C – Borehole Logs

PROJECT: 21455151

LOCATION: N 5635835.49; E 533860.54

RECORD OF BOREHOLE: BH22-01-1

BORING DATE: 09-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		244.00							S D
0	Simco Track Mount, 114 mm Hollow Stem Augers	Organics, some gravel, trace boulders, brown		0.00	1	SS	12				24-09-2023
1					2	SS	3				
				242.48							
		SILTY CLAY, some gravel, trace to some sand, brown to grey from 3.05 mbgs, moist to wet from 3.05 mbgs		1.52	3	SS	14				
2											
3					4	SS	16				
4				239.43							
		SILTY SAND, some gravel, trace clay, grey to light brown		4.57	6	SS	33				
5											
6					7	SS	22				Sand Pack
7											Screen
8					8	SS	76				
9				234.86							Bentonite
		Inferred bedrock		9.14	9	SS					
				234.25							
		END OF BOREHOLE		9.75							
10		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 50

LOGGED: EP

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5635835.49; E 533860.54

RECORD OF BOREHOLE: BH22-01-1

BORING DATE: 09-09-2022

DRILL RIG: Simco Track Mount

SHEET 2 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
10		*--- CONTINUED FROM PREVIOUS PAGE ---*									S D
		NOTE: 1. Refusal to augers at 9.14 mbgs (inferred bedrock)									
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

DEPTH SCALE

1 : 50

LOGGED: EP

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5643152.80; E 532825.14

RECORD OF BOREHOLE: BH22-02-1

BORING DATE: 12-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		250.00							S D
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics, dark brown		0.00							
		SILTY SAND, some clay, trace gravel, light brown, wet from 1.52 mbgs		0.15	SA1	SS	12				
1					SA2	SS	3				
					SA3	SS	14				24-09-2023
2					SA4	SS	16				
3					SA5	SS	-				Bentonite
4				245.18							
		SILTY CLAY, some sand, some gravel, grey, moist		4.82	SA6	SS	33				
5											
6				243.90							
		SILTY SAND, some clay, grey, wet		6.10	SA7	SS	22				Sand Pack
7											
				242.19							Screen
8		SILTY CLAY, some sand, grey, wet		7.81	SA8	SS	76				
				241.50							
		END OF BOREHOLE		8.50							
9											
10											

DEPTH SCALE

1 : 50

LOGGED: EP

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5649636.97; E 534654.87

RECORD OF BOREHOLE: BH22-03-1

BORING DATE: 13-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		233.00							S D
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics and clay, some sand and silt, dark brown		0.00	SA1	SS	2				
					SA2A	SS	4				
				232.00							
1		SILTY CLAY, trace to some sand, grey, moist		1.00	SA2B	SS	4				24-09-2023
2					SA3	SS	3				
					SA4	SS	9				
3				229.95							
		CLAY, some silt, trace sand, grey, moist to wet		3.05	SA5	SS	3				Sand Pack
4											
											Screen
5					SA6	SS	RF				
				227.82							
		END OF BOREHOLE		5.18							
		NOTE:									
		1. Auger refusal at 5.18 mbgs									
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: EP

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5695457.6; E 520572.2

RECORD OF BOREHOLE: BH22-04-1

BORING DATE: 16-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		240.17				SHEAR STRENGTH Cu, kPa: nat V. + Q - ●; rem V. ⊕ U - ○ (20 40 60 80)	WATER CONTENT PERCENT: Wp W Wl (10 20 30 40)		S D
0	Simco Track Mount, 114 mm Hollow Stem Augers	Organics, dark brown (0.00)		0.00	SA1A	SS	9				
		SILTY SAND, trace clay, light brown, moist to wet from 5.18 mbgs		0.05	SA1B	SS	9				
1					SA2	SS	15				
2					SA3	SS	48				
					SA4	SS	46				
3											
					SA5	SS	53				
4											
					SA6	SS	53				
5											
6											
					SA7	SS	33				
7											23-09-2023 ▽
					SA8	SS	42				
8											
											Sand Pack
9					SA9	SS	32				Screen
10		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 50

LOGGED: EP

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5695457.6; E 520572.2

RECORD OF BOREHOLE: BH22-04-1

BORING DATE: 16-09-2022

DRILL RIG: Simco Track Mount

SHEET 2 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
10		*--- CONTINUED FROM PREVIOUS PAGE ---*									S D
10	Simco Track Mount 114 mm Hollow Stem Augers	SILTY SAND, trace clay, light brown, moist to wet from 5.18 mbgs									Screen
11				228.89	SA10	SS	37				
		END OF BOREHOLE		11.28							
12											
13											
14											
15											
16											
17											
18											
19											
20											

DEPTH SCALE

1 : 50

LOGGED: EP

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5719318.29; E 524958.22

RECORD OF BOREHOLE: BH22-05-1

BORING DATE: 22-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕; Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		215.00							S D
0	Simco Track Mount; 114 mm Hollow Stem Augers	SILT, trace sand, trace clay, trace organics, black		0.00 / 0.08	SA1A	SS	1				
		SILTY SAND to SANDY SILT, trace gravel, trace clay, trace silty clay laminations, trace fine to medium sand laminations, light brown-grey, moist			SA1B	SS					
1					SA2	SS	13				
2					SA3	SS	17				
					SA4	SS	36				
3					SA5	SS	39				
4					SA6	SS	40				Screen
		SILT, some fine sand, trace clay, light brown-grey, moist		210.43 / 4.57	SA7	SS	34				Bentonite
5		END OF BOREHOLE		209.82 / 5.18							
6											
7											
8											
9											
10											

20-09-2023

DEPTH SCALE

1 : 50

LOGGED: MB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5722155.40; E 518931.09

RECORD OF BOREHOLE: BH22-06-1

BORING DATE: 23-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕; Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		220.00									S D
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics, roots, peat		0.00	SA1A	SS	3						
		SAND, fine to medium, some silt, trace gravel, trace organics, light to dark brown, dry		0.02	SA1B	SS	3						
1				219.01	SA2A	SS	7						
		SAND, trace to some gravel, trace clay, trace silt, medium grey-brown, moist to wet from 6.10 mbgs		0.99	SA2B	SS	7						
2					SA3	SS	16						
					SA4A	SS	32						
					SA4B	SS	32						
3													
					SA5	SS	50						
4													
5					SA6	SS	62						
6													
					SA7	SS	44						
7													
8					SA8	SS	42						
9													
					SA9	SS	93						Screen
				210.32									
				9.68	SA9	SS	93						
10		*CONTINUED NEXT PAGE*											

DEPTH SCALE

1 : 50

LOGGED: MB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5722155.40; E 518931.09

RECORD OF BOREHOLE: BH22-06-1

BORING DATE: 23-09-2022

DRILL RIG: Simco Track Mount

SHEET 2 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		--- CONTINUED FROM PREVIOUS PAGE ---									S D
10	Simco Track Mount 114 mm Hollow Stem Augers	SILT, trace sand, trace gravel, light brown-grey, thin laminations in red-brown and light grey, wet									Screen
11					SA10	SS					Native Cave
				208.72							
		END OF BOREHOLE		11.28							
		NOTE:									
12		1. MW22-06-1 D, native cave and sand from 5.33 to 10.67 mbgs									
13											
14											
15											
16											
17											
18											
19											
20											

DEPTH SCALE

1 : 50

LOGGED: MB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5725691.88; E 577428.87

RECORD OF BOREHOLE: BH22-07-1

BORING DATE: 25-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa: nat V. + Q - ● rem V. ⊕ U - ○ (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT: Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		168.00									S D
0	Simco Track Mount 114 mm Hollow Stem Augers	SAND, fine becoming coarser with depth, some silt, trace to some gravel, trace rootlets, light grey to red brown, dry		0.00	SA1A	SS	6						
				167.70									
		CLAYEY SILT to SILT, trace to some sand, trace gravel, medium brown, dry to moist		0.30	SA1B	SS	6						
				167.11	SA2A	SS	25						
1		SANDY SILT, trace gravel, light brown-grey, moist		0.89	SA2B	SS	25						
				166.25	SA3A	SS	48						
		SAND, fine, some silt, trace gravel, trace very thin silty beds, light brown-grey, moist		1.75	SA3B	SS	48						
2					SA4	SS	41						
				164.95									
3		SANDY SILT, fine, trace gravel, trace clay, trace laminations to very fine beds of fine sand, light grey-brown, moist to wet		3.05	SA5	SS	49						
4													
					SA6	SS	38						
5													
				161.90									
6		CLAYEY SILT, trace to some sand, trace gravel, medium brown-grey, (TILL), moist		6.10	SA7	SS	52						
7													25-09-2023
					SA8	SS	RF						
8													
9					SA9	SS	RF						Screen
10		*CONTINUED NEXT PAGE*											

DEPTH SCALE

1 : 50

LOGGED: MB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5725691.88; E 577428.87

RECORD OF BOREHOLE: BH22-07-1

BORING DATE: 25-09-2022

DRILL RIG: Simco Track Mount

SHEET 2 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		--- CONTINUED FROM PREVIOUS PAGE ---									S D
10	Simco Track Mount	CLAYEY SILT, trace to some sand, trace gravel, medium brown-grey, (TILL), moist		157.03	SA10	SS	RF				Screen
11		END OF BOREHOLE		10.97							Native Cave
		NOTE:									
		1. MW22-07-1 D, native cave and sand from 4.57 to 10.67 mbgs									
12											
13											
14											
15											
16											
17											
18											
19											
20											

DEPTH SCALE

1 : 50

LOGGED: MB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5725725.67; E 577471.10

RECORD OF BOREHOLE: BH22-07-3

BORING DATE: 25-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		169.39							
0	Simco Track Mount; 114 mm Hollow Stem Augers	SAND, fine becoming coarser with depth, some silt, trace to some gravel, trace rootlets, light grey to red brown, dry		0.00 / 169.09	SA1A	SS	6				Bentonite
		CLAYEY SILT to SILT, trace to some sand, trace gravel, medium brown, dry to moist		0.30 / 168.50	SA1B	SS	6				
					SA2A	SS	25				
1		SANDY SILT, trace gravel, light brown-grey, moist		0.89 / 167.64	SA2B	SS	25				
					SA3A	SS	48				
		SAND, fine, some silt, trace gravel, trace very thin silty beds, light brown-grey, moist		1.75 / 166.34	SA3B	SS	48				
2											Native Cave
					SA4	SS	41				
3		SANDY SILT, fine, trace gravel, trace clay, trace laminations to very fine beds of fine sand, light grey-brown, moist to wet		3.05 / 163.29	SA5	SS	49				
4											
					SA6	SS	38				Bentonite
5											
											Sand Pack
6											23-09-2023
		CLAYEY SILT, trace to some sand, trace gravel, medium brown-grey, (TILL), moist		6.10	SA7	SS	52				
7											Screen
					SA8	SS	RF				
8											
9					SA9	SS	RF				
10		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 50

LOGGED: MB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5725725.67; E 577471.10

RECORD OF BOREHOLE: BH22-07-3

BORING DATE: 25-09-2022

DRILL RIG: Simco Track Mount

SHEET 2 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
10		*--- CONTINUED FROM PREVIOUS PAGE ---*									
10	Simco Track Mount	CLAYEY SILT, trace to some sand, trace gravel, medium brown-grey, (TILL), moist		158.42	SA10	SS	RF				
11		END OF BOREHOLE		10.97							
12											
13											
14											
15											
16											
17											
18											
19											
20											

DEPTH SCALE

1 : 50

LOGGED: MB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5725726.48; E 577427.51

RECORD OF BOREHOLE: BH22-07-4

BORING DATE: 25-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		168.60							
0	Simco Track Mount; 114 mm Hollow Stem Augers	SAND, fine becoming coarser with depth, some silt, trace to some gravel, trace rootlets, light grey to red brown, dry		0.00 / 168.30	SA1A	SS	6				Bentonite
		CLAYEY SILT to SILT, trace to some sand, trace gravel, medium brown, dry to moist		0.30 / 167.71	SA1B	SS	6				
1		SANDY SILT, trace gravel, light brown-grey, moist		0.89 / 166.85	SA2A	SS	25				
					SA2B	SS	25				
					SA3A	SS	48				
2		SAND, fine, some silt, trace gravel, trace very thin silty beds, light brown-grey, moist		1.75 / 165.55	SA3B	SS	48				Native Cave
					SA4	SS	41				
3		SANDY SILT, fine, trace gravel, trace clay, trace laminations to very fine beds of fine sand, light grey-brown, moist to wet		3.05 / 162.50	SA5	SS	49				
4											
					SA6	SS	38				Bentonite
5											23-09-2023
											Sand Pack
6		CLAYEY SILT, trace to some sand, trace gravel, medium brown-grey, (TILL), moist		6.10	SA7	SS	52				
											Screen
7											
					SA8	SS	RF				
8											
9					SA9	SS	RF				
10		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 50

LOGGED: MB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5725726.48; E 577427.51

RECORD OF BOREHOLE: BH22-07-4

BORING DATE: 25-09-2022

DRILL RIG: Simco Track Mount

SHEET 2 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
10		*--- CONTINUED FROM PREVIOUS PAGE ---*									
	Simco Track Mount	CLAYEY SILT, trace to some sand, trace gravel, medium brown-grey, (TILL), moist		157.63	SA10	SS	RF				
11		END OF BOREHOLE		10.97							
12											
13											
14											
15											
16											
17											
18											
19											
20											

DEPTH SCALE

1 : 50

LOGGED: MB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5733329.47; E 573304.13

RECORD OF BOREHOLE: BH22-08-1

BORING DATE: 27-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		171.00							S D
0	Simco Track Mount, 114 mm Hollow Stem Augers	Organics, dark brown, moist		0.00	SA1	SS	2				
				170.14	SA2A	SS	5				
1		CLAY, trace gravel, light brown, moist		0.86	SA2B	SS	5				
				169.81							
		SILT, trace organics, dark brown, moist to wet		1.19	SA2C	SS	5				
				169.38	SA3	SS	7				
		CLAY, trace gravel, trace silt, light brown, wet		1.62	SA3	SS	7				
2					SA4	SS	14				
3					SA5	SS	14				Sand Pack
				167.19							
		SILT, trace clay, light brown, wet		3.81	SA6A	SS	16				
4				166.81	SA6B	SS	16				
		CLAY, trace gravel, trace silt, light brown, wet		4.19							
5					SA7	SS	12				
					SA8	SS	16				
6											Screen
					SA9	SS					
				164.29							
		END OF BOREHOLE		6.71							
7											
8											
9											
10											

23-09-2023

DEPTH SCALE

1 : 50

LOGGED: MML

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5737153.18; E 562644.49

RECORD OF BOREHOLE: BH22-09-1

BORING DATE: 29-09-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		172.00							S D
0	Simco Track Mount 114 mm Hollow Stem Augers	SILT, some organics/roots, dark brown, moist		0.00	SA1	SS	1				29-09-2023
1					SA2	SS	2				
				170.17	SA3A	SS	2				
2		SILT and CLAY, trace to some gravel, light brown, silt and clay in alternating thin to medium beds, moist		1.83	SA3B	SS	2				
					SA4A	SS	8				
					SA4B	SS	8				
					SA4C	SS	8				
3					SA5A	SS	65				
					SA5B	SS	65				
					SA5C	SS	65				
4					SA6	SS	50/ 0.13				Screen
					SA7	SS	50/ 0.13				
5				166.82							
		END OF BOREHOLE NOTE: 1. Auger Refusal at 5.18 mbgs (inferred bedrock)		5.18							
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: MML

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5745600.60; E 520238.39

RECORD OF BOREHOLE: BH22-10-1

SHEET 1 OF 1

BORING DATE: 02-10-2022

DATUM: Geodetic

DRILL RIG: Simco Track Mount

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		234.00							S D
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics, some roots, some moss, brown, moist		0.00	SA1	SS	2				
				0.10	SA1B	SS	2				
		SILT, trace clay, dark brown to black, moist									
1					SA2A	SS	6				
				232.88							
		CLAY, trace gravel, light brown, moist		1.12	SA2B	SS	6				20-09-2023
2					SA3	SS	13				
					SA4	SS	16				
3				230.95							
		SILT, trace gravel, light brown, trace thin clay beds, dark brown mottling, moist to wet		3.05	SA5A	SS	33				
					SA5B	SS	33				
					SA5C	SS	33				
				230.34							
		SILTY CLAY, trace gravel, light brown, wet		3.66	SA6	SS	50/ 0.15				
				230.14	SA6	SS	50/ 0.15				
4		END OF BOREHOLE		3.86							
		NOTE:									
		1. Auger Refusal at 3.86 mbgs (inferred bedrock)									
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: MML

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5745634.51; E 520248.49

RECORD OF BOREHOLE: BH22-10-3

BORING DATE: 12-10-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		233.81									
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics, some roots, some moss, brown, moist		0.00	SA1	SS	2						Bentonite
				0.10	SA1B	SS	2						
		SILT, trace clay, dark brown to black, moist											
1					SA2A	SS	6						Sand Pack 20-09-2023
				232.69									
		CLAY, trace gravel, light brown, moist		1.12	SA2B	SS	6						
2					SA3	SS	13						Screen
					SA4	SS	16						
3				230.76									
		SILT, trace gravel, light brown, trace thin clay beds, dark brown mottling, moist to wet		3.05	SA5A	SS	33						
					SA5B	SS	33						
					SA5C	SS	33						
				230.15									
		SILTY CLAY, trace gravel, light brown, wet		3.66	SA6	SS	50/ 0.15						
				229.95	SA6	SS	50/ 0.15						
4		END OF BOREHOLE		3.86									
		NOTE:											
		1. Auger Refusal at 3.86 mbgs (inferred bedrock)											
5													
6													
7													
8													
9													
10													

DEPTH SCALE

1 : 50

LOGGED: MML

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5745617.13; E 520277.15

RECORD OF BOREHOLE: BH22-10-4

BORING DATE: 12-10-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕; Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		232.53									
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics, some roots, some moss, brown, moist		0.00	SA1	SS	2						
				0.10	SA1B	SS	2						
		SILT, trace clay, dark brown to black, moist											Bentonite
1					SA2A	SS	6						Sand Pack 20-09-2023
				231.41									
		CLAY, trace gravel, light brown, moist		1.12	SA2B	SS	6						
2					SA3	SS	13						Screen
					SA4	SS	16						
3				229.48									
		SILT, trace gravel, light brown, trace thin clay beds, dark brown mottling, moist to wet		3.05	SA5A	SS	33						
					SA5B	SS	33						
					SA5C	SS	33						
				228.87									
		SILTY CLAY, trace gravel, light brown, wet		3.66	SA6	SS	50/ 0.15						
				228.67	SA6	SS	50/ 0.15						
4		END OF BOREHOLE		3.86									
		NOTE:											
		1. Auger Refusal at 3.86 mbgs (inferred bedrock)											
5													
6													
7													
8													
9													
10													

DEPTH SCALE

1 : 50

LOGGED: MML

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5739753.73; E 513511.60

RECORD OF BOREHOLE: BH22-11-1

BORING DATE: 13-10-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		233.00							
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics, some sand, some silt, dark brown, wet		0.00	SA1	SS					
1					SA2	SS					
2					SA3	SS					Bentonite
				230.71							
		SILTY SAND, some gravel, grey, wet		2.29	SA4	SS					
3					SA5	SS					
				229.34							
		SAMPLE LOST		3.66							Sand Pack
4											
5											Screen
				227.40							
		END OF BOREHOLE		5.60							
6		NOTE:									
		1. No sample from 3.66 mbgs to 5.60 mbgs.									
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: EP

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5706265.65; E 525052.77

RECORD OF BOREHOLE: BH22-12-1

BORING DATE: 18-11-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 2

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		228.00							S D
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics, some sand, some silt, trace clay, dark brown		0.00	SA1	SS	3				23-9-2023
1					SA2	SS	4				
				226.48							
		SILTY CLAY, trace to some sand, grey, wet		1.52							
2					SA3	SS	7				
					SA4	SS	9				
3											
					SA5	SS	9				
4											
					SA6	SS	9				
5											
6					SA7	SS	6				
7					SA8	SS	7				
					SA9	SS	6				
8				219.62							
		SILTY SAND, trace clay, grey, wet		8.38	SA10	SS	10				
9					SA11	SS	9				Screen
10					SA12	SS					
		CONTINUED NEXT PAGE									

DEPTH SCALE

1 : 50

LOGGED: EP/AH

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5706265.65; E 525052.77

RECORD OF BOREHOLE: BH22-12-1

BORING DATE: 18-11-2022

DRILL RIG: Simco Track Mount

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		--- CONTINUED FROM PREVIOUS PAGE ---									S D
10		SILTY SAND, trace clay, grey, wet		217.33	SA12	SS	50/ 0.15				Screen
		END OF BOREHOLE		10.67							
11		NOTE:									
		1. MW22-12-1 D, Native cave and sand from 3.05 to 10.67 mbgs									
12											
13											
14											
15											
16											
17											
18											
19											
20											

DEPTH SCALE

1 : 50

LOGGED: EP/AH

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5706243.00; E 525032.40

RECORD OF BOREHOLE: BH22-12-3

BORING DATE: 18-11-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		228.08							
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics - PEAT, dark brown		0.00	SA1	AS					Sand Pack
				227.47							23-09-2023
		SILT, trace sand, trace organics, dark brown		0.61							Bentonite
1					SA2	AS					
				226.56							
		SILTY CLAY, trace sand, grey, w-PL		1.52							
2					SA3	AS					
				225.94							
		SILTY CLAY, trace sand, grey, w>PL		2.14							Native Cave
3											
4					SA4	AS					
5											Screen
6				221.98							
		END OF BOREHOLE		6.10							
		NOTE:									
		1. MW22-12-1 D, Native cave and silica sand from 1.22 to 6.1 mbgs									
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: EP/AH

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5706223.00; E 525050.30

RECORD OF BOREHOLE: BH22-12-4

BORING DATE: 18-11-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		228.34									
0	Simco Track Mount 114 mm Hollow Stem Augers	PEAT, trace sand, dark brown		0.00	SA1	AS							Sand Pack; 23-09-2023
				227.63									
1		SILT, some organics, trace sand, dark to light brown		0.71	SA2	AS							Bentonite
				226.74									
2		SILTY CLAY, trace sand, grey w-PL		1.60	SA3	AS							
				225.91									
3		SILTY CLAY, trace sand, grey w>PL		2.43									Native Cave
4					SA4	AS							
5													Screen
6				222.24									
		END OF BOREHOLE		6.10									
7		NOTE:											
8		1. MW22-12-1 D, Native cave and silica sand from 2.44 to 6.1 mbgs											
9													
10													

DEPTH SCALE

1 : 50

LOGGED: EP/AH

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5688222.41; E 522424.11

RECORD OF BOREHOLE: BH22-13-1

BORING DATE: 22-11-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		231.00							S D
0	Simco Track Mount; 114 mm Hollow Stem Augers	SAND, some organics, brown, moist		0.00	SA1	SS	8				
				230.24							
1		SILTY SAND, some organics, trace clay, dark brown to grey, moist		0.76	SA2	SS	8				
2					SA3	SS	6				
					SA4	SS	9				
3					SA5	SS	12				
				227.19							
4		SAND, trace silt, trace clay, grey, wet		3.81	SA6	SS	10				
5					SA7	SS	17				
					SA8	SS	10				
6					SA9	SS	12				
7					SA10	SS	10				Screen
				223.38							
		END OF BOREHOLE		7.62							
8		NOTE:									
		1. MW22-13-1 D, Native cave and sand from 3.05 to 7.62 mbgs									
9											
10											

DEPTH SCALE

1 : 50

LOGGED: AH

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5670393.57; E 520342.88

RECORD OF BOREHOLE: BH22-14-1

BORING DATE: 26-11-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		250.00							S D
0	Simco Track Mount 114 mm Hollow Stem Augers	SAND, trace organics, brown, moist		0.00	SA1	SS	6				
				249.24							
1		CLAYEY SILT, trace sand, brown, w<PL		0.76	SA2	SS	9				
				248.48							
2		SAND, trace clay, trace silt, trace cobbles, brown, (TILL), moist		1.52	SA3	SS	39				21-09-2023
				247.71							
3		SILTY SAND, trace gravel, trace clay, brown, becoming clayey below 4.57 mbgs, (TILL), wet		2.29	SA4	SS	28				
					SA5	SS	24				
4					SA6	SS	15				
					SA7	SS	21				
5				244.67							Screen
		GRAVELLY SAND, trace silt, brown, wet		5.33	SA8	SS	29				
6				243.90							
		END OF BOREHOLE		6.10							
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: AH

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5642700.09; E 519178.33

RECORD OF BOREHOLE: BH22-15-1

BORING DATE: 4/20/2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		277.00							S D
0	Simco Track Mount 150 mm Solid Stem Augers / NQ Coring	Organics, roots and rootlets		0.00 / 276.80							
		GRAVELLY SILT and SAND, light brown, (TILL), moist		0.20	SA1	SS					
1					SA2	SS					
2					SA3	SS					24-09-2023
					SA4	SS					
3					SA5	SS					
4				272.89							
		BEDROCK - Granitic, light grey to dark grey, mottled to banded, coarse grained		4.11	CR1	RC					Sand Pack
5					CR2	RC					
					CR3	RC					Screen
6				271.03	CR4	RC					
		END OF BOREHOLE		5.97							
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: AB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5642739.60; E 519176.80

RECORD OF BOREHOLE: BH22-15-3

BORING DATE: 26-11-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (20 40 60 80) nat V. + Q - ● rem V. ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp W Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		275.73									
0	Simco Track Mount 114 mm Hollow Stem Augers	Organics, roots and rootlets		0.00	SA1	SS							Bentonite
				274.82									
1		GRAVELLY SILT and SAND, light brown, (TILL), moist		0.91	SA2	SS							21-09-2023
2		Cobbles at 1.82 mbgs			SA3	SS							Screen
					SA4	SS							
				273.13									
		END OF BOREHOLE		2.60									
3													
4													
5													
6													
7													
8													
9													
10													

DEPTH SCALE

1 : 50

LOGGED: AH

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5642700.09; E 519178.33

RECORD OF BOREHOLE: BH22-15-4

BORING DATE: 20-04-2022

DRILL RIG: Simco Track Mount

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		277.00							
0	Simco Track Mount, 114 mm Hollow Stem Augers	Organics, roots and rootlets		0.00	SA1	SS					Bentonite
				276.09							
1		GRAVELLY SILT and SAND, light brown, (TILL), moist		0.91	SA2	SS					21-09-2023
											Screen
2		Cobbles at 1.82 mbgs			SA3	SS					
				274.70	SA4	SS					
		END OF BOREHOLE		2.30							
3											
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: AB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5622158.97; E 523067.94

RECORD OF BOREHOLE: BH22-16-1

BORING DATE: 26-04-2023

DRILL RIG: B20L

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		263.00									S D
0	B20L	PEAT - dark brown to black, dry		0.00									
		SAND, fine, light brown, moist		0.08									
		SILTY SAND, fine, some clay, grey, moist		0.20	SA1	SS	1						
				262.24									
1		SILT and CLAY, light brown becoming grey, trace sand seam, moist		0.76	SA2	SS	3						
				261.48									
		SANDY SILT, some clay, some gravel, grey, trace sand seam, moist to wet		1.52	SA3	SS	19						
2				260.71									25-09-2023
		SAND, medium, some gravel, black, micaceous, moist to wet		2.29	SA4	SS	55						
3					SA5	SS	100						
				259.70									
		BEDROCK - Granitic, dark grey to black		3.30	CR1	RC							Sand Pack
4					CR2	RC							Screen
5													Sand
					CR3	RC							
6													Native Cave
				256.42									
		END OF BOREHOLE		6.58									
7													
8													
9													
10													

B20L: 150 mm Solid Stem Augers / NQ Coring

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

DEPTH SCALE

1 : 50

LOGGED: AB

CHECKED: MB

PROJECT: 21455151

LOCATION: N 5639873.47; E 511828.79

RECORD OF BOREHOLE: BH22-17-1

BORING DATE: 12-04-2023

DRILL RIG: B20L

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		293.00							S D
0	B20L 150 mm Solid Stem Augers / NQ Coring	PEAT		0.00	SA1	SS	WH				
				292.54							
		SILTY SAND, trace gravel, brown, wet		0.46							
1					SA2	SS	14				24-09-2023
					SA3	SS	26				
2											
				290.71							
		SAND and GRAVEL, some silt, coarsening downwards, brown, wet		2.29	SA4	SS	35				
3											
					SA5	SS	53				
4				288.53	SA6	SS	100/ 0.08				
		BEDROCK - Granitic, light grey with trace dark grey banding, coarse grained		4.47	CR1	RC					Sand Pack
5					CR2	RC					Screen
6				286.70	CR3	RC					
		END OF BOREHOLE		6.30							
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: AB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5627098.72; E 519832.13

RECORD OF BOREHOLE: BH22-18-1

BORING DATE: 23-04-2023

DRILL RIG: B20L

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		288.00							S D
0	B20L 150 mm Solid Stem Augers / NQ Coring	PEAT		0.00	SA1A	SS	13				
				287.54							
		SANDY SILT, trace clay, light brown, wet		0.46	SA1B	SS					
				287.24							
1		SILTY SAND to SAND, trace to some gravel, brown, wet		0.76	SA2	SS					
				286.63							
		BEDROCK - Granitic, weak gneissic banding, grey to pink, porphyritic		1.37	CR1	RC					
2					CR2	RC					
					CR3	RC					
3											
					CR4	RC					
4											
					CR5	RC					Sand Pack
5											
					CR6	RC					Screen
6				281.65							
		END OF BOREHOLE		6.35							
7											
8											
9											
10											

24-09-2023

DEPTH SCALE

1 : 50

LOGGED: AB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5663322.53; E 519838.50

RECORD OF BOREHOLE: BH22-19-1

BORING DATE: 6/7/2023

DRILL RIG: B20L

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		251.00							S D
0	B20L	CLAYEY SILT, some sand, brown, moist		0.00	SA1	SS					
1	150 mm Solid Stem Augers / NQ Coring				SA2	SS					
				249.78							
		SAND, medium to coarse, some gravel increasing with depth, some silt, trace boulders, brown becoming grey brown below 1.52 mbgs, wet		1.22	SA3	SS					
2											
3				247.95							
		SANDY SILT, some gravel, trace clay, (TILL), wet		3.05	CR1	RC					
4				246.43							Sand Pack
		GRAVEL, medium to coarse, trace sand, wet		4.57	CR2	RC					
5					CR3	RC					Screen 21-09-2023
				245.21							
6		END OF BOREHOLE		5.79							
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: DB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5658524.02; E 519829.36

RECORD OF BOREHOLE: BH22-20-1

BORING DATE: 6/8/2023

DRILL RIG: B20L

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		243.00							S D
0	B20L	TOPSOIL - organic, dark brown to black, wet from 0.3 mbgs		0.00	SA1	SS					
1											21-09-2023
					SA2	SS	3				
				241.48							
		SILTY CLAY, grey, wet		1.52	SA3	SS	4				
2											
					SA4	SS	12				
				240.10							
3		BEDROCK - Granitic with slight gneissic banding, light to medium grey, fine to medium grained		2.90							Sand Pack
		150 mm Solid Stem Augers / NQ Coring									
4					CR1	RC					Screen
					CR2	RC					
5				237.82							
		END OF BOREHOLE		5.18							
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: DB

CHECKED: MB

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5658502.40; E 519804.80

RECORD OF BOREHOLE: BH22-20-3

BORING DATE: 08-06-2023

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		243.25									
0	B20L 114 mm Hollow Stem Augers	TOPSOIL - organic, dark brown to black		0.00	SA1	AS							Bentonite
				242.49									
1		SILTY CLAY, grey to beige		0.76									Sand Pack
2				240.81	SA2	AS							Screen
		END OF BOREHOLE		2.44									
3													
4													
5													
6													
7													
8													
9													
10													

DEPTH SCALE

1 : 50

LOGGED:

CHECKED:

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

PROJECT: 21455151

LOCATION: N 5658488.40; E 519832.40

RECORD OF BOREHOLE: BH22-20-4

BORING DATE: 08-06-2023

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		243.28							
0	B20L 114 mm Hollow Stem Augers	TOPSOIL - organic, dark brown to black, wet from 0.3 mbgs		0.00	SA1	AS					Bentonite; Sand Pack
				242.67							
1		SILTY CLAY, grey, wet		0.61	SA2	AS					Screen
				241.30							
2		END OF BOREHOLE		1.98							
		NOTE:									
		1. Auger Refusal at 1.98 mbgs (inferred bedrock)									
3											
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED:

CHECKED:

GTA-BHS 001 S:\CLIENTS\MARTENFALLS_FIRSTNATION\NORTHERN_ONTARIO\02_DATA\GINT\21455151.GPJ GAL-MIS.GDT 11/8/24

Attachment D – Groundwater Quality Summaries and Laboratory Data

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/04/23	8/09/23	8/09/23	9/24/23	9/24/23	6/05/24	8/13/24	10/02/24
						MW22-01-1	MW22-01-1	DUP-02 (MW22-01-1)	MW22-01-1	DUP 4 (MW22-01-1)	MW22-01-1	MW22-01-1	MW22-01-1
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0368	0.0350	0.0337	0.0735	0.0670	0.129	0.0832	0.0757
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.29	0.25	0.28	0.28	0.31	0.29	0.27	0.27
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.086	0.053	0.060	0.090	0.110	0.041	0.051	0.100
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	0.023
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0889|0.346	0.190|0.228	0.216|0.170	0.0398|0.053	0.0450|0.074	0.0483|0.086	0.0229|< 0.05	0.0420|0.052
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	5.38	5.17	5.15	5.45	4.89	4.78	5.30	5.15
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	1.76	0.97	1.28	1.88	1.49	1.01	3.15	1.24
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	11	10	15	< 10	< 10	< 10	< 10	14
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Metals													
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	< 0.0010	0.0024	0.0016	0.0012	0.0011	< 0.001	0.0011	0.0112
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00030	0.00025	0.00027	0.00029	0.00028	0.00026	0.00026	0.00025
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0258	0.0202	0.0208	0.0230	0.0232	0.0230	0.0217	0.0202
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.016	0.010	0.010	0.013	0.012	0.013	0.012	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	70.5	73.0	71.3	71.4	70.8	66.6	76.6	71.2
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00025	0.00010	0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**0.709**	**0.485**	**0.461**	**0.637**	**0.619**	**0.691**	**0.510**	**0.480**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050			
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0044	0.0035	0.0035	0.0039	0.0044	0.0043	0.0038	0.0033
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	17.4	16.5	16.6	17.6	17.8	15.8	17.5	16.9
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.0595**	0.0406	0.0410	0.0462	0.0453	0.0458	0.0408	0.0395
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000022	< 0.000020	< 0.000020	-	0.000050	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000442	0.000580	0.000560	0.000471	0.000481	0.000424	0.000528	0.000512
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	2.11	1.71	1.73	1.90	1.92	1.97	1.94	1.85
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00207	0.00213	0.00200	0.00172	0.00162	0.00161	0.00196	0.00185
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	6.71	5.46	5.48	5.74	5.88	6.03	5.80	5.52
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	4.46	2.76	2.78	3.54	3.64	3.88	3.25	3.02
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.144	0.0996	0.100	0.114	0.112	0.122	0.104	0.0942
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	1.44	1.89	2.03	1.51	1.66	1.76	1.75	2.00
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	0.00047
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00021	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00017
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000620	0.00157	0.00166	0.00123	0.00127	0.000955	0.00158	0.00153
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests													
Conductivity	uS/cm	-	-	-	2	435	438	431	470	469	439	447	393
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	288	270	255	254	266	253	258	268
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	248	250	246	251	250	231	263	247
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	240	256	264	251	248	250	254	269
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	178	362	462	37.4	30.4	19.1	4.8	7.5
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.08	8.11	8.07	7.97	8.03	8.2	8.18	8.07
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	0.048	0.036	0.017	0.019	0.020	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	0.015	0.012	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	0.033	0.024	0.017	0.019	0.020	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	0.168	0.090	0.060	0.086	0.087	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	-	0.1	0.19	0.50	0.25	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	-	0.1	< 0.1	0.80	0.10	< 0.1	0.12	-	-	-
Total Metals													
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	3.78	2.26	1.68	0.180	0.386	0.137	0.0293	0.133
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00020	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00012	< 0.0001	< 0.0001
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00126	0.00087	0.00073	0.00028	0.00037	0.00037	0.00027	0.00030
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0534	0.0370	0.0316	0.0229	0.0262	0.0260	0.0211	0.0225
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000156	0.000091	0.000063	< 0.000020	< 0.000020	-	-	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	0.020	0.013	0.012	0.011	0.012	0.013	0.012	0.012
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.0000487	0.0000275	0.0000194	< 0.0000050	< 0.0000050	0.0000091	-	-
Calcium, total	mg/L	-	-	-	0.05 - 1	161	117	108	70.5	73.2	71.6	68.6	76.5
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000349	0.000159	0.000120	0.000016	0.000035	0.000013	-	0.000011
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.00801	0.00458	0.00353	< 0.00050	0.00083	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00251	0.00135	0.00099	0.00017	0.00027	0.00011	< 0.0001	0.00012
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.00772	0.00372	0.00297	< 0.00050	0.00057	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**5.39**	**3.31**	**2.54**	**0.787**	**1.07**	**1.59**	**0.547**	**0.659**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.00285	0.00153	0.00111	0.000131	0.000271	0.000135	-	0.000085
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0089	0.0067	0.0054	0.0041	0.0046	0.0039	0.0036	0.0043
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	34.9	31.6	27.6	16.5	17.4	17.4	16.8	17.2
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.232**	**0.146**	**0.117**	0.0490	**0.0589**	**0.0522**	0.0428	0.0469
Mercury, total	mg/L	-	-	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.000471	0.000548	0.000528	0.000509	0.000474	0.000504	0.000593	0.000519
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.00525	0.00286	0.00214	< 0.00050	0.00054	0.0180	< 0.0005	< 0.0005
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0889|0.346	0.190|0.228	0.216|0.170	0.0398|0.053	0.0450|0.074	0.0483|0.086	0.0229|< 0.05	0.0420|0.052
Potassium, total	mg/L	-	-	-	0.05 - 1	2.90	2.56	2.39	1.80	1.90	2.04	1.87	1.94
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.00820	0.00512	0.00438	0.00206	0.00230	0.00191	0.00187	0.00213
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Silicon, total	mg/L	-	-	-	0.1 - 2	14.2	9.67	8.40	5.93	6.59	6.24	5.52	5.70
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.000023	0.000015	0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	4.68	3.52	3.41	2.82	3.05	3.88	2.93	3.29
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.191	0.134	0.125	0.104	0.115	0.120	0.0947	0.100
Sulfur, total	mg/L	-	-	-	0.5 - 10	1.81	2.19	2.18	2.02	1.97	1.73	2.09	1.77
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000057	0.000030	0.000024	< 0.000010	< 0.000010	-	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00221	0.00121	0.00090	0.00011	0.00023	0.00010	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00023	0.00016	0.00013	< 0.00010	0.00012	< 0.0001	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.310	0.229	0.170	0.0160	0.0339	0.0114	0.00257	0.0118
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	0.00068	0.00057	0.00073	< 0.00010	0.00021	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00183	0.00210	0.00193	0.00152	0.00147	0.00120	0.00163	0.00150
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.00904	0.00562	0.00408	< 0.00050	0.00092	< 0.0005	< 0.0005	< 0.0005
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0121	0.0066	0.0051	< 0.0030	< 0.0030	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00185	0.00185	0.00161	0.00022	0.00045	< 0.0002	< 0.0002	< 0.0002
Volatile Organic Compounds													
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	20.9	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	1.62	0.96	0.87	0.41	0.65	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	0.65	0.40	0.35	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	2.27	1.36	1.22	< 0.50	0.65	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	-	1.0	2.3	1.4	1.2	< 1.0	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/25/22	7/04/23	8/09/23	9/24/23	6/05/24	6/05/24	8/13/24	10/02/24
						MW22-01-2	MW22-01-2	MW22-01-2	MW22-01-2	MW22-01-2	DUP-01 (MW22-01-2)	MW22-01-2	MW22-01-2
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0275	0.0141	0.0075	0.0080	0.554	0.0206	0.151	0.0422
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	1.98	0.44	0.45	0.37	0.31	0.28	0.28	0.28
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.073	0.064	0.021	0.056	< 0.02	< 0.02	0.023	0.070
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0321	0.153|0.228	0.0863|0.100	0.0263|< 0.050	0.0468|< 0.1	0.0598|< 0.1	0.0140|< 0.05	0.0823|< 0.05
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	3.51	6.00	5.11	5.90	6.19	6.17	5.59	5.44
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	1.72	1.40	1.44	1.10	0.78	1.00	1.91	1.38
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	24	28	13	< 10	14	< 10	12	14
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Metals													
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0016	< 0.0010	< 0.0010	0.0014	0.0016	0.0011	0.0014	0.0012
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00012	< 0.00010	0.00011	0.00016	0.00010	< 0.0001	< 0.0001	0.00018
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00050	0.00056	0.00024	0.00019	< 0.0001	0.00013	0.00025	0.00012
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0280	0.0234	0.0203	0.0179	0.0136	0.0135	0.0255	0.0156
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.022	0.019	0.011	0.010	< 0.01	< 0.01	0.011	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	0.0000053	0.0000240
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	61.4	64.0	70.3	69.9	64.8	65.1	72.6	68.9
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00063	0.00060	0.00022	0.00018	< 0.0001	< 0.0001	0.00038	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00063	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00302	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	0.045	0.170	0.198	0.134	0.092	0.091	0.092	0.097
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050			0.000107	
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0040	0.0028	0.0027	0.0035	0.0032	0.0033	0.0030	0.0029
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	16.1	18.5	16.6	18.3	15.1	15.4	17.5	16.5
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.195**	**0.187**	**0.0897**	**0.0757**	0.0392	0.0394	**0.119**	0.0325
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	0.0000054	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000047	< 0.000020	-	-	0.000024	0.000033
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00350	0.00278	0.00113	0.000866	0.000751	0.000735	0.00122	0.000726
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	0.00072	0.00138	< 0.0005	< 0.0005	< 0.0005	0.00120
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	2.70	2.69	1.97	2.06	1.87	1.88	2.35	2.09
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00313	0.00440	0.00338	0.00339	0.00387	0.00404	0.00398	0.00379
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	4.90	5.13	4.59	4.49	4.24	4.23	4.73	4.50
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	3.49	2.57	2.02	2.14	1.96	2.09	2.03	2.09
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0680	0.0769	0.0685	0.0648	0.0610	0.0570	0.0682	0.0604
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	1.36	2.11	1.91	1.94	2.46	2.58	2.03	2.22
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00035	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00013
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00037	< 0.00010	< 0.00010	0.00018	< 0.0001	< 0.0001	0.00285	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00316	0.00372	0.00222	0.00211	0.00277	0.00271	0.00298	0.00266
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0030	0.0011	0.0022	0.0017	< 0.001	< 0.001	0.0021	0.0018
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests													
Conductivity	uS/cm	-	-	-	2	421	417	431	458	420	421	434	396
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	244	244	247	265	244	240	247	262
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	220	236	244	250	224	226	253	240
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	251	311	244	247	234	236	239	255
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	92.4	540	80.4	62	73.9	67.9	6.2	10.5
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.08	8.07	8.12	7.98	8.1	8.11	8.14	8
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.071	< 0.019	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	0.24	0.12	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	< 0.1	0.28	0.15	-	-	-	-
Total Metals													
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	5.37	1.49	0.737	0.821	0.800	0.659	0.114
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00020	0.00052	0.00029	< 0.0002	0.00024	< 0.0001	0.00017
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00162	0.00054	0.00053	0.00037	0.00042	0.00036	0.00024
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0682	0.0309	0.0241	0.0209	0.0213	0.0245	0.0170
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	0.000205	0.000058	0.000030	-	-	0.000030	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	0.029	0.013	0.014	< 0.02	< 0.02	0.013	0.010
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.0000629	0.0000378	0.0000201	0.0000183	0.0000183	0.0000078	0.0000176
Calcium, total	mg/L	-	-	-	0.05 - 1	-	132	79.6	73.0	72.7	77.4	70.1	73.2
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000553	0.000162	0.000093	0.000096	0.000094	0.000074	0.000015
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.0112	0.00342	0.00170	0.00188	0.00197	0.00153	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00393	0.00114	0.00073	0.00065	0.00064	0.00079	0.00022
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.00858	0.00269	0.00137	0.00146	0.00202	0.00099	< 0.0005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**6.44**	**2.11**	**1.15**	**1.28**	**1.29**	**1.12**	**0.360**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00359	0.000980	0.000495	0.000546	0.000586	0.000376	0.000092
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0103	0.0054	0.0042	0.0036	0.0036	0.0038	0.0032
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	31.2	20.4	17.6	17.8	18.5	18.1	16.9
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**0.381**	**0.131**	**0.124**	**0.0903**	**0.0971**	**0.158**	**0.0678**
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000096	0.000030	0.000046	0.000024	-	0.000025	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00238	0.00108	0.00129	0.000779	0.000826	0.00123	0.000762
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00813	0.00380	0.00266	0.00182	0.00188	0.00122	0.00089
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0321	0.153|0.228	0.0863|0.100	0.0263|< 0.050	0.0468|< 0.1	0.0598|< 0.1	0.0140|< 0.05	0.0823|< 0.05
Potassium, total	mg/L	-	-	-	0.05 - 1	-	4.33	2.61	2.34	2.13	2.22	2.47	2.19
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0153	0.00644	0.00491	0.00531	0.00542	0.00511	0.00437
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Silicon, total	mg/L	-	-	-	0.1 - 2	-	17.7	7.44	6.18	5.57	5.67	5.94	4.47
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000020	0.000011	< 0.000010	-	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	-	3.24	2.39	1.96	1.92	2.03	1.97	2.12
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.121	0.0754	0.0726	0.0674	0.0706	0.0708	0.0637
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	2.30	2.12	2.19	1.83	2.27	2.33	2.10
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00040	< 0.00020	< 0.00020	< 0.0004	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000089	0.000023	0.000011	-	-	0.000020	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00182	0.00055	0.00029	0.00028	0.00026	0.00027	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00074	0.00078	0.00042	0.00035	0.00094	0.00011	< 0.0001
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.323	0.0980	0.0483	0.0559	0.0557	0.0458	0.00742
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00020	0.00012	0.00011	< 0.0002	< 0.0002	0.00013	< 0.0001
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.00456	0.00255	0.00278	0.00264	0.00271	0.00290	0.00280
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.0127	0.00359	0.00168	0.00200	0.00190	0.00168	< 0.0005
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0215	0.0113	0.0045	< 0.006	0.0091	0.0031	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00314	0.00100	0.00043	< 0.0004	< 0.0004	0.00040	< 0.0002
Volatile Organic Compounds													
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/26/22	6/28/23	8/12/23	9/24/23	6/04/24	8/11/24	10/01/24
						MW22-02-1	MW22-02-1	MW22-02-1	MW22-02-1	MW22-02-1	MW22-02-1	MW22-02-1
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.112	0.0635	0.0203	0.0269	0.115	0.0875	0.205
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	0.11	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	1.38	1.22	1.13	0.68	0.61	0.36	0.41
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.253	0.217	0.186	0.181	0.102	0.064	0.307
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	0.023	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0613	0.0588|< 0.050	0.0300|0.054	0.0839|0.071	0.0464|0.088	0.0454|1.55	0.0886|0.094
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	0.96	0.70	0.75	0.47	< 0.3	0.84	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	1.48	1.91	1.79	2.06	1.96	2.05	2.61
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	26	19	10	< 10	< 10	< 10	10
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	0.054	< 0.05
Metals												
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0011	< 0.0010	0.0011	0.0017	0.0014	0.0016	< 0.001
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00080	0.00160	0.00065	0.00090	0.00047	0.00010	0.00029
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00021	0.00015	0.00051	0.00040	0.00026	0.00020	0.00019
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0459	0.0409	0.0403	0.0374	0.0371	0.0405	0.0362
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.015	0.022	0.018	0.017	0.017	0.014	0.016
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	0.0000178	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	68.1	65.2	64.0	66.3	61.8	78.2	69.1
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00012	< 0.00010	0.00016	0.00018	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	< 0.00035	0.00042	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**0.869**	< 0.010	**1.36**	**1.24**	**1.64**	**1.29**	**1.31**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0100	0.0109	0.0100	0.0092	0.0100	0.0078	0.0082
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	20.5	22.0	21.1	23.2	20.0	22.8	21.7
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	0.0396	0.0145	**0.0698**	**0.0628**	0.0435	0.0380	0.0405
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000044	< 0.000080	-	0.000035	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00172	0.00344	0.00263	0.00260	0.00305	0.00118	0.00231
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	0.054	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	3.12	3.83	3.17	3.07	3.16	2.83	3.06
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00082	0.00101	0.00080	0.00078	0.00087	0.00072	0.00077
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	0.000277	0.000214	0.000130
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	9.60	8.86	9.08	9.12	9.41	9.73	9.61
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	7.47	8.58	7.39	8.28	7.72	6.98	7.62
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.115	0.120	0.119	0.119	0.117	0.123	0.118
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	0.65	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	0.66
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00024	0.00037	0.00029	0.00041	0.00021	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00012	0.00016	0.00014	0.00014	0.00019	0.00062	0.00014
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000048	0.000191	0.000103	0.000107	0.000056	0.000019	0.000052
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	< 0.0010	0.0032	0.0011	< 0.0010	< 0.001	0.0017	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	-	2	474	436	493	506	469	488	374
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	283	251	278	296	281	291	285
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	254	253	247	261	237	289	262
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	292	290	300	272	298	280	278
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	74.6	97.9	14.5	52.9	23.5	500	131
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.04	8.02	8.3	7.98	8.29	8.02	8.07
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.049	< 0.028	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	-	0.1	-	-	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	-	0.12	0.10	-	-	-
Total Metals												
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	0.272	0.179	0.352	0.122	14.3	0.166
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00475	0.00080	0.00092	0.00066	0.00070	0.00038
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00033	0.00041	0.00055	0.00031	0.00506	0.00029
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0442	0.0425	0.0414	0.0398	0.162	0.0393
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	-	0.000685	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	-	< 0.00025	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	0.023	0.019	0.018	0.020	< 0.05	0.017
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.0000263	0.0000074	0.0000148	0.0000050	0.000234	0.0000114
Calcium, total	mg/L	-	-	-	0.05 - 1	-	67.1	73.3	70.5	68.8	566	76.8
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000030	0.000021	0.000035	0.000014	0.00118	0.000016
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00088	0.00063	0.00092	< 0.0005	0.0407	0.00059
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00026	0.00031	0.00031	0.00012	0.0102	0.00015
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.00105	< 0.00050	0.00057	< 0.0005	0.0244	< 0.0005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**0.555**	**1.18**	**2.01**	**1.90**	**23.7**	**1.87**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000134	0.000170	0.000243	0.000106	0.00994	0.000128
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0117	0.0100	0.0103	0.0098	0.0294	0.0094
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	22.0	23.1	22.0	21.8	138	23.5
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	0.0400	**0.0835**	**0.0702**	0.0493	**0.955**	**0.0580**
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000063	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000105	0.000033	0.000049	0.000032	0.000087	0.000239
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00341	0.00280	0.00277	0.00328	0.00189	0.00220
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00080	0.00084	0.00085	< 0.0005	0.0245	0.00061
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0613	0.0588|< 0.050	0.0300|0.054	0.0839|0.071	0.0464|0.088	0.0454|1.55	0.0886|0.094
Potassium, total	mg/L	-	-	-	0.05 - 1	-	3.67	3.19	3.04	3.12	6.65	3.07
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00150	0.00111	0.00140	0.00102	0.0232	0.00104
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	-	< 0.00025	-
Silicon, total	mg/L	-	-	-	0.1 - 2	-	9.83	9.73	10.2	10.0	35.6	9.45
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	-	0.000098	-
Sodium, total	mg/L	200	200	-	0.05 - 1	-	8.89	8.12	6.92	7.77	8.60	7.77
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.116	0.120	0.118	0.122	0.450	0.118
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	< 0.50	< 0.50	< 0.50	< 0.5	< 2.5	< 0.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.001	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	-	0.000200	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00010	< 0.00010	0.00014	< 0.0001	0.00679	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00165	0.00076	0.00116	0.00052	0.00292	0.00032
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.0191	0.0149	0.0238	0.00877	1.22	0.0129
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00021	0.00016	0.00018	0.00020	0.00111	0.00016
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000226	0.000138	0.000140	0.000073	0.00172	0.000073
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00090	0.00062	0.00094	< 0.0005	0.0373	0.00058
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0061	0.0035	0.0031	< 0.003	0.0693	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00057	0.00033	0.00042	0.00023	0.00797	0.00027
Volatile Organic Compounds												
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	1.1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/26/22	6/28/23	8/12/23	9/24/23	6/04/24	8/13/24	10/01/24	11/24/22	6/28/23	8/10/23	9/24/23	6/04/24	10/03/24
						MW22-02-2	MW22-2-2	MW22-02-2	MW22-02-2	MW22-02-2	MW22-02-2	MW22-02-2	MW22-03-1	MW22-3-1	MW22-03-1	MW22-03-1	MW22-03-1	MW22-03-1
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0128	0.0100	< 0.0050	0.0070	0.283	0.0167	0.0862	0.0581	0.115	0.0746	0.0819	0.268	0.124
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.20	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	1.24	0.73	0.46	0.36	0.33	0.36	0.30	0.37	0.32	0.39	0.26	0.29	0.35
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.122	0.090	0.077	0.063	0.036	0.098	0.124	0.094	0.054	0.028	< 0.040	0.084	0.118
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	0.175	0.210	0.213	0.174	0.170	0.025	0.192	< 0.020	< 0.020	0.036	< 0.040	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.020	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0800	0.0296|< 0.050	0.0466|0.051	0.0211|< 0.050	0.0195|< 0.05	0.150|0.418	0.0161|< 0.05	0.423	0.166|0.321	0.0767|0.098	0.0591|0.065	11.2|22.2	11.8|22.0
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	9.21	16.6	12.8	8.37	7.94	12.1	8.99	2.39	2.21	2.05	1.88	2.35	3.02
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	1.03	1.50	1.12	1.14	0.96	1.94	1.31	2.97	4.01	4.35	3.85	3.79	**5.55**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 20	< 5
Chemical oxygen demand [COD]	mg/L	-	-	-	10	26	17	< 10	< 10	< 10	29	< 10	53	26	15	11	18	72
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Metals																		
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0036	0.0022	0.0028	0.0040	0.0017	0.0035	0.0025	0.0042	< 0.0010	0.0018	0.0017	0.0036	0.0025
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	0.00026	< 0.0001	0.00015	0.00017	0.00028	0.00010	< 0.00010	< 0.00010	< 0.0001	0.00046
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00023	0.00033	0.00030	0.00027	0.00027	0.00053	0.00028	0.00184	0.00210	0.00211	0.00195	0.00168	0.00098
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0404	0.0396	0.0305	0.0318	0.0274	0.0484	0.0258	0.0563	0.0527	0.0471	0.0479	0.0419	0.105
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.015	0.016	0.014	0.014	< 0.01	0.013	0.011	0.012	0.012	0.015	0.013	0.010	0.016
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	0.0000132	0.0000107	0.0000121	0.0000074	-	0.0000075	0.0000121	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	70.6	66.1	62.1	69.8	65.5	75.4	68.3	85.1	84.4	89.8	102	88.4	105
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00053	0.00066	0.00087	0.00099	0.00083	< 0.0005	0.00126	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	0.00062	0.00085	0.00080	0.00082	< 0.0005	0.00112	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00018	< 0.0001	0.00013	0.00018	0.00015	0.00014	0.00013	0.00017
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00053	0.00022	0.00091	0.00031	< 0.0002	0.00294	< 0.0002	0.00111	< 0.00020	0.00275	0.00069	0.00056	0.00070
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	0.013	0.015	< 0.01	**0.365**	**0.426**	**0.908**	**0.985**	**0.814**	< 0.01
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	0.000177	-	< 0.000050	< 0.000050	0.000093	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0094	0.0082	0.0105	0.0099	0.0080	0.0077	0.0078	0.0054	0.0039	0.0052	0.0049	0.0050	0.0059
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	21.9	23.8	21.2	22.4	19.7	23.1	20.5	15.7	16.8	17.5	20.4	16.5	20.2
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	0.0395	0.0249	0.0136	0.00943	0.00642	**0.0680**	0.00100	**0.186**	**0.233**	**0.214**	**0.208**	**0.200**	**0.196**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000059
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000038	< 0.000020	0.000042	< 0.000080	-	-	-	0.000025	< 0.000020	0.000023	< 0.000020	-	< 0.0004
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00487	0.00572	0.00492	0.00398	0.00214	0.00409	0.00211	0.00117	0.000634	0.000500	0.000441	0.000390	0.00146
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00051	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	3.75	5.12	5.10	5.25	3.88	3.78	4.31	1.83	1.82	1.72	1.83	1.81	3.27
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00108	0.00137	0.00150	0.00147	0.00092	0.00106	0.00155	0.00151	0.00126	0.00120	0.00127	0.00150	0.00336
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000570	0.00118	0.000671	0.000520	0.000466	0.000493	0.000508	< 0.000050	< 0.000050	0.000080	< 0.000050	-	0.000146
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	6.65	6.37	6.69	6.75	6.33	6.88	7.12	7.28	7.30	8.46	8.60	7.48	6.30
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	8.85	12.1	8.96	7.79	6.32	6.39	9.11	7.09	5.59	5.91	6.74	5.72	9.82
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0965	0.100	0.0966	0.0973	0.0940	0.105	0.0880	0.128	0.117	0.127	0.137	0.120	0.148
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	3.18	5.61	3.52	3.18	2.98	3.84	3.03	0.92	0.66	0.56	0.61	1.12	1.31
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000010	< 0.000010	0.000013	0.000013	-	0.000013	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00034	0.00033	< 0.00010	0.00011	< 0.0001	0.00027	< 0.0001	0.00012	< 0.00010	0.00010	< 0.00010	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00012	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00300	0.00336	0.00263	0.00238	0.00208	0.00436	0.00211	0.000942	0.000584	0.000279	0.000228	0.000324	0.0110
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00086	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00279
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0017	0.0026	0.0013	0.0016	< 0.001	0.0041	0.0019	0.0026	< 0.0010	0.0020	0.0010	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests																		
Conductivity	uS/cm	-	-	-	2	491	487	491	508	465	510	390	518	485	582	635	510	575
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	290	262	261	277	260	293	267	323	292	332	359	892	602
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	266	263	242	266	245	283	255	277	280	296	339	289	345
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	303	307	282	267	291	298	264	380	426	341	346	438	**1320**
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	158	31.1	55.7	55.7	16.9	371	8.4	1300	407	118	35.1	74500	47500
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	7.88	8.07	8.05	7.95	8.09	8.12	8.03	7.98	8.07	8.05	7.68	7.93	7.82
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.013	< 0.031	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	< 0.015	< 0.015	0.113	0.077
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.045	0.028
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.068	0.049
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	-	< 0.050	< 0.050	< 0.050	0.144	0.088
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.024	0.027
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.010	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	-	-	-	0.1	-	0.12	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1	0.20	-	-
Gross beta	Bq/l	-	-	-	0.1	-	0.19	0.62	0.21	-	-	-	-	< 0.1	0.14	< 0.1	-	-
Total Metals																		
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	0.419	0.412	0.276	0.100	4.35	0.0514	-	9.33	1.22	0.355	535	461
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00022	0.00020	0.00090	0.00024	< 0.0005	0.00037	-	< 0.00020	< 0.00010	< 0.00010	< 0.01	< 0.002
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00049	0.00045	0.00042	0.00030	0.00227	0.00033	-	0.00377	0.00237	0.00216	0.120	0.109
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0432	0.0367	0.0337	0.0285	0.0818	0.0275	-	0.119	0.0561	0.0530	4.30	3.16
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	-	0.000178	-	-	0.000355	0.000049	< 0.000020	0.0195	0.0201
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	-	< 0.00025	-	-	< 0.000100	< 0.000050	< 0.000050	< 0.005	0.00478
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	0.018	0.015	0.015	< 0.01	< 0.05	0.016	-	0.021	0.016	0.015	< 1	0.547
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.0000241	0.0000734	0.0000316	0.0000160	0.0000928	0.0000177	-	0.0000746	0.0000108	0.0000063	0.00340	0.00406
Calcium, total	mg/L	-	-	-	0.05 - 1	-	71.5	77.8	70.8	70.8	186	73.4	-	139	112	96.5	5560	5430
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000044	0.000049	0.000031	0.000011	0.000378	0.000011	-	0.00103	0.000148	0.000047	0.0638	0.0497
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00173	0.00193	0.00170	0.00138	0.0102	0.00141	-	0.0217	0.00287	0.00085	1.10	1.12
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	0.00055	0.00081	0.00088	0.00105	< 0.0005	0.00112	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00034	0.00036	0.00021	0.00010	0.00339	< 0.0001	-	0.00574	0.00088	0.00037	0.311	0.307
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.00107	0.00106	0.00083	0.00050	0.00764	< 0.0005	-	0.0129	0.00167	0.00050	0.666	0.660
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**0.506**	**0.563**	**0.345**	0.136	**5.99**	0.060	-	**11.5**	**2.31**	**1.46**	**616**	**595**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000195	0.000361	0.000268	0.000094	0.00327	-	-	0.00491	0.000730	0.000245	0.297	0.273
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0090	0.0097	0.0097	0.0074	0.0146	0.0085	-	0.0162	0.0058	0.0056	0.683	0.849
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	23.9	23.1	22.2	21.5	50.2	20.9	-	31.6	21.1	19.4	1420	1290
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**0.0502**	0.0383	0.0224	0.0109	**0.320**	0.00529	-	**0.514**	**0.252**	**0.225**	**15.5**	**17.4**
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	0.0000067	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000023	0.000022	< 0.000020	-	0.000114	-	-	< 0.000020	0.000022	0.000022	-	0.00298
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00524	0.00461	0.00384	0.00242	0.00328	0.00220	-	0.000534	0.000482	0.000479	0.00821	0.00504
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00099	0.00134	0.00120	0.00103	0.00742	0.00053	-	0.0146	0.00206	0.00078	0.748	0.767
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0800	0.0296|< 0.050	0.0466|0.051	0.0211|< 0.050	0.0195|< 0.05	0.150|0.418	0.0161|< 0.05	0.423	0.166|0.321	0.0767|0.098	0.0591|0.065	11.2|22.2	11.8|22.0
Potassium, total	mg/L	-	-	-	0.05 - 1	-	5.05	5.16	4.56	4.19	4.84	4.34	-	4.44	2.28	1.85	182	107
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00206	0.00231	0.00181	0.00124	0.00688	0.00173	-	0.0190	0.00372	0.00200	1.04	0.795
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00106	0.000727	0.000543	0.000421	0.000342	0.000430	-	< 0.000100	< 0.000050	< 0.000050	0.00508	0.00331
Silicon, total	mg/L	-	-	-	0.1 - 2	-	7.36	7.54	7.59	6.77	14.4	6.53	-	23.9	11.0	9.23	1100	658
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	0.000028	< 0.000010	< 0.000010	0.00227	0.00189
Sodium, total	mg/L	200	200	-	0.05 - 1	-	12.5	10.0	6.43	6.73	6.88	9.40	-	7.12	6.53	6.52	72.3	39.4
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0977	0.0980	0.0958	0.0947	0.178	0.0875	-	0.166	0.142	0.136	4.63	3.82
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	5.83	4.44	3.24	3.19	4.36	3.04	-	< 1.00	0.90	0.90	< 50	13.7
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.001	< 0.0002	-	< 0.00040	< 0.00020	< 0.00020	< 0.02	< 0.004
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000013	0.000020	0.000023	0.000011	0.000087	0.000015	-	0.000084	0.000016	< 0.000010	0.00737	0.00547
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00016	0.00016	0.00011	< 0.0001	0.00212	< 0.0001	-	0.00397	0.00055	0.00018	0.254	0.254
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00126	0.00071	0.00039	0.00020	0.00066	0.00015	-	0.00037	0.00060	< 0.00010	0.0191	0.00910
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.0329	0.0293	0.0208	0.00864	0.354	0.00315	-	0.585	0.0880	0.0260	39.0	27.1
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0005	< 0.0001	-	< 0.00020	< 0.00010	< 0.00010	< 0.01	< 0.002
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.00348	0.00297	0.00248	0.00218	0.00472	0.00218	-	0.00160	0.000526	0.000377	0.0698	0.0660
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00123	0.00126	0.00092	0.00058	0.0119	0.00056	-	0.0217	0.00302	0.00097	1.25	1.10
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0051	0.0058	0.0036	< 0.003	0.0190	< 0.003	-	0.0328	0.0042	< 0.0030	1.33	1.44
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00044	0.00034	0.00029	< 0.0002	0.00181	< 0.0002	-	0.00225	0.00100	0.00050	0.309	0.0880
Volatile Organic Compounds																		
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 23.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/24/22	6/28/23	8/10/23	9/24/23	6/04/24	10/03/24	11/24/22	7/02/23	8/11/23	9/23/23	6/03/24	8/15/24	9/30/24
						MW22-03-2	MW22-3-2	MW22-03-2	MW22-03-2	MW22-03-2	MW22-03-2	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.134	0.0580	0.0491	0.0089	0.131	0.0613	< 0.0500	0.0053	0.0053	0.0233	0.0289	0.0913	0.0289
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.20	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.48	0.54	0.49	0.32	0.39	0.63	0.53	0.60	0.42	0.28	0.50	1.60	0.52
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.120	0.055	0.046	0.049	0.077	0.111	0.049	< 0.020	< 0.020	0.040	< 0.02	0.025	0.059
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	0.020	0.067	0.088	0.036	0.042	0.702	0.671	0.523	0.274	0.816	0.825	0.772
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.020	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.153	0.0745|< 1.00	0.0656|< 0.100	0.0166|< 0.050	0.0410|< 0.05	0.0212|< 0.05	0.965	0.312|1.37	0.0353|< 0.050	3.26|22.7	2.13|10.8	0.511|0.371	0.274|1.23
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	2.13	1.77	2.44	2.07	2.07	1.75	3.26	3.47	2.97	2.18	3.59	3.10	3.05
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	3.96	3.85	3.38	3.60	4.48	3.68	2.02	2.59	2.13	2.84	2.57	3.99	2.84
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	-	2.1	< 2.0	< 5.0	< 3.3	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	40	37	24	< 10	16	16	77	< 10	11	74	49	40	< 10
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Metals																		
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0018	0.0017	0.0028	0.0020	0.0023	0.0027	0.0018	0.158	< 0.0010	0.0024	0.0021	0.0107	0.0012
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00016	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00012	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00035	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00095	0.00097	0.00054	0.00041	0.00062	0.00070	< 0.00010	0.00034	< 0.00010	< 0.00010	< 0.0001	0.00016	< 0.0001
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0817	0.0662	0.0617	0.0539	0.0480	0.0456	0.0148	0.0176	0.0156	0.0151	0.0154	0.0166	0.0147
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.021	0.022	0.023	0.023	0.021	0.025	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	0.011
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	0.0000131	0.0000166	0.0000082	0.0000063	0.0000172	0.0000268	< 0.0000050	0.0000162	< 0.0000050	< 0.0000050	-	0.0000098	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	90.5	91.7	89.4	102	108	108	72.8	80.7	67.6	72.6	72.8	71.6	73.6
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	0.000013	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.00116	0.00165	0.00133	0.00117	0.00145	0.00144	0.00134
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	0.00136	0.00120	0.00101	0.00144	0.00141	0.00121
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	0.00032	0.00019	< 0.00010	0.00018	0.00019	< 0.00010	0.00060	< 0.00010	< 0.00010	< 0.0001	0.00023	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00072	0.00137	0.00032	0.00055	< 0.0002	0.00039	0.00063	0.00132	0.00027	0.00030	0.00028	0.00412	0.00053
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	< 0.010	0.010	0.011	< 0.010	0.030	0.024	< 0.010	**0.420**	< 0.010	< 0.010	< 0.01	0.025	< 0.01
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	0.000641	< 0.000050	< 0.000050	-	0.000071	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0077	0.0068	0.0084	0.0081	0.0080	0.0072	0.0044	0.0040	0.0041	0.0038	0.0036	0.0034	0.0032
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	17.2	20.0	18.7	20.2	20.2	20.9	17.8	18.8	17.5	18.5	17.2	18.3	17.5
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.0662**	**0.307**	**0.223**	0.0321	**0.306**	**0.399**	0.00956	0.0295	0.00038	0.00114	0.00026	0.00348	0.00013
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000052	0.000021	< 0.000020	< 0.000020	-	0.000025	0.000031	0.000021	0.000058	0.000023	-	0.000029	0.000025
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00138	0.000987	0.000937	0.000723	0.000700	0.000726	0.000479	0.000192	0.000318	0.000288	0.000288	0.000345	0.000267
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00061	0.00062	0.00053	0.00077	0.00069	< 0.00050	0.00074	< 0.00050	< 0.00050	< 0.0005	0.00698	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	1.70	1.62	1.58	1.57	1.51	1.65	1.05	1.12	1.09	1.08	1.03	1.09	0.927
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00088	0.00079	0.00080	0.00067	0.00080	0.00084	0.00055	0.00106	0.00067	0.00072	0.00079	0.00083	0.00062
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000053	< 0.000050	< 0.000050	< 0.000050	-	-	0.000070	0.000057	0.000054	0.000058	0.000069	0.000066	-
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	8.26	7.86	8.25	8.08	8.08	8.82	5.56	5.60	5.75	5.44	5.53	5.64	5.47
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	15.5	12.6	12.0	13.2	11.6	13.3	1.79	1.65	1.67	1.63	1.85	1.68	1.60
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.183	0.174	0.160	0.176	0.179	0.178	0.0610	0.0706	0.0615	0.0624	0.0595	0.0602	0.0576
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	1.05	0.64	0.65	0.72	0.99	0.82	1.33	1.23	0.97	0.54	1.65	1.35	1.05
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00017	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00019	0.00018	< 0.00010	< 0.00010	< 0.0001	0.00330	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	0.00764	< 0.00030	< 0.00030	< 0.0003	0.00059	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00168	0.00128	0.00152	0.00173	0.00134	0.00141	0.00145	0.00146	0.00136	0.00132	0.00141	0.00144	0.00145
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00056	< 0.00050	0.00063	< 0.0005	< 0.0005	< 0.00050	0.00081	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0013	0.0022	< 0.0010	< 0.0010	0.0011	0.0016	0.0019	0.0021	< 0.0010	< 0.0010	< 0.001	0.0036	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	0.00057	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																		
Conductivity	uS/cm	-	-	-	2	581	541	632	645	627	578	455	439	448	428	450	470	437
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	348	314	361	361	368	353	270	263	248	289	263	313	349
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	297	311	300	338	353	356	255	279	241	257	253	254	256
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	374	358	382	351	358	318	326	333	254	317	**501**	302	289
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	398	64.5	150	14.3	10.7	< 3	5570	3390	60.5	9010	21600	1160	3840
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.07	8.05	7.74	7.61	7.98	7.9	7.95	7.96	8.06	7.96	7.96	7.71	7.73
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.015	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	< 0.015	0.196	0.084	0.032	0.171
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	0.078	0.033	0.013	0.070
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	0.010	< 0.010	0.118	0.051	0.019	0.101
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	-	< 0.050	< 0.050	0.161	0.089	< 0.05	0.114
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	0.018	0.013	< 0.01	0.023
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals																		
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	61.5	1.94	0.230	0.331	0.182	-	4.96	0.418	146	64.1	9.51	9.33
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00200	< 0.00020	0.00020	0.00050	0.00066	-	0.00032	0.00016	0.00201	< 0.002	0.00082	0.00025
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0168	0.00096	0.00052	0.00073	0.00093	-	0.00472	0.00046	0.0793	0.0457	0.00852	0.00943
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.590	0.0712	0.0582	0.0541	0.0476	-	0.0595	0.0187	0.764	0.552	0.0856	0.120
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	0.00401	0.000168	< 0.000020	0.000023	-	-	0.000296	< 0.000020	0.00568	0.00277	0.000460	0.000531
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00102	< 0.000100	< 0.000050	-	-	-	< 0.000100	< 0.000050	0.00132	0.00107	< 0.00025	0.000177
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	< 0.200	0.029	0.024	0.022	0.027	-	0.022	< 0.010	0.335	< 0.2	< 0.05	0.041
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.000614	0.0000301	0.0000169	0.0000521	0.0000896	-	0.000170	0.0000161	0.00212	0.00124	0.000173	0.000398
Calcium, total	mg/L	-	-	-	0.05 - 1	-	261	109	93.3	102	103	-	383	85.6	4780	2360	184	954
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.00662	0.000240	0.000035	0.000049	0.000029	-	0.000435	0.000043	0.0108	0.00551	0.000943	0.000803
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.103	0.00283	0.00050	0.00092	< 0.0005	-	0.0131	0.00233	0.431	0.157	0.0247	0.0247
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	0.00131	0.00131	0.00104	0.00138	0.00128	0.00126
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0294	0.00119	0.00014	0.00036	0.00029	-	0.00919	0.00066	0.158	0.0703	0.0135	0.0144
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.0787	0.00249	0.00072	0.00095	0.00079	-	0.0204	0.00199	0.366	0.199	0.0419	0.0402
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**55.6**	**1.73**	0.207	**0.377**	0.184	-	**10.4**	**0.906**	**304**	**124**	**20.9**	**21.8**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.0375	0.00159	0.000204	0.000278	0.000259	-	0.00785	0.000682	0.109	0.0700	0.0138	0.0130
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0721	0.0092	0.0081	0.0075	0.0082	-	0.0127	0.0038	0.272	0.0869	0.0165	0.0215
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	67.8	21.5	18.7	22.5	21.7	-	70.6	20.4	763	458	43.2	110
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**1.78**	**0.284**	0.0298	**0.280**	**0.354**	-	**0.542**	0.0296	**7.71**	**3.90**	**0.565**	**1.08**
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	0.0000197	-	0.0000499	0.0000458
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000069	0.000024	< 0.000020	0.000030	0.000034	-	< 0.000020	< 0.000020	0.000027	0.000098	0.000774	0.00221
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00196	0.000881	0.000736	0.000709	0.000698	-	0.000416	0.000316	0.00510	0.00272	0.000676	0.000554
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.0733	0.00261	0.00168	0.00158	0.00109	-	0.0121	0.00114	0.317	0.129	0.0284	0.0214
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.153	0.0745|< 1.00	0.0656|< 0.100	0.0166|< 0.050	0.0410|< 0.05	0.0212|< 0.05	0.965	0.312|1.37	0.0353|< 0.050	3.26|22.7	2.13|10.8	0.511|0.371	0.274|1.23
Potassium, total	mg/L	-	-	-	0.05 - 1	-	15.8	2.05	1.50	1.76	1.90	-	2.37	1.26	24.4	17.1	3.30	3.26
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0997	0.00363	0.00098	0.00141	0.00115	-	0.00772	0.00128	0.150	0.0897	0.0150	0.0143
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.00100	< 0.000100	< 0.000050	-	-	-	< 0.000100	0.000057	0.00111	< 0.001	0.000313	0.000192
Silicon, total	mg/L	-	-	-	0.1 - 2	-	124	11.9	8.71	9.04	8.76	-	15.2	6.62	239	125	25.3	23.8
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000238	0.000025	< 0.000010	-	-	-	0.000027	< 0.000010	0.000737	0.000451	-	0.000048
Sodium, total	mg/L	200	200	-	0.05 - 1	-	18.0	14.1	11.1	12.3	13.4	-	2.22	1.76	11.0	8.10	2.64	2.64
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.405	0.180	0.166	0.182	0.168	-	0.262	0.0669	3.28	1.54	0.141	0.601
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	< 10.0	< 1.00	0.92	0.79	0.92	-	1.29	1.05	< 10.0	< 10	< 2.5	1.59
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00400	< 0.00040	< 0.00020	< 0.0002	< 0.0002	-	< 0.00040	< 0.00020	< 0.00400	< 0.004	< 0.001	< 0.0004
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000462	< 0.000020	< 0.000010	-	-	-	0.000088	0.000016	0.00228	0.00132	0.000279	0.000224
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0279	0.00093	0.00012	0.00014	< 0.0001	-	0.00460	0.00028	0.0798	0.0555	0.00552	0.00799
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00456	0.00021	0.00012	0.00075	0.00038	-	0.00141	0.00055	0.00676	0.00431	0.00663	0.00099
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	1.72	0.0535	0.00759	0.0135	0.00577	-	0.307	0.0331	15.0	7.70	0.563	0.650
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00200	< 0.00020	< 0.00010	< 0.0001	< 0.0001	-	< 0.00020	< 0.00010	< 0.00200	< 0.002	< 0.0005	< 0.0002
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.0107	0.00206	0.00188	0.00157	0.00133	-	0.00244	0.00146	0.0196	0.0116	0.00222	0.00390
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.103	0.00346	0.00097	0.00085	0.00065	-	0.0165	0.00153	0.507	0.218	0.0278	0.0315
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.227	0.0069	< 0.0030	0.0062	0.0048	-	0.0258	0.0033	0.617	0.240	0.0529	0.0450
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00854	< 0.00040	0.00033	0.00026	0.00038	-	0.00250	0.00060	0.0821	0.0378	0.00359	0.00426
Volatile Organic Compounds																		
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 14.5	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/02/23	8/08/23	9/20/23	8/14/24	9/29/24	7/02/23	8/08/23	9/20/23	8/14/24	9/29/24
						MW22-05-1	MW22-05-1	MW22-05-1	MW22-05-1	MW22-05-1	MW22-05-2	MW22-05-2	MW22-05-02	MW22-05-02	MW22-05-02
Anions and Nutrients															
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0132	0.0217	0.0483	0.996	0.0264	0.0304	< 0.0050	0.0269	2.20	0.0259
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.10	0.12	< 0.10	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.38	0.44	1.61	0.46	0.33	0.88	0.29	0.34	0.29	0.26
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.032	0.032	0.048	< 0.02	0.072	0.025	< 0.020	0.034	< 0.04	0.060
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	0.078	0.256	< 0.020	< 0.02	< 0.02	< 0.020	0.082	0.074	0.036	0.037
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.850|1.82	< 0.050|0.364	0.0214|< 0.050	0.0108|0.103	0.0050|< 0.05	0.210|0.124	0.612|0.553	0.198|0.234	0.530|0.421	0.0578|< 0.1
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	2.82	4.57	5.75	4.63	5.58	5.10	2.45	2.91	2.67	2.75
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	1.60	2.22	3.34	4.76	2.64	2.07	2.85	2.36	2.05	1.79
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 3.8	< 2.0	< 2.0	< 2	< 2	< 3.0	< 2.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	< 10	24	12	< 10	< 10	< 10	32	22	< 10	< 10
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Metals															
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0016	0.0022	0.0020	0.0026	0.0100	0.0038	0.0011	0.0020	0.0023	0.0015
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	0.00019	< 0.0001	0.00032	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	0.00385	0.00440	0.00436	0.00150	0.00248	< 0.00010	< 0.00010	0.00013	< 0.0001
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0132	0.0170	0.0179	0.0181	0.0152	0.0176	0.0146	0.0130	0.0146	0.0128
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	0.012	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000050	0.0000065	-	0.0000159	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000060
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	69.0	74.8	73.1	72.5	75.2	71.4	67.9	66.6	68.4	71.2
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00093	< 0.00050	< 0.00050	0.00055	< 0.0005	< 0.00050	0.00109	0.00090	0.00102	0.00082
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	0.00093	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00082	0.00083	0.00089	0.00075
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	0.00044	0.00048	0.00042	0.00014	0.00043	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00024	0.00094	< 0.00020	< 0.0002	0.00020	0.00067	0.00023	0.00027	0.00158	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	< 0.010	**0.406**	**0.714**	**0.598**	0.205	0.058	< 0.010	< 0.010	< 0.01	< 0.01
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	0.000067	< 0.000050	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0030	0.0029	0.0028	0.0025	0.0024	0.0032	0.0026	0.0027	0.0025	0.0028
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	13.5	16.5	16.2	15.6	15.1	15.5	14.6	14.8	14.6	13.9
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	0.00067	**0.420**	**0.429**	**0.329**	**0.248**	**0.396**	0.00048	0.00145	0.00086	0.00299
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	0.000153	0.000031	0.000258	0.000133	0.000046	0.000065	0.000076	0.000039	0.000090
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000360	0.00252	0.00184	0.00255	0.00160	0.00247	0.000362	0.000348	0.000426	0.000319
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	0.00074	0.00378	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	0.863	1.40	1.57	1.17	1.19	1.45	0.858	0.935	0.867	0.868
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00057	0.00060	0.00074	0.00054	0.00061	0.00064	0.00028	0.00030	0.00031	0.00025
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000400	< 0.000050	< 0.000050	0.000055	-	< 0.000050	0.000467	0.000398	0.000382	0.000411
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	4.54	6.82	6.09	6.55	6.14	6.29	5.06	4.97	4.95	5.01
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	1.53	1.80	2.18	1.69	1.82	1.92	1.43	1.74	1.51	1.56
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0614	0.0759	0.0715	0.0698	0.0641	0.0776	0.0596	0.0590	0.0589	0.0572
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	1.11	1.75	1.93	1.74	1.98	1.78	1.00	0.87	1.08	0.90
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	0.00010	0.00015	0.00020	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.0003	0.00031	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00022	< 0.00010	< 0.00010	0.00043	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000964	0.00216	0.00226	0.00183	0.00174	0.00260	0.00102	0.000995	0.00104	0.00103
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	< 0.0010	< 0.0010	0.0022	0.0016	0.0017	0.0013	< 0.0010	< 0.0010	0.0012	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests															
Conductivity	uS/cm	-	-	-	2	390	428	459	440	406	438	-	428	428	393
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	237	260	254	265	283	293	-	255	267	257
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	228	255	249	245	250	242	230	227	231	235
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	281	249	262	248	252	280	-	245	243	254
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	3840	< 3.0	14.6	8.9	6.3	295	-	455	652	190
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	7.97	8.37	8.07	7.99	8.09	8.06	-	7.99	7.87	7.99
Polycyclic Aromatic Hydrocarbon															
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	0.189	0.083	0.068	0.151	0.040	0.208	0.073	0.029	0.131	0.051
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	0.070	0.027	0.022	0.052	0.015	0.063	0.027	0.010	0.049	0.018
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	0.119	0.056	0.046	0.099	0.025	0.145	0.046	0.019	0.082	0.033
Naphthalene	ug/L	-	-	-	0.050	0.245	0.242	0.105	0.157	< 0.05	0.425	0.093	< 0.050	0.107	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	0.015	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters															
Gross alpha	Bq/l	-	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	0.14	< 0.1	< 0.1	-	-
Gross beta	Bq/l	-	-	-	0.1	< 0.1	0.17	< 0.1	-	-	0.20	0.29	< 0.1	-	-
Total Metals															
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	8.74	0.271	0.0696	1.61	0.0282	2.04	8.21	3.42	6.65	1.30
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00020	< 0.00010	0.00036	< 0.0002	0.00023	< 0.00020	0.00010	< 0.00020	< 0.0002	< 0.0002
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00479	0.00395	0.00466	0.00533	0.00166	0.00378	0.00380	0.00170	0.00283	0.00074
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0844	0.0191	0.0198	0.0309	0.0169	0.0311	0.0703	0.0389	0.0623	0.0237
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000476	< 0.000020	< 0.000020	0.000060	-	0.000083	0.000340	0.000149	0.000279	0.000051
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000050	< 0.0001	-	< 0.000100	0.000079	< 0.000100	< 0.0001	< 0.0001
Boron, total	mg/L	-	-	-	0.01 - 0.2	0.030	< 0.010	< 0.010	< 0.02	< 0.01	< 0.020	0.018	< 0.020	< 0.02	< 0.02
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.000239	0.0000081	0.0000541	0.0000346	0.0000169	0.0000315	0.000108	0.0000662	0.0000815	0.0000298
Calcium, total	mg/L	-	-	-	0.05 - 1	517	76.0	70.9	119	73.4	104	280	135	250	95.0
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000819	0.000029	< 0.000010	0.000163	-	0.000203	0.000774	0.000400	0.000712	0.000136
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.0200	0.00072	< 0.00050	0.00393	< 0.0005	0.00439	0.0183	0.00802	0.0149	0.00335
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	0.00099	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00091	0.00082	0.00111	0.00072
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00986	0.00067	0.00060	0.00171	0.00017	0.00192	0.00687	0.00316	0.00486	0.00114
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.0230	0.00063	0.00057	0.00347	< 0.0005	0.00381	0.0159	0.00783	0.0116	0.00287
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**13.5**	**0.981**	**1.05**	**3.40**	**0.303**	**3.08**	**12.6**	**5.32**	**9.59**	**1.94**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.00875	0.000238	0.000122	0.00136	-	0.00134	0.00588	0.00268	0.00456	0.000956
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0188	0.0034	0.0031	0.0046	0.0029	0.0065	0.0152	0.0079	0.0130	0.0049
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	98.9	18.0	15.4	24.2	15.3	24.0	59.9	28.3	49.8	19.2
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.752**	**0.457**	**0.439**	**0.425**	**0.278**	**0.471**	**0.475**	**0.179**	**0.325**	**0.0656**
Mercury, total	mg/L	-	-	-	0.0000050	0.0000064	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	0.0000065	0.0000064	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	0.000087	0.000345	0.000212	0.000368	0.000157	0.000160	0.000062	0.000048	< 0.0008	0.000106
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.000376	0.00219	0.00175	0.00220	0.00163	0.00223	0.000364	0.000359	0.000421	0.000326
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.0168	0.00092	0.00104	0.00330	0.00054	0.00350	0.0143	0.00626	0.0110	0.00228
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.850|1.82	< 0.050|0.364	0.0214|< 0.050	0.0108|0.103	0.0050|< 0.05	0.210|0.124	0.612|0.553	0.198|0.234	0.530|0.421	0.0578|< 0.1
Potassium, total	mg/L	-	-	-	0.05 - 1	2.93	1.63	1.50	1.68	1.22	2.12	3.01	1.78	2.73	1.29
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.0131	0.00111	0.00085	0.00309	0.00068	0.00394	0.0121	0.00566	0.0101	0.00228
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	0.000451	< 0.000050	< 0.000050	< 0.0001	-	< 0.000100	0.000352	0.000459	0.000508	0.000365
Silicon, total	mg/L	-	-	-	0.1 - 2	20.4	7.61	6.27	9.82	6.21	10.7	19.7	11.2	18.4	7.61
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.000049	< 0.000010	< 0.000010	-	-	0.000020	0.000042	< 0.000020	0.000038	-
Sodium, total	mg/L	200	200	-	0.05 - 1	2.47	2.19	1.81	2.02	1.72	2.26	2.55	1.98	2.44	1.70
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.341	0.0774	0.0696	0.0956	0.0688	0.0966	0.204	0.106	0.179	0.0749
Sulfur, total	mg/L	-	-	-	0.5 - 10	1.19	2.05	2.09	1.54	2.03	1.76	1.31	1.02	< 1	< 1
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.00020	< 0.0004	< 0.0002	< 0.00040	< 0.00020	< 0.00040	< 0.0004	< 0.0004
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000096	< 0.000010	< 0.000010	0.000022	-	< 0.000020	0.000126	0.000057	0.000095	0.000039
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00407	0.00010	< 0.00010	0.00057	< 0.0001	0.00081	0.00405	0.00148	0.00363	0.00058
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00098	0.00017	0.00059	0.00049	0.00034	0.00042	0.00044	0.00032	0.00027	< 0.0002
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.510	0.0187	0.00421	0.107	0.00152	0.135	0.549	0.223	0.520	0.0831
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	0.00023	< 0.00010	< 0.00010	< 0.0002	< 0.0001	< 0.00020	< 0.00010	< 0.00020	< 0.0002	< 0.0002
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00207	0.00236	0.00254	0.00223	0.00182	0.00288	0.00166	0.00132	0.00165	0.00116
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.0236	0.00081	< 0.00050	0.00426	< 0.0005	0.00483	0.0207	0.00824	0.0171	0.00313
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0362	0.0045	0.0040	0.0076	< 0.003	0.0081	0.0276	0.0139	0.0208	< 0.006
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00212	0.00022	< 0.00020	0.00050	< 0.0002	0.00058	0.00293	0.00090	0.00250	0.00051
Volatile Organic Compounds															
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	0.53	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	1.34	< 0.50	< 0.50	< 0.5	< 0.5	0.97	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	1.64	1.82	0.69	< 0.4	< 0.4	2.60	0.82	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	0.68	0.74	0.30	< 0.3	< 0.3	1.02	0.40	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	2.32	2.56	0.99	< 0.5	< 0.5	3.62	1.22	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes															
SUM OF BTEX	ug/L	-	-	-	1.0	3.7	2.6	< 1.0	< 1	< 1	5.1	1.2	< 1.0	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/25/22	6/28/23	8/08/23	8/08/23	9/20/23	8/14/24	9/29/24
						MW22-06-1	MW22-06-1	MW22-06-1	DUP-01 (MW22-06-1)	MW22-06-1	MW22-06-1	MW22-06-1
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0326	< 0.0050	< 0.0050	0.0114	0.0066	0.101	0.0300
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.44	0.30	0.44	0.32	0.34	0.39	0.24
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.034	< 0.020	< 0.020	< 0.020	0.026	< 0.02	0.045
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	0.027	0.034	0.039	0.158	0.039	0.022	0.021
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.808	0.0026|< 0.050	0.0072|< 0.050	0.0039|< 0.050	0.0032|< 0.050	< 0.002|< 0.05	0.0045|< 0.05
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	1.41	1.59	1.48	1.36	1.73	1.24	1.19
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	1.54	1.34	1.29	2.35	1.99	1.43	1.79
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	24	< 10	< 10	< 10	< 10	13	< 10
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Metals												
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0018	0.0010	0.0010	0.0015	0.0016	0.0017	< 0.001
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00022	0.00017	0.00017	0.00017	0.00017	0.00022	0.00016
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0126	0.0112	0.0106	0.0111	0.0108	0.0106	0.00994
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	0.0000192	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	59.0	57.5	66.0	62.8	61.1	60.0	63.6
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00052	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00067	0.00022	0.00028	0.00027	0.00030	0.00294	0.00028
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0024	0.0014	0.0014	0.0015	0.0016	0.0016	0.0017
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	10.5	11.0	11.3	11.0	11.7	11.4	10.5
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	0.0174	0.00061	0.00140	0.00150	0.00264	0.00074	0.00091
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000029	< 0.000020	< 0.000020	< 0.000020	0.000044	0.000035	0.000066
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000290	0.000202	0.000216	0.000198	0.000202	0.000288	0.000181
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	0.793	0.729	0.642	0.648	0.688	0.639	0.626
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00119	0.00118	0.00111	0.00107	0.00115	0.00096	0.00100
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000059	0.000066	0.000055	0.000076	0.000060	0.000060	0.000058
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	4.24	4.31	4.48	4.38	4.38	4.35	4.29
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	1.20	1.18	1.09	1.09	1.19	1.08	1.10
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0478	0.0509	0.0525	0.0532	0.0502	0.0500	0.0480
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	0.61	< 0.50	0.54	0.78	< 0.50	0.50	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00025	< 0.00010	< 0.00010	0.00027	< 0.00010	0.00020	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000339	0.000215	0.000228	0.000235	0.000236	0.000227	0.000238
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0021	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0018	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	-	2	363	351	362	361	382	362	346
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	213	198	208	203	221	244	244
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	190	189	211	202	201	197	202
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	228	202	222	210	196	184	207
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	2300	< 3.0	< 3.0	< 3.0	< 3.0	< 3	3.3
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.07	8.15	8.23	8.25	8.11	7.94	8.13
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	0.043	0.035	< 0.015	0.057	0.036
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	0.013	0.010	< 0.010	0.018	0.012
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	0.030	0.025	0.010	0.039	0.024
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	0.088	0.074	< 0.050	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	0.26	< 0.1	-	-
Gross beta	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-
Total Metals												
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	0.0090	0.0247	0.0218	0.0072	0.0045	0.0130
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00020	0.00018	0.00018	0.00019	0.00019	0.00019
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0116	0.0112	0.0108	0.0113	0.0106	0.0107
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	< 0.0000050	0.0000122	0.0000071	< 0.0000050	-	-
Calcium, total	mg/L	-	-	-	0.05 - 1	-	54.6	58.2	59.4	60.5	66.3	62.9
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	< 0.010	0.040	0.032	< 0.010	< 0.01	0.020
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0015	0.0016	0.0019	0.0018	0.0014	0.0018
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	11.4	11.1	11.2	11.1	11.2	10.6
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	0.00205	0.00601	0.00587	0.00346	0.00126	0.00321
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000021	0.000041
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000199	0.000178	0.000181	0.000212	0.000194	0.000183
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00132	< 0.0005
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.808	0.0026|< 0.050	0.0072|< 0.050	0.0039|< 0.050	0.0032|< 0.050	< 0.002|< 0.05	0.0045|< 0.05
Potassium, total	mg/L	-	-	-	0.05 - 1	-	0.757	0.729	0.721	0.659	0.657	0.656
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00115	0.00123	0.00116	0.00119	0.00106	0.00097
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000078	0.000060	0.000067	0.000082	0.000077	0.000084
Silicon, total	mg/L	-	-	-	0.1 - 2	-	4.40	4.37	4.44	4.46	4.33	4.25
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	-	1.20	1.30	1.28	1.22	1.12	1.08
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0489	0.0510	0.0510	0.0497	0.0490	0.0489
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	0.56	0.74	0.62	0.60	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	0.00018	0.00013	< 0.00010	< 0.0001	0.00013
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.00054	0.00144	0.00159	0.00037	< 0.0003	0.00079
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000225	0.000236	0.000236	0.000251	0.000226	0.000236
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	< 0.0030	0.0042	< 0.0030	< 0.0030	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Volatile Organic Compounds												
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	5.9	< 1.0	< 1.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/25/22	6/28/23	6/28/23	8/08/23	9/20/23	8/14/24	9/29/24	11/25/22	6/28/23	9/23/23	6/10/24	8/15/24	9/30/24
						MW22-06-2	MW22-06-2	DUP (MW22-06-2)	MW22-06-2	MW22-06-2	MW22-06-2	MW22-06-2	MW22-06-3	MW22-07-01	MW22-07-1	MW22-07-1	MW22-07-1	MW22-07-1
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0135	< 0.0050	< 0.0050	< 0.0050	0.0090	4.35	0.0523	< 0.0500	0.194	0.610	0.875	-	0.112
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	0.10	< 0.10	< 0.1	< 0.1	< 0.10	0.12	< 0.10	< 0.1	-	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.26	0.24	0.30	0.26	0.28	0.42	0.27	0.30	7.57	4.86	0.48	-	3.09
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.024	< 0.020	0.024	< 0.020	0.020	< 0.02	0.030	0.046	0.134	0.171	0.134	-	0.343
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	0.031	0.030	0.027	0.051	0.129	0.028	0.028	< 0.020	< 0.020	0.052	< 0.02	-	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	0.020	-	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.411	0.0043|< 0.050	0.0038|< 0.050	0.0068|< 0.050	< 0.0020|< 0.050	0.0021|< 0.05	0.0042|< 0.05	0.364	0.0275|< 0.050	0.0545|0.052	0.0389|< 0.05	< 0.05	0.130|0.086
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	1.40	1.50	1.56	1.52	1.92	1.73	1.62	1.36	< 0.30	< 0.30	5.74	-	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	1.32	1.66	1.27	1.52	1.43	1.97	2.20	2.43	**12.9**	**10.6**	1.99	-	**10.6**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	-	8.1	6.1	< 3	-	3.0
Chemical oxygen demand [COD]	mg/L	-	-	-	10	53	10	10	< 10	< 10	10	< 10	49	55	41	12	-	43
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Metals																		
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0214	0.0017	0.0012	0.0018	0.0019	0.0028	0.0030	0.0073	0.0053	0.0104	0.0054	0.0082	0.0104
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00024	0.00059	< 0.0001	0.00028	0.00098
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00020	0.00017	0.00018	0.00019	0.00017	0.00020	0.00021	0.00019	0.00360	0.00359	0.00273	0.00394	0.00469
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0141	0.0128	0.0115	0.0118	0.0117	0.0110	0.0112	0.0140	0.0351	0.0309	0.0255	0.0289	0.0324
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	0.104	0.091	0.026	0.118	0.103
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000089	< 0.0000050	< 0.0000050	0.0000214	0.0000138	0.0000108	0.0000318
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	61.3	60.0	59.5	62.2	60.9	60.9	65.7	60.1	54.9	53.3	60.3	48.1	48.0
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00065	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00050	0.00056	0.00060	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	-	0.00054
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00015	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00011	0.00082	0.00082	0.00030	0.00058	0.00047
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00092	0.00036	0.00023	0.00038	0.00042	0.00042	0.00471	0.00084	0.00052	0.00121	0.00079	0.00052	0.00081
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	0.026	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	**0.457**	0.123	0.021	0.300	**0.326**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	0.000059	< 0.000050	< 0.000050	-	-	0.000079
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0023	0.0012	0.0014	0.0012	0.0016	0.0013	0.0063	0.0022	0.0039	0.0071	0.0033	0.0032	0.0030
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	11.0	12.2	11.4	11.4	11.6	11.6	11.5	10.7	20.8	21.1	15.3	19.7	18.6
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	0.0434	0.00106	0.00056	0.00078	0.00067	0.00084	0.00022	0.0407	**0.204**	**0.203**	**0.228**	**0.209**	**0.187**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000135	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000035	< 0.000020	< 0.000020	0.000103	< 0.000020	0.000046	-	0.000054	0.000024	< 0.000020	-	0.000056	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000293	0.000083	0.000203	0.000083	0.000102	0.000087	0.000070	0.000315	0.00901	0.0105	0.00156	0.0105	0.00895
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00057	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00183	0.0146	0.00139	0.00878	0.00628
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	1.22	0.582	0.729	0.538	0.562	0.493	0.491	1.23	5.05	4.08	1.52	3.26	3.41
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00190	0.00132	0.00116	0.00132	0.00123	0.00124	0.00130	0.00186	0.00166	0.00152	0.00099	0.00138	0.00136
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000077	0.000070	0.000062	0.000103	0.000085	0.000130	0.000297	0.000086	0.000068	0.000081	-	0.000072	0.000073
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	3.86	3.85	4.26	3.91	3.59	3.86	3.64	3.86	8.22	8.66	6.80	9.02	8.53
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	1.11	1.08	1.15	0.955	0.979	1.04	1.52	1.15	22.5	23.6	5.94	22.4	22.5
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0531	0.0492	0.0514	0.0509	0.0488	0.0494	0.0488	0.0527	0.253	0.243	0.187	0.262	0.247
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	0.54	< 0.50	< 0.50	0.57	< 0.50	0.60	< 0.5	0.58	< 0.50	< 0.50	2.16	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000011	< 0.000010	< 0.000010	0.000011	< 0.000010	-	-	0.000011	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00013	0.00010	0.00178	0.00214	0.00019	0.00193	0.00195
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	0.00109	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00015	0.00016	< 0.0001	0.00010	0.00012
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000420	0.000229	0.000206	0.000236	0.000237	0.000228	0.000240	0.000414	0.000658	0.000516	0.000658	0.000466	0.000823
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.00068
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	0.0165	< 0.0010	0.0020	0.0269	0.0040	0.0078	0.0052
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																		
Conductivity	uS/cm	-	-	-	2	367	345	346	357	373	368	357	362	482	486	416	-	435
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	226	203	196	205	218	275	259	330	268	276	244	-	287
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	198	200	196	202	200	200	211	194	223	220	214	-	196
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	245	217	216	219	190	212	201	262	293	278	213	-	264
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	1380	10.9	< 3.0	9.2	< 3.0	< 3	< 3	6110	6.5	56.2	20	-	598
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.07	8.08	8.2	8.18	8.11	8.04	8.11	8.03	8.33	8.34	8.3	-	8.12
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.094	-	< 0.01	-	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	-	< 0.005	-	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	-	< 0.005	-	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	< 0.015	0.039	< 0.015	0.064	0.018	-	< 0.015	-	< 0.015	-	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	0.012	< 0.010	0.021	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	0.027	0.012	0.043	0.018	-	0.012	-	< 0.01	-	0.013
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	< 0.050	0.086	< 0.050	0.060	< 0.05	-	< 0.050	-	< 0.05	-	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	-	< 0.020	-	< 0.02	-	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	0.14	-	-	-	-
Total Metals																		
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	0.0619	0.0077	0.0918	0.0086	0.0867	0.0185	-	0.0503	0.306	0.101	0.418	0.524
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	-	0.00027	0.00318	0.00042	0.00048	0.00150
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00025	0.00019	0.00028	0.00018	0.00029	0.00021	-	0.00372	0.00445	0.00257	0.00503	0.00621
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0132	0.0116	0.0128	0.0119	0.0123	0.0126	-	0.0358	0.0385	0.0261	0.0334	0.0341
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	-	-	0.000025
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	0.107	0.102	0.022	0.104	0.118
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	< 0.0000050	< 0.0000050	0.0000051	< 0.0000050	-	-	-	0.0000099	0.000130	0.0000369	0.0000304	0.0000863
Calcium, total	mg/L	-	-	-	0.05 - 1	-	56.4	57.8	58.0	56.2	67.2	64.8	-	52.6	54.4	64.1	60.5	57.0
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	0.000014	< 0.000010	0.000014	-	-	< 0.000010	0.000028	-	0.000039	0.000043
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00062	< 0.00050	0.00078	0.00053	0.00099	0.00058	-	< 0.00050	0.00314	0.00050	0.00220	0.00269
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	-	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00025	< 0.00010	0.00032	< 0.00010	0.00025	< 0.0001	-	0.00087	0.00114	0.00039	0.00088	0.00084
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.00091	< 0.00050	0.00110	< 0.00050	0.00089	< 0.0005	-	< 0.00050	0.00291	0.00085	0.00162	0.00243
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	0.097	< 0.010	0.157	0.011	0.156	0.026	-	**0.573**	**0.807**	0.122	**0.993**	**1.12**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	0.000163	< 0.000050	0.000107	-	-	< 0.000050	0.000415	0.000124	0.000323	0.000610
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0012	0.0018	0.0016	0.0014	0.0011	0.0014	-	0.0037	0.0057	0.0038	0.0034	0.0038
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	12.4	10.8	11.5	10.9	12.8	11.7	-	20.2	20.5	14.7	22.2	20.5
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	0.0174	0.00200	0.0223	0.00203	0.0175	0.00322	-	**0.210**	**0.221**	**0.215**	**0.228**	**0.209**
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	-	-	0.0000154
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000020	-	-	< 0.000020	0.000034	0.000083	-	0.000516
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000081	0.000191	0.000086	0.000098	0.000091	0.000077	-	0.00871	0.0117	0.00175	0.00996	0.00885
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00084	< 0.0005	-	0.00208	0.0198	0.00232	0.0106	0.00843
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.411	0.0043|< 0.050	0.0038|< 0.050	0.0068|< 0.050	< 0.0020|< 0.050	0.0021|< 0.05	0.0042|< 0.05	0.364	0.0275|< 0.050	0.0545|0.052	0.0389|< 0.05	< 0.05	0.130|0.086
Potassium, total	mg/L	-	-	-	0.05 - 1	-	0.621	0.728	0.608	0.539	0.514	0.519	-	4.91	3.96	1.47	3.36	3.35
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00149	0.00111	0.00145	0.00118	0.00138	0.00121	-	0.00177	0.00191	0.00115	0.00198	0.00186
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000095	0.000057	0.000073	0.000110	0.000118	0.000112	-	0.000085	0.000098	-	0.000065	0.000084
Silicon, total	mg/L	-	-	-	0.1 - 2	-	3.96	4.38	3.97	3.88	4.08	3.85	-	8.39	9.16	6.41	9.70	9.24
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	0.000033	0.000010	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	-	1.20	1.16	1.05	0.983	1.05	1.08	-	23.2	21.0	5.65	25.2	22.0
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0496	0.0492	0.0486	0.0461	0.0519	0.0486	-	0.234	0.247	0.178	0.281	0.267
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	0.63	0.55	0.69	0.69	< 0.5	0.54	-	< 0.50	< 0.50	1.91	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	-	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	0.000012	-	-	-	< 0.000010	< 0.000010	-	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	-	< 0.00010	< 0.00010	< 0.0001	0.00012	0.00013
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00021	0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	-	0.00326	0.00592	0.00090	0.00468	0.00306
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.00370	0.00040	0.00518	0.00062	0.00707	0.00107	-	0.00280	0.0149	0.00504	0.0203	0.0201
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00012	-	0.00012	0.00027	0.00011	0.00012	0.00019
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000239	0.000242	0.000246	0.000271	0.000231	0.000246	-	0.000700	0.000577	0.000675	0.000529	0.000822
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	0.00054	< 0.00050	0.00062	< 0.0005	-	0.00062	0.00086	< 0.0005	0.00144	0.00149
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0036	0.0031	< 0.0030	< 0.0030	< 0.003	< 0.003	-	< 0.0030	0.0475	0.0086	0.0233	0.0236
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	-	0.00037	0.00053	< 0.0002	0.00064	0.00071
Volatile Organic Compounds																		
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	25	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	-	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	9.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	-	0.54	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	0.51	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	1.05	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	1.0	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/27/22	6/28/23	9/23/23	6/10/24	8/15/24	9/30/24	11/27/22	11/27/22
						MW22-07-2	MW22-07-02	MW22-07-2	MW22-07-2	MW22-07-2	MW22-07-2	MW22-07-3	MW22-07-4
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.130	0.0891	0.246	1.03	0.162	0.0438	< 0.0500	0.0189
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	0.10	< 0.10
Chloride	mg/L	250	250	-	0.10 - 0.20	0.92	0.66	0.76	3.24	0.44	0.51	3.40	2.87
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.135	0.139	0.148	0.188	0.073	0.218	0.079	0.087
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	0.020	< 0.02	< 0.02	< 0.02	0.040	< 0.020
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	0.011	0.047	< 0.010	< 0.010
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	1.45	0.0415|0.104	0.215|1.07	0.0513|< 0.05	0.0345|< 0.05	0.0162|< 0.05	0.827	0.0127
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	2.71	7.22	6.97	0.38	4.46	4.16	3.46	3.23
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	2.74	2.32	3.68	**14.0**	2.36	2.32	2.34	2.58
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	-	15.4	< 2	< 2	-	-
Chemical oxygen demand [COD]	mg/L	-	-	-	10	37	17	58	44	< 10	10	37	16
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050
Metals													
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0019	0.0024	0.0083	0.0057	0.0024	0.0025	0.0034	0.0038
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00018	0.00014	0.00045	0.00022	0.00010	0.00011	0.00012	0.00018
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00141	0.00278	0.00238	0.00448	0.00238	0.00208	0.00042	0.00082
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0300	0.0275	0.0284	0.0290	0.0228	0.0231	0.0147	0.0189
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.030	0.035	0.033	0.114	0.022	0.023	0.020	0.028
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	0.0000072	< 0.0000050	0.0000139	0.0000074	0.0000264	0.0000119	< 0.0000050	< 0.0000050
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	59.2	60.3	61.5	50.2	59.3	63.8	59.8	54.4
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00095	< 0.0005	< 0.0005	< 0.00050	< 0.00050
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	-
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00040	0.00040	0.00037	0.00068	0.00024	0.00016	< 0.00010	0.00013
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00043	0.00095	0.00122	< 0.0002	0.00080	0.00037	0.00075	0.00057
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	< 0.010	0.049	< 0.010	**0.550**	< 0.01	< 0.01	< 0.010	< 0.010
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050				< 0.000050	< 0.000050
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0043	0.0031	0.0065	0.0036	0.0031	0.0031	0.0038	0.0042
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	13.9	15.2	15.8	20.2	14.4	14.1	13.3	13.4
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.181**	**0.244**	**0.193**	**0.209**	**0.204**	**0.177**	0.00205	0.0247
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000022	< 0.000020	-	0.000026	0.000023	0.000048	0.000101	< 0.000020
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00249	0.00232	0.00228	0.0109	0.00103	0.00113	0.00471	0.00523
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00050	0.00315	0.0108	< 0.0005	0.00065	0.00098	0.00078
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	2.69	2.07	2.13	3.83	1.26	1.32	2.64	3.47
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00156	0.00121	0.00142	0.00126	0.00092	0.00089	0.00120	0.00149
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000074	-	-	0.000246	0.000188
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	6.86	6.88	6.96	8.96	6.38	6.55	5.02	5.27
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	6.40	6.52	7.72	23.8	4.99	5.94	3.69	5.01
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.177	0.191	0.194	0.280	0.165	0.169	0.0752	0.103
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	1.07	2.06	2.38	< 0.5	1.52	1.54	1.28	1.10
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	0.000015	0.000018
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00060	0.00070	0.00138	0.00123	0.00014	0.00014	0.00066	0.00059
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0009	< 0.0003	< 0.00030	< 0.00030
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	0.00016	0.00022	< 0.0001	< 0.00010	< 0.00010
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000977	0.000944	0.000838	0.000379	0.000431	0.000491	0.000685	0.000938
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00066	< 0.00050	0.00056	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0015	0.0023	0.0153	0.0015	0.0044	0.0038	0.0014	< 0.0010
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030
Physical Tests													
Conductivity	uS/cm	-	-	-	2	402	400	421	461	406	387	390	382
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	241	235	270	276	274	268	229	231
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	205	213	219	208	207	217	204	191
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	252	406	340	238	234	232	250	246
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	3110	1790	2090	41.4	20.5	5.5	624	906
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.07	8.09	8.21	8.23	7.99	8.15	8.07	8.07
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.059	-	< 0.01	< 0.01	< 0.01	-	-
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	-	< 0.005	< 0.005	< 0.005	-	-
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	-	< 0.005	< 0.005	< 0.005	-	-
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	-	0.032	0.406	0.364	-	-
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	-	0.013	0.134	0.134	-	-
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	-	0.019	0.272	0.230	-	-
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	-	< 0.05	0.450	0.251	-	-
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	-	< 0.02	< 0.02	< 0.02	-	-
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Radiological Parameters													
Gross alpha	Bq/l	-	-	-	0.1	-	-	-	-	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	-	-	-	-	-	-	-
Total Metals													
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	1.30	3.41	0.236	0.0189	0.0357	-	-
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00045	0.00116	0.00030	0.00014	0.00026	-	-
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00345	0.00397	0.00481	0.00250	0.00223	-	-
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0375	0.0588	0.0281	0.0242	0.0245	-	-
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	0.000054	0.000154	-	-	-	-	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000100	-	-	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	0.040	0.045	0.108	0.022	0.024	-	-
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.0000242	0.000126	0.0000269	0.0000204	0.0000129	-	-
Calcium, total	mg/L	-	-	-	0.05 - 1	-	86.0	113	53.2	67.3	62.7	-	-
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000139	0.000408	0.000020	-	-	-	-
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00293	0.00859	0.00201	< 0.0005	< 0.0005	-	-
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	-
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00132	0.00264	0.00076	0.00030	0.00018	-	-
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.00217	0.00684	0.00111	< 0.0005	0.00064	-	-
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**1.63**	**4.39**	**0.939**	0.045	0.051	-	-
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000732	0.00212	0.000197	0.000522	-	-	-
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0051	0.0093	0.0037	0.0030	0.0036	-	-
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	21.8	27.7	19.6	15.3	14.2	-	-
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**0.305**	**0.331**	**0.211**	**0.211**	**0.182**	-	-
Mercury, total	mg/L	-	-	-	0.0000050	-	0.0000163	0.0000065	-	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000030	0.000045	0.000084	0.000026	0.000083	-	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00209	0.00223	0.00997	0.00100	0.00102	-	-
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00238	0.0101	0.0109	0.00059	0.00094	-	-
Phosphorus, total	mg/L	-	-	-	0.002 - 1	1.45	0.0415|0.104	0.215|1.07	0.0513|< 0.05	0.0345|< 0.05	0.0162|< 0.05	0.827	0.0127
Potassium, total	mg/L	-	-	-	0.05 - 1	-	2.50	3.00	3.33	1.29	1.37	-	-
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00375	0.00772	0.00149	0.00101	0.00099	-	-
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	0.000138	0.000075	-	-	-	-
Silicon, total	mg/L	-	-	-	0.1 - 2	-	9.56	13.7	8.61	6.72	6.60	-	-
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	0.000026	-	-	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	-	7.34	7.43	23.4	5.79	5.22	-	-
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.203	0.234	0.259	0.176	0.164	-	-
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	2.43	2.62	< 0.5	1.62	1.62	-	-
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00040	< 0.0002	< 0.0002	< 0.0002	-	-
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000012	0.000096	-	-	-	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00057	0.00148	< 0.0001	< 0.0001	< 0.0001	-	-
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00099	0.00291	0.00202	0.00024	0.00032	-	-
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.0950	0.208	0.00946	0.00112	0.00178	-	-
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00020	0.00014	< 0.0001	< 0.0001	-	-
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.00107	0.00109	0.000399	0.000460	0.000450	-	-
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00333	0.00795	0.00085	< 0.0005	< 0.0005	-	-
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0060	0.0860	0.0148	0.0048	0.0043	-	-
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00090	0.00150	0.00036	< 0.0002	< 0.0002	-	-
Volatile Organic Compounds													
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	-
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2	< 2	< 2	-	-
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	-
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	-
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	-
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	-
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	-	-
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	-
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/25/22	6/27/23	8/11/23	9/23/23	6/10/24	8/12/24	9/30/24	9/30/24
						MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW DUP 2 (MW22-08-1)
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.491	0.587	0.555	0.379	0.400	0.412	0.413	0.442
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.70	0.31	0.30	0.26	0.23	0.23	0.23	0.20
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.262	0.402	0.351	0.414	0.494	0.269	0.823	0.723
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.296	0.864|0.281	0.948|1.03	0.157|0.203	0.242|0.218	0.223|0.164	0.143|0.199	0.125|0.166
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	0.56	< 0.30	0.33	0.35	0.49	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**6.25**	**6.13**	**7.42**	**6.25**	**8.62**	**6.49**	**6.34**	**7.43**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 3.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	42	74	84	19	22	18	16	17
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	0.161	0.121	0.198	0.153	0.132	0.150
Metals													
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0019	0.0171	0.0014	0.0015	0.0020	0.0012	0.0015	0.0011
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00550	0.00893	0.0139	0.0136	0.0212	0.0159	0.0145	0.0155
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0457	0.0550	0.0406	0.0374	0.0403	0.0408	0.0368	0.0363
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.079	0.099	0.111	0.088	0.079	0.109	0.095	0.091
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	59.1	55.5	53.8	61.5	68.9	65.3	63.9	65.0
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00037	0.00036	0.00026	0.00028	0.00035	0.00022	0.00020	0.00021
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00036	< 0.00020	0.00058	0.00040	< 0.0002	0.00101	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	0.157	0.276	**1.05**	**1.24**	**1.76**	**1.38**	**1.34**	**1.47**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0056	0.0044	0.0055	0.0049	0.0045	0.0051	0.0048	0.0048
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	17.5	19.5	19.8	20.4	20.4	20.7	18.9	18.8
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.211**	**0.226**	**0.166**	**0.177**	**0.248**	**0.150**	**0.156**	**0.166**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000032	< 0.000020	0.000050	< 0.000020	0.000021	0.000037	0.000022	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00639	0.00729	0.00644	0.00645	0.00828	0.00684	0.00658	0.00643
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00072	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	0.161	0.121	0.198	0.153	0.132	0.150
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	2.65	2.38	2.18	1.92	1.70	1.97	1.81	1.84
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00080	0.00082	0.00068	0.00057	0.00052	0.00058	0.00052	0.00052
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000074	-	-	0.000087	0.000139
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	7.83	7.73	7.87	8.24	8.02	8.56	7.96	8.28
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	28.9	28.9	29.6	26.8	17.7	23.8	22.2	21.6
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.314	0.428	0.446	0.434	0.470	0.450	0.426	0.410
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	0.83	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00010	< 0.00010	0.00023	< 0.00010	< 0.0001	0.00011	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	0.00102	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00011	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00127	0.000868	0.000200	0.000180	0.000386	0.000088	0.000066	0.000090
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00068	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	0.0020	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests													
Conductivity	uS/cm	-	-	-	2	489	496	517	517	505	496	495	488
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	293	310	317	315	293	298	299	361
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	220	219	216	238	256	248	237	240
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	306	362	458	312	272	301	306	305
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	352	158	2270	196	98.4	15.4	175	39.3
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.14	8.32	8.17	8.36	8.15	8.19	8.08	7.96
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	0.033	0.056	0.107	0.104	0.063	0.030	0.038
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	0.011	0.014	0.029	0.028	0.015	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	0.022	0.042	0.078	0.076	0.048	0.030	0.038
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	0.104	0.184	0.142	0.104	0.060	0.078
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	0.55	< 0.1	< 0.1	-	-	-	-
Total Metals													
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	9.91	20.6	1.47	1.30	0.149	0.925	0.310
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00050	< 0.00050	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0119	0.0195	0.0155	0.0186	0.0152	0.0168	0.0166
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.129	0.205	0.0501	0.0479	0.0409	0.0461	0.0411
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	0.000356	0.000824	0.000056	0.000060	-	0.000034	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000250	< 0.000250	< 0.000050	< 0.0001	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	0.118	0.134	0.092	0.081	0.116	0.109	0.105
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.0000554	0.000133	0.0000170	0.0000199	-	0.0000100	-
Calcium, total	mg/L	-	-	-	0.05 - 1	-	120	286	77.8	77.1	62.1	70.3	66.5
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.00119	0.00260	0.000197	0.000167	0.000018	0.000123	0.000036
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.0213	0.0493	0.00346	0.00301	< 0.0005	0.00200	0.00074
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00619	0.0146	0.00124	0.00104	0.00030	0.00075	0.00039
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.0113	0.0294	0.00170	0.00173	< 0.0005	0.00107	< 0.0005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**11.4**	**29.0**	**3.11**	**3.14**	**1.66**	**2.73**	**1.94**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00436	0.0128	0.000792	0.000846	0.000082	0.000473	0.000155
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0187	0.0415	0.0073	0.0066	0.0052	0.0068	0.0057
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	31.8	65.9	22.3	21.3	20.2	20.6	19.8
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**0.467**	**0.845**	**0.254**	**0.254**	**0.165**	**0.197**	**0.182**
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000028	0.000060	0.000033	0.000066	0.000036	0.000034	0.000039
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00587	0.00461	0.00659	0.00766	0.00717	0.00704	0.00682
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.0158	0.0365	0.00251	0.00251	< 0.0005	0.00157	0.00064
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.296	0.864|0.281	0.948|1.03	0.157|0.203	0.242|0.218	0.223|0.164	0.143|0.199	0.125|0.166
Potassium, total	mg/L	-	-	-	0.05 - 1	-	5.30	8.06	2.22	2.06	1.95	2.06	1.91
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0202	0.0432	0.00343	0.00332	0.00077	0.00242	0.00107
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000250	< 0.000250	0.000063	< 0.0001	-	-	-
Silicon, total	mg/L	-	-	-	0.1 - 2	-	26.4	48.4	11.3	10.2	8.57	10.1	8.83
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000050	0.000078	< 0.000010	-	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	-	30.7	30.5	21.6	18.1	21.5	20.0	20.6
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.470	0.627	0.437	0.464	0.435	0.455	0.432
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	< 2.50	< 2.50	< 0.50	< 1	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00100	< 0.00100	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000075	0.000264	0.000014	-	-	0.000010	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00360	0.00891	0.00064	0.00055	< 0.0001	0.00042	0.00014
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00050	< 0.00050	0.00018	0.00025	< 0.0001	0.00013	< 0.0001
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.516	1.03	0.0842	0.0736	0.00963	0.0508	0.0171
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00050	< 0.00050	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.00140	0.00186	0.000418	0.000403	0.000099	0.000206	0.000152
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.0220	0.0480	0.00342	0.00297	< 0.0005	0.00212	0.00081
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0306	0.0712	0.0055	0.0062	< 0.003	0.0031	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00218	0.00328	0.00126	0.00107	0.00025	0.00096	0.00038
Volatile Organic Compounds													
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	0.50	0.75	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	0.51	0.94	1.71	2.07	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	0.71	1.27	2.13	3.26	0.82	0.57	0.49
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	0.37	0.78	1.19	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	0.71	1.64	2.91	4.45	0.82	0.57	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	-	1.0	-	1.2	2.6	5.1	7.3	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/25/22	6/27/23	8/11/23	9/23/23	6/10/24	8/12/24	9/30/24	9/30/24
						MW-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW DUP 3 MW22-08-2
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	< 0.0250	0.168	0.0675	0.0819	0.106	0.237	0.0712	0.128
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.40	0.31	0.26	0.27	0.22	0.20	0.17	0.20
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.336	0.445	0.277	0.315	0.362	0.392	0.522	0.628
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	0.794	0.029	< 0.020	0.044	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.441	0.130|2.87	0.107|< 0.100	0.172|< 0.100	0.0769|< 0.1	0.285|< 0.5	0.0628|< 0.1	0.0781|< 0.1
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	1.14	0.38	1.08	1.31	0.87	< 0.3	0.56	0.57
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**6.76**	**6.94**	**7.68**	**7.36**	**12.1**	**9.76**	**7.72**	**7.72**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 3.0	< 2.0	< 2.0	< 3.8	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	203	386	41	54	32	48	22	23
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	0.077	0.092	0.085	0.185	0.132	0.132
Metals													
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0022	0.0035	0.0049	0.0027	0.0049	0.0092	0.0020	0.0026
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00839	0.00590	0.0123	0.0145	0.0111	0.0276	0.0224	0.0220
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0313	0.0358	0.0331	0.0346	0.0297	0.0343	0.0312	0.0315
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.032	0.054	0.040	0.036	0.031	0.038	0.043	0.050
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	0.0000096	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	74.2	70.4	73.8	82.4	69.9	83.1	76.7	75.6
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	0.00023	0.00021	0.00023	0.00021	0.00025	0.00015	0.00014
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00082	< 0.00020	< 0.00020	< 0.00020	0.00021	0.00093	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	< 0.010	0.110	**0.648**	**0.801**	**0.693**	**1.20**	**1.17**	**1.26**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0048	0.0039	0.0048	0.0046	0.0037	0.0041	0.0042	0.0047
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	15.7	18.2	18.6	19.8	16.4	19.1	18.6	17.4
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	0.0467	**0.242**	**0.218**	**0.258**	**0.217**	**0.241**	**0.191**	**0.189**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000040	0.000058	0.000038	< 0.000020	0.000045	0.000131	0.000021	0.000022
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00518	0.00586	0.00551	0.00494	0.00434	0.00566	0.00581	0.00603
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00072	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	0.077	0.092	0.085	0.185	0.132	0.132
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	1.38	1.26	1.19	1.26	1.22	1.40	1.30	1.28
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00044	0.00050	0.00044	0.00043	0.00037	0.00039	0.00038	0.00035
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000065	< 0.000050	0.000132	0.000414	-	0.000155	-	0.000241
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	7.31	6.85	7.03	7.91	6.26	8.81	7.82	7.82
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	10.8	12.6	14.6	12.4	20.5	11.9	12.4	11.7
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.204	0.278	0.328	0.319	0.294	0.342	0.352	0.340
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	0.57	< 0.50	0.72	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00013	< 0.00010	< 0.00010	< 0.00010	0.00031	0.00024	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	0.00038	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00117	0.00154	0.000979	0.000852	0.000420	0.000358	0.000430	0.000420
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00099	0.00192	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0014	< 0.0010	< 0.0010	< 0.0010	0.0011	0.0014	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests													
Conductivity	uS/cm	-	-	-	2	490	507	546	555	507	494	518	505
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	293	308	309	337	285	297	304	408
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	250	251	261	287	242	286	268	260
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	349	383	336	311	286	294	305	312
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	1360	250	44.7	49.8	11.2	108	17.3	14.3
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	7.99	8.25	8.12	8.24	8.25	8.09	7.96	7.81
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.010	< 0.017	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	0.042	0.077	0.095	0.048	0.018	0.017	0.026
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	0.017	0.019	0.025	0.012	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	0.025	0.058	0.070	0.036	0.018	0.017	0.026
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	0.174	0.171	0.058	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	0.40	0.15	< 0.1	-	-	-	-
Total Metals													
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	5.04	1.23	2.01	0.169	5.35	0.953	0.968
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00020	0.00025	< 0.00020	< 0.0002	< 0.001	< 0.0002	< 0.0002
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00784	0.00985	0.00829	0.0121	0.0254	0.00744	0.00781
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0754	0.0455	0.0518	0.0328	0.0817	0.0433	0.0435
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	0.000159	< 0.000040	0.000072	-	< 0.0002	0.000042	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000100	< 0.000100	< 0.0001	< 0.0005	< 0.0001	< 0.0001
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	0.061	0.045	0.037	0.033	< 0.1	0.054	0.051
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.0000598	0.0000149	0.0000277	0.0000319	0.0000683	0.0000140	0.0000100
Calcium, total	mg/L	-	-	-	0.05 - 1	-	94.4	89.8	90.0	77.9	128	84.1	87.3
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000581	0.000162	0.000270	0.000020	0.000633	0.000121	0.000123
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.0101	0.00230	0.00380	< 0.001	0.0110	0.00172	0.00175
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00294	0.00084	0.00125	0.00032	0.00343	0.00060	0.00063
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.00664	0.00162	0.00244	< 0.001	0.00771	0.00140	0.00160
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**5.25**	**1.65**	**2.57**	**1.03**	**6.97**	**1.37**	**1.50**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00208	0.000560	0.000935	0.000457	0.00271	0.000435	0.000459
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0097	0.0055	0.0072	0.0045	0.0111	0.0062	0.0061
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	24.0	20.9	21.9	16.3	29.7	19.1	20.4
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**0.350**	**0.245**	**0.257**	**0.228**	**0.426**	**0.211**	**0.211**
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000322	0.000196	0.000214	0.000302	0.000626	0.000114	0.000146
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00565	0.00481	0.00392	0.00456	0.00481	0.00432	0.00421
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00752	0.00204	0.00323	0.00101	0.00911	0.00197	0.00191
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.441	0.130|2.87	0.107|< 0.100	0.172|< 0.100	0.0769|< 0.1	0.285|< 0.5	0.0628|< 0.1	0.0781|< 0.1
Potassium, total	mg/L	-	-	-	0.05 - 1	-	2.74	1.62	1.66	1.20	2.94	1.48	1.48
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00999	0.00294	0.00415	0.00072	0.0105	0.00226	0.00221
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000165	< 0.000100	< 0.000100	< 0.0001	< 0.0005	< 0.0001	< 0.0001
Silicon, total	mg/L	-	-	-	0.1 - 2	-	15.9	9.90	10.8	6.66	18.0	8.71	8.91
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	-	< 0.0001	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	-	13.0	12.9	12.6	20.2	12.5	17.1	17.9
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.304	0.318	0.317	0.297	0.390	0.310	0.319
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	< 1.00	< 1.00	< 1.00	< 1	< 5	< 1	< 1
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00040	< 0.00040	< 0.00040	< 0.0004	< 0.002	< 0.0004	< 0.0004
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000044	< 0.000020	< 0.000020	-	< 0.0001	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00094	0.00020	0.00043	< 0.0002	< 0.001	0.00030	0.00027
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00021	< 0.00020	< 0.00020	0.00034	< 0.001	< 0.0002	< 0.0002
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.216	0.0533	0.0819	0.00827	0.234	0.0377	0.0400
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.001	< 0.0002	< 0.0002
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.00211	0.00126	0.00136	0.000465	0.00112	0.00108	0.00112
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.0120	0.00266	0.00426	< 0.001	0.0108	0.00219	0.00232
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0157	< 0.0060	0.0073	< 0.006	< 0.03	< 0.006	< 0.006
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00176	0.00041	0.00075	< 0.0004	< 0.002	0.00098	0.00093
Volatile Organic Compounds													
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	0.63	0.91	0.75	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	0.65	2.04	1.92	0.44	< 0.4	0.40	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	0.64	0.63	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	0.65	2.68	2.55	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	-	1.0	-	1.3	3.6	3.3	< 1	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/24/22	6/27/23	8/11/23	9/20/23	6/10/24	8/12/24	9/30/24
						MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	1.46	1.01	1.14	1.41	1.15	1.14	1.32
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.20	0.18	< 0.20	< 0.2	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	6.86	6.01	6.39	5.82	5.46	5.64	5.45
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.263	0.288	0.230	0.271	0.275	0.146	0.529
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.040	< 0.020	< 0.040	< 0.04	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.020	< 0.010	< 0.020	< 0.02	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	1.03	0.308|6.41	1.03|1.31	0.156|0.201	0.332|0.271	0.151|0.196	0.188|2.36
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	< 0.30	< 0.60	< 0.30	< 0.60	< 0.6	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**7.34**	**8.50**	**8.12**	**8.32**	**8.31**	**8.12**	**7.50**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	7.6	< 3.0	8.4	< 3.8	< 2	2.3
Chemical oxygen demand [COD]	mg/L	-	-	-	10	24	67	73	20	35	28	23
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	0.094	0.142	0.156	0.170	0.164	0.142
Metals												
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0018	0.0030	0.0013	0.0012	0.0028	0.0027	0.0022
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00632	0.0249	0.0152	0.0130	0.0173	0.0146	0.0124
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0920	0.0923	0.0753	0.0688	0.0680	0.0683	0.0655
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.063	0.068	0.074	0.073	0.075	0.082	0.078
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000050	0.0000051	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	78.9	72.1	70.7	75.7	78.0	81.7	76.9
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00031	0.00033	0.00018	< 0.00010	0.00015	0.00011	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00045	< 0.00020	< 0.00020	< 0.00020	< 0.0002	0.00147	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**0.550**	**2.77**	**2.53**	**2.35**	**3.06**	**2.50**	**2.48**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0105	0.0068	0.0088	0.0086	0.0081	0.0083	0.0084
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	31.1	32.5	31.8	35.8	32.5	34.7	31.6
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.0609**	**0.0721**	0.0409	0.0312	0.0443	0.0321	0.0299
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000024	< 0.000020	0.000040	< 0.000020	-	0.000040	0.000037
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00178	0.00335	0.00257	0.00219	0.00315	0.00252	0.00228
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	0.094	0.142	0.156	0.170	0.164	0.142
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	3.23	2.93	2.70	2.80	2.82	2.87	2.73
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00187	0.00152	0.00112	0.00088	0.00109	0.00091	0.00091
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000059	-	-	-
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	9.68	9.09	9.68	9.50	9.67	10.4	9.61
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	18.3	18.3	17.9	19.3	18.4	18.8	17.7
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.429	0.445	0.471	0.473	0.495	0.486	0.448
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00011	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00015	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000081	0.000048	< 0.000010	< 0.000010	-	-	-
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0012	< 0.0010	< 0.0010	< 0.0010	< 0.001	0.0016	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	-	2	642	605	640	660	647	620	593
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	393	354	372	367	371	361	471
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	325	314	307	336	329	347	322
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	491	392	**555**	352	354	348	356
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	826	216	7490	24.2	169	137	387
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.03	8.16	7.8	7.9	8.15	8.1	8
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	0.035	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	0.016	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	0.019	< 0.010	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals												
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	153	15.5	0.725	1.57	0.712	24.1
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00200	< 0.00050	0.00013	< 0.0002	< 0.0001	< 0.0005
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0604	0.0227	0.0156	0.0168	0.0123	0.0243
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	1.20	0.181	0.0710	0.0791	0.0730	0.247
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	0.00576	0.000682	0.000023	0.000066	0.000026	0.00114
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00131	< 0.000250	< 0.000050	< 0.0001	-	< 0.00025
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	0.315	0.107	0.072	0.078	0.093	0.142
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.00111	0.000165	0.0000190	0.0000339	0.0000088	0.000282
Calcium, total	mg/L	-	-	-	0.05 - 1	-	1670	403	81.2	107	83.7	710
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.0174	0.00175	0.000084	0.000184	0.000078	0.00252
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.386	0.0399	0.00179	0.00391	0.00178	0.0711
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0969	0.0108	0.00055	0.00115	0.00054	0.0181
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.201	0.0224	0.00098	0.00260	0.00100	0.0368
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**192**	**24.7**	**3.59**	**4.98**	**3.45**	**39.4**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.0859	0.0106	0.000428	0.00112	0.000464	0.0177
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.229	0.0354	0.0090	0.0102	0.0089	0.0523
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	389	109	33.6	38.7	35.8	182
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**4.93**	**0.714**	**0.0585**	**0.104**	**0.0582**	**1.25**
Mercury, total	mg/L	-	-	-	0.0000050	-	0.0000110	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	0.000028	-	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00564	0.00245	0.00249	0.00264	0.00242	0.00252
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.240	0.0267	0.00126	0.00269	0.00116	0.0430
Phosphorus, total	mg/L	-	-	-	0.002 - 1	1.03	0.308|6.41	1.03|1.31	0.156|0.201	0.332|0.271	0.151|0.196	0.188|2.36
Potassium, total	mg/L	-	-	-	0.05 - 1	-	47.7	6.84	2.76	3.17	3.02	8.64
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.292	0.0278	0.00216	0.00375	0.00200	0.0396
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00115	< 0.000250	< 0.000050	< 0.0001	-	< 0.00025
Silicon, total	mg/L	-	-	-	0.1 - 2	-	271	39.3	11.0	12.4	11.2	51.3
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000573	0.000073	< 0.000010	-	-	0.000160
Sodium, total	mg/L	200	200	-	0.05 - 1	-	36.0	20.1	16.0	18.4	17.3	20.5
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	1.80	0.678	0.451	0.502	0.482	0.884
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	< 10.0	< 2.50	< 0.50	< 1	< 0.5	< 2.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00400	< 0.00100	< 0.00020	< 0.0004	< 0.0002	< 0.001
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.00163	0.000188	< 0.000010	0.000023	-	0.000309
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0768	0.00766	0.00035	0.00079	0.00037	0.0133
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00570	0.00069	0.00018	0.00023	< 0.0001	0.00085
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	10.4	1.02	0.0492	0.115	0.0515	1.48
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00225	< 0.00050	< 0.00010	< 0.0002	< 0.0001	< 0.0005
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.0106	0.00140	0.000060	0.000168	0.000061	0.00258
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.376	0.0399	0.00176	0.00400	0.00183	0.0638
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.444	0.0530	0.0042	< 0.006	< 0.003	0.0816
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0449	0.00376	0.00092	0.00130	0.00089	0.00576
Volatile Organic Compounds												
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/24/22	6/27/23	8/11/23	9/20/23	6/10/24	8/12/24	9/30/24	11/24/22	6/27/23	8/11/23	9/20/23	8/14/24	9/29/24
						MW22-09-2	MW22-09-2	MW22-09-2	MW22-09-2	MW22-09-2	MW22-09-2	MW22-09-2	MW22-10-01	MW22-10-1	MW22-10-1	MW22-10-1	MW22-10-1	MW22-10-1
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.467	0.361	0.346	0.401	0.430	0.371	0.335	0.126	0.0785	0.0656	0.0704	1.93	0.112
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.20	< 0.10	< 0.10	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.26	0.21	0.27	0.34	0.29	0.24	0.28	0.64	0.43	0.31	0.40	0.27	0.26
Fluoride	mg/L	-	-	-	0.020 - 0.040	< 0.020	0.031	< 0.020	0.028	0.038	< 0.02	0.033	0.085	0.047	< 0.020	0.042	< 0.02	0.060
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.040	< 0.020	0.040	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.020	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	1.02	0.130|0.099	0.213|< 0.250	0.0967|< 0.100	0.227|0.428	0.0769|< 0.1	0.150|< 0.5	0.431	0.119|0.088	1.19|2.42	1.14|1.00	0.0471|0.135	0.647|0.915
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	0.94	< 0.30	< 0.30	< 0.30	0.36	< 0.3	< 0.3	2.55	0.95	2.35	2.54	2.06	1.46
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**19.4**	**25.4**	**29.1**	**30.8**	**25.2**	**31.4**	**36.7**	**5.10**	**6.80**	4.98	**6.18**	**5.15**	**6.28**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 3.8	< 2	< 3	-	< 3.0	< 3.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	57	92	139	93	93	80	86	59	33	58	70	20	38
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.100	< 0.100	< 0.05	0.053	< 0.5	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Metals																		
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0110	0.0260	0.0282	0.0300	0.0228	0.0314	0.0737	0.0027	0.0014	0.0239	0.0019	0.0016	0.0015
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0001	< 0.0001	< 0.001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00215	0.00135	0.00193	0.00202	0.00193	0.00212	0.00123	0.00251	0.00517	0.00376	0.00553	0.00195	0.00601
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0175	0.0101	0.00931	0.00841	0.0107	0.00887	0.00778	0.0708	0.0718	0.0504	0.0403	0.0328	0.0395
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000040	< 0.000040	< 0.000040	-	-	< 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000100	-	-	< 0.0005	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.020	< 0.020	< 0.020	< 0.01	< 0.01	< 0.1	0.020	0.017	0.012	0.014	0.012	0.013
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000100	< 0.0000100	0.0000053	-	-	0.0000101	0.0000058	0.0000051	0.0000055	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	43.6	25.4	23.1	22.6	33.3	23.9	21.0	105	102	92.9	95.9	96.6	103
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.0005	< 0.0005	< 0.005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00013	< 0.00020	< 0.00020	< 0.00020	0.00023	0.00022	< 0.001	0.00036	0.00046	0.00037	0.00038	0.00027	0.00025
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	< 0.00035	< 0.00040	< 0.00040	< 0.00040	< 0.0002	0.00246	0.00212	0.00109	0.00034	0.00031	< 0.00020	0.00320	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**0.875**	**0.704**	**0.974**	**0.948**	**1.40**	**1.22**	**1.13**	< 0.010	0.032	**0.451**	**0.853**	**0.337**	**1.05**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000100	-	0.000218	< 0.0005	< 0.000050	< 0.000050	0.000053	< 0.000050	0.000201	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0018	< 0.0020	< 0.0020	< 0.0020	< 0.001	< 0.001	< 0.01	0.0056	0.0045	0.0035	0.0033	0.0026	0.0033
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	4.88	4.22	3.78	3.58	6.18	3.97	3.38	17.5	18.0	17.4	17.4	17.2	16.0
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.0744**	**0.0603**	**0.0591**	**0.0536**	**0.0779**	**0.0556**	**0.0553**	**0.332**	**0.343**	**0.387**	**0.389**	**0.370**	**0.367**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	< 5e-005	< 5e-005	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000041	< 0.000020	< 0.000020	< 0.000020	-	0.000027	-	0.000056	0.000044	0.000036	0.000083	0.000051	0.000158
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000100	-	0.000094	< 0.0005	0.00256	0.00138	0.000815	0.000843	0.000584	0.000773
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.0005	< 0.0005	< 0.005	0.00098	0.00111	0.00110	0.00105	0.00091	0.00060
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.100	< 0.100	< 0.05	0.053	< 0.5	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	0.231	0.121	0.129	0.147	0.155	0.147	< 0.5	1.92	1.38	1.01	0.990	0.871	0.975
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00059	< 0.00040	< 0.00040	< 0.00040	0.00042	0.00039	< 0.002	0.00130	0.00155	0.00123	0.00105	0.00084	0.00109
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	0.000123	0.000260	0.000051	0.000114	< 0.0005	0.000126	< 0.000050	< 0.000050	0.000617	-	0.000724
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	2.19	1.58	1.87	2.00	2.40	2.33	1.88	8.37	8.77	8.18	8.65	7.57	8.76
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.0001	< 0.000010	< 0.000100	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	1.02	0.775	0.782	0.883	1.08	0.945	0.816	9.32	5.22	3.93	3.93	3.31	4.20
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0968	0.0466	0.0462	0.0412	0.0644	0.0463	0.0352	0.131	0.126	0.113	0.115	0.108	0.108
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	< 0.50	< 1.00	< 1.00	< 1.00	< 0.5	< 0.5	< 5	1.07	< 0.50	0.57	0.66	0.93	0.84
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00040	< 0.00040	< 0.0002	< 0.0002	< 0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0001	< 0.0001	< 0.001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00016	< 0.00020	< 0.00020	< 0.00020	< 0.0001	0.00031	< 0.001	0.00021	< 0.00010	< 0.00010	< 0.00010	0.00042	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	0.00047	0.00061	0.00063	0.00073	0.00044	0.00066	< 0.003	< 0.00030	< 0.00030	< 0.00207	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0001	< 0.0001	< 0.001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000070	< 0.000020	< 0.000020	< 0.000020	0.000015	-	< 0.0001	0.00221	0.00150	0.00123	0.000940	0.00110	0.000969
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.0005	< 0.0005	< 0.005	0.00073	0.00082	0.00054	< 0.00050	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	< 0.0010	< 0.0020	< 0.0020	< 0.0020	< 0.001	0.0049	< 0.01	< 0.0010	< 0.0010	0.0052	0.0028	0.0060	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00060	< 0.00060	< 0.00060	< 0.0003	< 0.0003	< 0.003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests																		
Conductivity	uS/cm	-	-	-	2	236	174	181	158	242	146	181	617	567	573	573	560	569
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	136	96.4	95.8	83.1	134	78.4	104	400	362	362	369	334	409
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	129	80.8	73.2	71.2	108	76	66.4	334	329	304	311	312	323
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	339	170	208	134	206	130	192	459	420	394	366	312	368
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	2350	67.7	288	79.6	857	41.6	370	2600	900	2180	1860	129	3530
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	7.66	7.82	7.74	7.27	7.68	7.17	7.01	7.84	8.02	7.62	7.67	7.96	7.7
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	0.033	0.048	0.087	0.103
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	0.015	0.021	0.030	0.045
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	0.018	0.027	0.057	0.058
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	-	< 0.050	< 0.050	< 0.050	0.088	0.051
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	0.010	< 0.01	0.018
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	0.13	< 0.1	-	-	-	-	< 0.1	< 0.1	< 0.1	-	-
Gross beta	Bq/l	-	-	-	0.1	-	< 0.1	0.42	0.13	-	-	-	-	< 0.1	0.20	< 0.1	-	-
Total Metals																		
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	2.85	4.93	1.03	4.51	1.07	4.30	-	1.72	21.2	7.29	1.01	12.4
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00050	0.00024	< 0.0002	< 0.0002	< 0.001	-	0.00010	< 0.00050	0.00037	< 0.0002	< 0.0005
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00233	0.00284	0.00227	0.00322	0.00267	0.00225	-	0.00616	0.0113	0.00632	0.00325	0.0110
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0318	0.0455	0.0170	0.0470	0.0162	0.0409	-	0.0838	0.213	0.0989	0.0428	0.133
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	0.000094	0.000159	< 0.000040	0.000191	-	< 0.0002	-	0.000061	0.000940	0.000347	-	0.000497
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000250	< 0.000100	< 0.0001	< 0.0001	< 0.0005	-	< 0.000050	0.000254	< 0.000100	< 0.0001	< 0.00025
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	< 0.010	< 0.050	< 0.020	< 0.02	< 0.02	< 0.1	-	0.020	0.059	0.041	< 0.02	< 0.05
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.0000344	0.0000426	0.0000253	0.0000578	-	0.0000799	-	0.0000267	0.000332	0.000206	0.0000347	0.000129
Calcium, total	mg/L	-	-	-	0.05 - 1	-	31.7	43.8	30.0	89.8	33.0	44.0	-	123	942	350	136	400
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000298	0.000578	0.000119	0.000516	0.000113	0.000496	-	0.000199	0.00263	0.000894	0.000121	0.00156
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00622	0.00981	0.00208	0.0101	0.00212	0.00934	-	0.00359	0.0540	0.0179	0.00294	0.0264
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00184	0.00270	0.00068	0.00305	0.00076	0.00264	-	0.00150	0.0174	0.00609	0.00097	0.00891
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.00383	0.00583	0.00120	0.00627	0.00122	0.00560	-	0.00331	0.0468	0.0142	0.00267	0.0250
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**4.01**	**6.29**	**2.18**	**7.01**	**2.38**	**6.54**	-	**2.13**	**33.1**	**11.4**	**1.86**	**18.9**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00142	0.00260	0.000492	0.00310	0.000553	0.00251	-	0.000826	0.0169	0.00583	0.000729	0.00864
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0038	0.0060	< 0.0020	0.0069	< 0.002	< 0.01	-	0.0064	0.0442	0.0159	0.0040	0.0246
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	7.05	10.2	5.70	21.3	6.98	11.2	-	22.8	191	70.1	23.2	68.7
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**0.109**	**0.137**	**0.0740**	**0.215**	**0.0869**	**0.133**	-	**0.391**	**1.71**	**0.796**	**0.422**	**0.946**
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005	-	< 0.0000050	0.0000063	< 0.0000050	-	0.0000214
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000200	0.000050	0.000022	0.000066	-	0.000039	0.000111	0.000352	0.000355	0.000395
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000069	< 0.000250	< 0.000100	0.000149	< 0.0001	< 0.0005	-	0.00138	0.000987	0.000693	0.000495	0.000786
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00433	0.00726	0.00161	0.00709	0.00161	0.00749	-	0.00352	0.0412	0.0147	0.00266	0.0214
Phosphorus, total	mg/L	-	-	-	0.002 - 1	1.02	0.130|0.099	0.213|< 0.250	0.0967|< 0.100	0.227|0.428	0.0769|< 0.1	0.150|< 0.5	0.431	0.119|0.088	1.19|2.42	1.14|1.00	0.0471|0.135	0.647|0.915
Potassium, total	mg/L	-	-	-	0.05 - 1	-	0.894	1.49	0.430	1.49	0.445	1.26	-	1.94	6.21	2.78	1.19	4.18
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00565	0.00920	0.00211	0.00875	0.00210	0.00815	-	0.00461	0.0373	0.0127	0.00250	0.0220
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000082	< 0.000250	< 0.000100	0.000105	< 0.0001	< 0.0005	-	0.000077	0.000290	0.000126	< 0.0001	< 0.00025
Silicon, total	mg/L	-	-	-	0.1 - 2	-	6.77	11.7	4.22	10.6	4.13	9.53	-	11.9	44.2	20.8	9.74	31.0
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000014	< 0.000050	< 0.000020	0.000022	-	< 0.0001	-	< 0.000010	0.000157	0.000042	-	0.000074
Sodium, total	mg/L	200	200	-	0.05 - 1	-	1.36	1.49	1.05	1.84	1.11	1.35	-	5.84	5.75	3.87	3.90	5.81
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0580	0.0636	0.0510	0.116	0.0536	0.0576	-	0.145	0.616	0.282	0.131	0.319
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	< 0.50	< 2.50	< 1.00	< 1	< 1	< 5	-	< 0.50	< 2.50	1.08	< 1	< 2.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00100	< 0.00040	< 0.0004	< 0.0004	< 0.002	-	< 0.00020	< 0.00100	< 0.00040	< 0.0004	< 0.001
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000026	< 0.000050	< 0.000020	0.000061	-	< 0.0001	-	0.000021	0.000369	0.000124	-	0.000185
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00066	0.00116	0.00032	0.00149	0.00033	< 0.001	-	0.00090	0.0155	0.00515	0.00057	0.00827
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00025	< 0.00050	< 0.00020	0.00035	< 0.0002	< 0.001	-	0.00038	0.00078	0.00064	0.00032	< 0.0005
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.127	0.243	0.0489	0.241	0.0540	0.196	-	0.130	1.71	0.621	0.0824	0.954
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00050	< 0.00020	< 0.0002	< 0.0002	< 0.001	-	< 0.00010	< 0.00050	< 0.00020	< 0.0002	< 0.0005
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000151	0.000286	0.000062	0.000548	0.000082	0.000342	-	0.00161	0.00336	0.00208	0.00118	0.00194
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00603	0.0100	0.00207	0.0106	0.00230	0.00929	-	0.00488	0.0614	0.0213	0.00282	0.0319
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0118	0.0159	< 0.0060	0.0184	< 0.006	< 0.03	-	0.0077	0.0986	0.0380	0.0085	0.0436
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00145	0.00214	0.00081	0.00220	0.00075	0.00225	-	0.00147	0.00505	0.00310	0.00090	0.00468
Volatile Organic Compounds																		
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/24/22	9/29/24	11/24/22	11/27/22	6/27/23	8/11/23	9/20/23	8/14/24
						MW22-10-02	MW22-10-02	MW22-10-03	MW22-10-04	MW22-10-4	MW22-10-4	MW22-10-4	MW22-10-4
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	< 0.0500	0.0224	0.0667	< 0.0500	0.0325	0.0415	0.0590	0.736
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.20	0.17	0.22	0.44	0.22	0.13	0.16	0.45
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.033	< 0.02	< 0.020	0.100	0.085	0.033	0.103	< 0.02
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.02	< 0.020	< 0.020	< 0.020	0.028	< 0.020	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	1.43	0.0233|< 0.25	0.139	0.565	0.139|< 0.100	0.256|0.242	0.119|0.118	0.221|< 0.5
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	0.62	0.54	2.97	0.42	0.31	0.82	< 0.30	0.73
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**33.9**	**48.1**	**56.8**	**8.05**	**19.7**	**20.2**	**10.9**	**25.8**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2	-	-	< 3.8	< 2.0	< 2.0	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	100	113	151	150	81	114	45	101
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.25	< 0.250	< 0.050	< 0.050	< 0.050	0.087	< 0.1
Metals													
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.211	0.972	0.883	0.0153	0.0838	0.0692	0.0176	0.167
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.0005	< 0.00050	< 0.00010	0.00011	0.00012	< 0.00010	< 0.0002
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00067	0.00073	0.00063	0.00875	0.00404	0.00605	0.0155	0.00328
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0196	0.00613	0.0194	0.0474	0.0222	0.0263	0.0383	0.0171
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	0.000020	< 0.0001	< 0.000100	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.00025	< 0.000250	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.0001
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.05	< 0.050	0.026	0.018	0.022	0.034	< 0.02
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	0.0000212	-	0.0000404	< 0.0000050	0.0000081	< 0.0000050	< 0.0000050	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	62.4	30.1	46.0	83.9	44.9	58.0	89.7	43.8
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	-	< 0.000050	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00068	< 0.0025	< 0.00250	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.001
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.0005	-	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00039	0.00061	0.00112	0.00034	0.00017	0.00022	0.00036	< 0.0002
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00364	0.00120	0.00424	0.00041	0.00042	0.00041	0.00057	0.00134
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	0.140	**0.480**	**0.514**	**2.78**	**1.06**	**2.01**	**4.58**	**1.07**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000083	< 0.00025	0.00166	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.0001
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0015	< 0.005	< 0.0050	0.0057	0.0027	0.0034	0.0057	0.0024
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	5.19	4.90	4.11	13.7	7.01	9.16	16.2	7.58
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.164**	**0.0850**	**0.691**	**0.275**	**0.0976**	**0.124**	**0.202**	**0.0555**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	0.0000061	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000500	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000103	0.000110	0.000076	0.000049	< 0.000020	0.000041	0.000064	0.000088
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00194	0.000255	0.000307	0.00183	0.00172	0.00124	0.00138	0.000546
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00165	< 0.0025	< 0.00250	< 0.00050	< 0.00050	0.00083	0.00062	< 0.001
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.25	< 0.250	< 0.050	< 0.050	< 0.050	0.087	< 0.1
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	0.531	0.305	< 0.250	1.28	0.522	0.618	1.13	0.704
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00072	< 0.001	< 0.00100	0.00053	0.00040	0.00040	0.00050	0.00054
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000207	< 0.00025	0.000274	< 0.000050	0.000100	0.000150	0.000135	0.000109
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	4.52	5.81	4.39	8.00	3.73	4.63	8.58	3.50
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	-	< 0.000050	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	7.52	2.58	3.25	8.06	11.3	8.06	6.40	5.92
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0616	0.0246	0.0410	0.124	0.0625	0.0904	0.151	0.0653
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	0.90	< 2.5	< 2.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.001	< 0.00100	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0004
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	-	< 0.000050	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00046	0.00057	0.00052	< 0.00010	0.00011	< 0.00010	< 0.00010	< 0.0002
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00024	< 0.0005	0.00058	0.00054	< 0.00010	0.00014	0.00010	< 0.0002
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	0.00593	0.0146	0.00764	0.00044	0.00127	0.00082	< 0.00030	0.00239
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.0005	< 0.00050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0002
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00126	0.000480	0.000264	0.000139	0.000257	0.000260	0.000210	0.000113
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00116	< 0.0025	< 0.00250	< 0.00050	0.00050	< 0.00050	< 0.00050	< 0.001
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	< 0.0010	< 0.005	0.0050	0.0013	< 0.0010	0.0043	0.0020	< 0.002
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00089	< 0.0015	< 0.00150	< 0.00030	0.00044	0.00041	< 0.00030	0.00064
Physical Tests													
Conductivity	uS/cm	-	-	-	2	317	158	243	503	394	377	512	228
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	197	89.4	136	311	268	218	312	139
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	177	95.3	132	266	141	182	291	140
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	405	172	287	425	406	294	314	190
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	2640	6.9	302	2340	623	321	324	< 3
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	7.74	7.29	7.29	7.61	8.12	7.82	7.57	7.58
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.005	-	-	< 0.0050	< 0.0050	< 0.0050	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.005	-	-	< 0.0050	< 0.0050	< 0.0050	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	-	-	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	0.014	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Naphthalene	ug/L	-	-	-	0.050	-	< 0.05	-	-	< 0.050	< 0.050	< 0.050	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.02	-	-	< 0.020	< 0.020	< 0.020	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	-	0.1	-	-	-	-	< 0.1	< 0.1	0.24	-
Gross beta	Bq/l	-	-	-	0.1	-	-	-	-	< 0.1	< 0.1	< 0.1	-
Total Metals													
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	1.25	-	-	2.88	5.10	1.18	2.06
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.0005	-	-	< 0.00020	0.00021	< 0.00010	< 0.001
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00091	-	-	0.00528	0.00878	0.0137	0.00460
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00950	-	-	0.0418	0.0690	0.0450	0.0322
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	< 0.0001	-	-	0.000132	0.000234	0.000054	< 0.0002
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.00025	-	-	< 0.000100	< 0.000100	< 0.000050	< 0.0005
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	< 0.05	-	-	0.029	0.032	0.033	< 0.1
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	-	-	-	0.0000422	0.0000641	0.0000195	-
Calcium, total	mg/L	-	-	-	0.05 - 1	-	32.3	-	-	58.7	105	88.1	53.8
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	-	-	-	0.000342	0.000664	0.000170	0.000216
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	< 0.0025	-	-	0.00575	0.0109	0.00249	< 0.005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.0005	-	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00076	-	-	0.00174	0.00318	0.00100	0.00107
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	< 0.0025	-	-	0.00403	0.00738	0.00142	< 0.005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**0.631**	-	-	**4.42**	**8.22**	**5.94**	**3.77**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000299	-	-	0.00142	0.00294	0.000586	0.000909
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	< 0.005	-	-	0.0059	0.0108	0.0068	< 0.01
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	6.45	-	-	10.3	18.0	16.0	9.27
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**0.0852**	-	-	**0.159**	**0.251**	**0.220**	**0.0877**
Mercury, total	mg/L	-	-	-	0.0000050	-	0.0000054	-	-	0.0000058	< 0.0000050	< 0.0000050	0.0000072
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000194	-	-	0.000136	0.000063	0.000227	0.000269
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.00025	-	-	0.00160	0.00144	0.00135	< 0.0005
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	< 0.0025	-	-	0.00463	0.00881	0.00232	< 0.005
Phosphorus, total	mg/L	-	-	-	0.002 - 1	1.43	0.0233|< 0.25	0.139	0.565	0.139|< 0.100	0.256|0.242	0.119|0.118	0.221|< 0.5
Potassium, total	mg/L	-	-	-	0.05 - 1	-	0.342	-	-	1.40	2.35	1.37	1.36
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00127	-	-	0.00618	0.0111	0.00307	0.00435
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.00025	-	-	0.000111	0.000187	< 0.000050	< 0.0005
Silicon, total	mg/L	-	-	-	0.1 - 2	-	6.39	-	-	8.94	15.5	10.7	7.44
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	-	-	-	< 0.000020	0.000021	< 0.000010	< 0.0001
Sodium, total	mg/L	200	200	-	0.05 - 1	-	2.07	-	-	12.2	9.42	5.56	6.67
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0244	-	-	0.0757	0.131	0.144	0.0683
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	< 2.5	-	-	< 1.00	< 1.00	< 0.50	< 5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.001	-	-	< 0.00040	< 0.00040	< 0.00020	< 0.002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	-	-	-	0.000028	0.000073	0.000014	< 0.0001
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.0005	-	-	0.00053	0.00090	0.00034	< 0.001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.0005	-	-	0.00020	0.00030	< 0.00010	< 0.001
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.350	-	-	0.118	0.215	0.0506	0.0741
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.0005	-	-	< 0.00020	< 0.00020	< 0.00010	< 0.001
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000230	-	-	0.000436	0.000793	0.000342	0.000250
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	< 0.0025	-	-	0.00623	0.0114	0.00255	< 0.005
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	< 0.015	-	-	0.0086	0.0367	0.0076	< 0.03
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.001	-	-	0.00122	0.00178	0.00074	< 0.002
Volatile Organic Compounds													
Acetone	ug/L	-	-	-	20	-	< 20	-	-	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.2	-	-	< 0.20	< 0.20	< 0.20	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2	-	-	< 2.0	< 2.0	< 2.0	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.2	-	-	< 0.20	< 0.20	< 0.20	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	-	-	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.3	-	-	< 0.30	< 0.30	< 0.30	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.3	-	-	< 0.30	< 0.30	< 0.30	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	-	-	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	-	-	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	-	-	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.4	-	-	< 0.40	< 0.40	< 0.40	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.3	-	-	< 0.30	< 0.30	< 0.30	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	6/27/23	6/27/23	8/08/23	9/20/23	9/20/23	8/14/24	8/14/24	9/29/24	9/29/24
						MW22-11-1	MF-A (MW22-11-1)	MW22-11-1	MW22-11-1	DUP 1 (MW22-11-1)	MW22-11-1	MWBD3 (MW22-11-1)	MW22-11-1	MW DUP 1 (MW22-11-1)
Anions and Nutrients														
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.443	0.437	0.467	0.518	0.484	1.18	3.62	0.563	0.493
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.14	0.11	< 0.10	0.37	< 0.10	0.22	0.11	< 0.1	< 0.1
Fluoride	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	0.026	< 0.020	< 0.02	< 0.02	0.028	0.027
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	0.023	< 0.020	< 0.020	0.664	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0584|< 0.050	0.0648|< 0.050	0.0657|0.085	0.0590|< 0.100	0.0601|0.061	0.0653|0.066	0.0562|0.066	0.0605|0.072	0.0545|< 0.1
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	< 0.30	< 0.30	< 0.30	0.52	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**39.7**	**38.4**	**36.8**	**37.6**	**31.1**	**37.8**	**38.1**	**39.9**	**38.7**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	9.6	12.3	< 2.0	< 2.0	2.5	2.2	2.3	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	113	116	92	87	92	94	90	94	92
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	0.054	< 0.100	< 0.100	< 0.1	< 0.1	0.056	< 0.1
Metals														
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.104	0.0995	0.100	0.105	0.101	0.0997	0.102	0.0978	0.0957
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00138	0.00129	0.00135	0.00119	0.00110	0.00131	0.00125	0.00134	0.00125
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0154	0.0142	0.0130	0.0116	0.0109	0.00952	0.00981	0.0103	0.00992
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	0.000026	< 0.000040	0.000032	< 0.000040	< 0.000040	-	-	0.000044	0.000043
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000100	< 0.000100	< 0.0001	< 0.0001	-	< 0.0001
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.020	< 0.010	< 0.020	< 0.020	< 0.02	< 0.02	< 0.01	< 0.02
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000050	< 0.0000100	< 0.0000100	-	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	59.2	58.2	64.4	63.7	65.3	60.5	60.9	64.5	64.1
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000020	< 0.000020	-	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00053	< 0.00100	0.00056	< 0.00100	< 0.00100	< 0.001	< 0.001	0.00052	< 0.001
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00059	0.00059	0.00017	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00011	< 0.0002
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00031	< 0.00040	0.00050	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**1.79**	**1.70**	**1.91**	**1.80**	**1.85**	**1.70**	**1.67**	**1.65**	**1.71**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000100	< 0.000100	< 0.0001	< 0.0001	-	< 0.0001
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	< 0.002	< 0.002	< 0.001	< 0.002
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	9.53	9.10	9.67	10.1	9.94	9.34	9.22	9.13	9.31
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.162**	**0.150**	**0.150**	**0.138**	**0.135**	**0.131**	**0.133**	**0.132**	**0.132**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 5e-005	< 5e-005	-	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000025	0.000029	0.000038	-	-	-	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000136	0.000135	0.000121	< 0.000100	< 0.000100	< 0.0001	< 0.0001	0.000053	< 0.0001
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00100	< 0.00100	< 0.001	< 0.001	< 0.0005	< 0.001
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	0.054	< 0.100	< 0.100	< 0.1	< 0.1	0.056	< 0.1
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	0.127	0.110	0.106	< 0.100	< 0.100	< 0.1	< 0.1	0.088	< 0.1
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00026	< 0.00040	< 0.00020	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000107	0.000142	0.000256	0.000556	0.000461	0.000167	0.000222	0.000438	0.000483
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	3.47	3.17	3.54	3.44	3.40	3.41	3.48	3.73	3.49
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000010	< 0.000020	< 0.000020	-	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	1.65	1.52	1.55	1.64	1.64	1.29	1.32	1.41	1.29
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0542	0.0504	0.0542	0.0514	0.0503	0.0492	0.0504	0.0505	0.0499
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	< 0.50	< 1.00	< 0.50	< 1.00	< 1.00	< 1	< 1	< 0.5	< 1
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000020	< 0.000020	-	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00020	0.00020	0.00021	0.00022	< 0.00020	0.00022	0.00024	0.00027	0.00026
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00028	0.00026	0.00012	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	0.00338	0.00347	0.00343	0.00406	0.00356	0.00334	0.00370	0.00394	0.00362
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00114	0.00105	0.00057	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000067	0.000066	0.000071	0.000071	0.000072	0.000071	0.000071	0.000076	0.000079
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00154	0.00148	0.00153	0.00162	0.00153	0.00150	0.00158	0.00167	0.00169
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0016	< 0.0020	0.0017	< 0.0020	< 0.0020	< 0.002	< 0.002	0.0017	< 0.002
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00100	0.00095	0.00110	0.00117	0.00104	0.00115	0.00117	0.00130	0.00124
Physical Tests														
Conductivity	uS/cm	-	-	-	2	336	337	342	329	355	337	339	328	323
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	217	216	198	201	214	248	213	264	211
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	187	183	201	201	204	190	190	199	198
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	256	256	257	238	253	253	266	248	254
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	16.1	17.3	44.8	20.6	18.4	5.3	5.3	10.3	10.1
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.15	8.18	7.99	8.23	7.82	7.68	7.87	7.92	7.97
Polycyclic Aromatic Hydrocarbon														
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	0.044	0.040	0.090	0.058	0.063	0.020	0.022	0.033	0.018
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	0.013	0.012	0.025	0.015	0.015	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	0.031	0.028	0.065	0.043	0.048	0.020	0.022	0.033	0.018
Naphthalene	ug/L	-	-	-	0.050	0.084	0.086	0.228	0.092	0.101	< 0.05	< 0.05	0.064	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters														
Gross alpha	Bq/l	-	-	-	0.1	0.36	0.56	0.40	0.59	0.56	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	0.13	0.13	0.16	0.13	0.15	-	-	-	-
Total Metals														
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	0.431	0.369	0.570	0.272	0.265	0.234	0.227	0.176	0.172
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00152	0.00150	0.00137	0.00133	0.00132	0.00140	0.00139	0.00139	0.00137
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0174	0.0169	0.0147	0.0139	0.0131	0.0116	0.0113	0.0113	0.0112
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000042	0.000047	0.000051	< 0.000040	0.000044	0.000035	0.000038	0.000041	0.000044
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	0.000066	< 0.000050	< 0.000050	< 0.000100	< 0.000050	-	-	-	< 0.0001
Boron, total	mg/L	-	-	-	0.01 - 0.2	0.011	0.010	< 0.010	< 0.020	< 0.010	< 0.01	< 0.01	< 0.01	< 0.02
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.0000078	0.0000055	0.0000092	0.0000168	0.0000073	0.0000051	-	-	-
Calcium, total	mg/L	-	-	-	0.05 - 1	67.2	63.3	65.6	66.3	62.8	71.5	70.7	66.1	67.9
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000033	0.000027	0.000045	< 0.000020	0.000018	0.000013	0.000012	-	-
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.00124	0.00114	0.00208	< 0.00100	0.00091	0.00080	0.00077	0.00069	< 0.001
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00083	0.00081	0.00052	0.00026	0.00026	0.00022	0.00023	0.00018	< 0.0002
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.00185	0.00161	0.00245	0.00106	0.00081	0.00096	0.00102	< 0.0005	0.00100
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**2.29**	**2.27**	**2.66**	**2.26**	**2.18**	**1.92**	**1.93**	**1.79**	**1.89**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.000220	0.000174	0.000321	0.000162	0.000150	0.000108	0.000112	0.000066	< 0.0001
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0016	0.0012	0.0016	< 0.0020	0.0012	< 0.001	< 0.001	0.0011	< 0.002
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	10.4	10.4	10.8	9.78	9.68	10.7	10.5	9.64	9.74
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.178**	**0.176**	**0.171**	**0.150**	**0.146**	**0.144**	**0.141**	**0.137**	**0.140**
Mercury, total	mg/L	-	-	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 5e-005
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000200	< 0.000020	-	0.000030	-	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.000169	0.000130	0.000118	0.000122	0.000111	0.000084	0.000074	0.000056	< 0.0001
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.00071	0.00066	0.00105	< 0.00100	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.001
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0584|< 0.050	0.0648|< 0.050	0.0657|0.085	0.0590|< 0.100	0.0601|0.061	0.0653|0.066	0.0562|0.066	0.0605|0.072	0.0545|< 0.1
Potassium, total	mg/L	-	-	-	0.05 - 1	0.234	0.214	0.252	0.166	0.155	0.127	0.125	0.107	0.100
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.00078	0.00065	0.00096	0.00047	0.00048	0.00039	0.00038	0.00028	< 0.0004
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	0.000070	0.000052	0.000072	< 0.000100	0.000088	0.000087	0.000110	0.000086	< 0.0001
Silicon, total	mg/L	-	-	-	0.1 - 2	4.21	4.03	4.51	3.97	3.99	4.03	3.97	3.76	3.73
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	< 0.000020	< 0.000010	-	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	1.74	1.76	1.92	1.74	1.63	1.47	1.44	1.37	1.42
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.0553	0.0539	0.0576	0.0533	0.0539	0.0569	0.0578	0.0522	0.0532
Sulfur, total	mg/L	-	-	-	0.5 - 10	< 0.50	< 0.50	< 0.50	< 1.00	< 0.50	< 0.5	< 0.5	< 0.5	< 1
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0004
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	< 0.000020	< 0.000010	-	-	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00032	0.00031	0.00037	0.00030	0.00030	0.00032	0.00030	0.00028	0.00026
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00036	0.00033	< 0.00010	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.0214	0.0181	0.0290	0.0142	0.0134	0.0125	0.0120	0.00846	0.00819
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	0.00202	0.00183	0.00150	0.00090	0.00069	0.00079	0.00079	0.00080	0.00038
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000093	0.000091	0.000102	0.000088	0.000089	0.000090	0.000085	0.000089	0.000085
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.00235	0.00224	0.00284	0.00210	0.00212	0.00226	0.00222	0.00200	0.00199
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0032	< 0.0030	< 0.0030	< 0.0060	< 0.0030	< 0.003	< 0.003	< 0.003	< 0.006
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00141	0.00122	0.00146	0.00117	0.00123	0.00142	0.00135	0.00130	0.00117
Volatile Organic Compounds														
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	0.61	0.57	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	0.51	0.50	1.45	0.65	0.54	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	0.73	0.72	2.37	1.41	1.02	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	< 0.30	< 0.30	0.98	0.56	0.36	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	0.73	0.72	3.35	1.97	1.38	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes														
SUM OF BTEX	ug/L	-	-	-	1.0	1.2	1.2	4.8	2.6	1.9	< 1	< 1	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	8/11/23	9/23/23	7/02/23	6/10/24	6/10/24	8/12/24	9/29/24
						MW2-12-1	MW22-12-1	MW22-12-1	MW22-12-1	DUP 03 (MW22-12-1)	MW22-12-1	MW22-12-1
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.445	0.484	0.451	0.688	0.851	0.420	0.470
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	1.13	0.96	1.16	0.68	0.67	0.50	0.47
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.036	0.082	0.047	0.082	0.081	< 0.02	0.111
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0532|0.055	0.0570|0.069	0.0636|0.074	0.0592|< 0.1	0.0538|< 0.1	0.120|0.099	0.0738|0.058
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	0.41	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**5.81**	**6.27**	**6.50**	**7.16**	**6.80**	**7.89**	**6.03**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	23	17	17	24	22	24	17
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	0.069	< 0.05
Metals												
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0109	0.0049	0.0022	0.0042	0.0043	0.0029	0.0027
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00049	0.00020	0.00013	0.00016	0.00017	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00048	0.00117	0.00075	0.00103	0.00100	0.00115	0.00077
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0337	0.0349	0.0322	0.0363	0.0365	0.0362	0.0310
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.012	0.011	0.012	0.013	0.012	0.012	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	0.0000287	< 0.0000050	< 0.0000050	-	0.0000054	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	79.8	84.6	86.1	86.1	85.8	90.2	86.3
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00095	< 0.00050	0.00212	0.00214	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00039	0.00030	< 0.00010	0.00030	0.00031	< 0.0001	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00167	< 0.00020	0.00045	< 0.0002	< 0.0002	< 0.0002	0.00077
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**0.828**	**3.06**	**1.12**	**2.90**	**2.93**	**2.59**	**2.29**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000091	< 0.000050	0.000073	-	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0062	0.0053	0.0060	0.0044	0.0045	0.0046	0.0039
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	15.6	16.3	15.3	17.0	16.7	16.0	15.0
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.150**	**0.155**	**0.150**	**0.170**	**0.172**	**0.160**	**0.155**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000024	< 0.000020	< 0.000020	-	-	0.000035	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00578	0.00456	0.00350	0.00466	0.00473	0.00353	0.00278
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.0120	0.0103	< 0.00050	0.00945	0.00957	0.00103	0.00273
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	0.069	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	1.22	1.17	1.20	1.16	1.18	1.16	1.06
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00112	0.00108	0.00112	0.00112	0.00107	0.00105	0.00092
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	8.34	8.31	7.89	8.34	8.61	8.73	7.96
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	3.60	3.46	3.58	3.47	3.46	3.26	3.02
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0990	0.105	0.103	0.107	0.107	0.103	0.0984
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00024	0.00040	< 0.00010	0.00059	0.00061	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	0.00047	0.00046	< 0.00030	0.00067	0.00070	0.00045	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000047	0.000030	0.000026	0.000014	0.000012	0.000013	0.000013
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00051	< 0.00050	0.00059	0.00059	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.194	0.0622	0.0012	0.0045	0.0044	0.0011	0.0033
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00049	0.00091	0.00058	0.00102	0.00100	0.00078	0.00074
Physical Tests												
Conductivity	uS/cm	-	-	-	2	523	512	507	512	510	507	479
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	297	303	324	286	296	332	310
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	264	278	278	285	283	291	277
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	294	310	316	290	297	326	305
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	30.9	52.8	14.1	40.8	33.8	104	7.1
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.09	8.29	8.32	8.26	8.27	7.76	8.06
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	< 0.015	0.038	0.131	0.015	0.016	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	< 0.010	0.014	0.044	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	0.011	0.024	0.087	0.015	0.016	< 0.01	0.011
Naphthalene	ug/L	-	-	-	0.050	< 0.050	< 0.050	0.281	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	-
Total Metals												
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	0.511	0.674	0.254	0.542	0.633	1.19	0.159
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	0.00143	0.00095	0.00014	0.00053	0.00042	< 0.0001	0.00023
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00082	0.00125	0.00112	0.00116	0.00122	0.00121	0.00103
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0396	0.0414	0.0368	0.0402	0.0404	0.0423	0.0359
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	< 0.000020	0.000038	< 0.000020	-	-	0.000057	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	0.013	0.014	0.014	< 0.02	< 0.02	0.015	0.011
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.0000429	0.0000298	0.0000079	0.0000319	0.0000299	0.0000137	0.0000109
Calcium, total	mg/L	-	-	-	0.05 - 1	95.5	89.3	85.4	95.9	97.0	94.3	88.5
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000068	0.000079	0.000032	0.000064	0.000076	0.000138	0.000019
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.00283	0.00281	0.00078	0.00410	0.00459	0.00346	0.00113
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00079	0.00073	0.00021	0.00059	0.00067	0.00082	0.00020
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.00132	0.00125	< 0.00050	0.00217	0.00151	0.00196	< 0.0005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**1.76**	**3.70**	**2.46**	**3.64**	**3.84**	**4.42**	**3.08**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.000416	0.000468	0.000118	0.000506	0.000509	0.000800	0.000125
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0056	0.0061	0.0065	0.0054	0.0057	0.0064	0.0049
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	17.9	17.9	16.1	17.6	17.9	18.8	15.7
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.178**	**0.174**	**0.158**	**0.189**	**0.195**	**0.206**	**0.166**
Mercury, total	mg/L	-	-	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	0.000025	0.000026	-	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.00631	0.00457	0.00357	0.00462	0.00442	0.00282	0.00294
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.0164	0.0128	< 0.00050	0.00935	0.00936	0.00289	0.00344
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0532|0.055	0.0570|0.069	0.0636|0.074	0.0592|< 0.1	0.0538|< 0.1	0.120|0.099	0.0738|0.058
Potassium, total	mg/L	-	-	-	0.05 - 1	1.47	1.37	1.38	1.27	1.32	1.52	1.16
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.00197	0.00225	0.00153	0.00207	0.00236	0.00307	0.00124
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Silicon, total	mg/L	-	-	-	0.1 - 2	9.25	9.40	8.87	9.18	9.55	10.5	8.58
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.000021	0.000012	< 0.000010	-	-	0.000026	-
Sodium, total	mg/L	200	200	-	0.05 - 1	4.02	3.15	3.73	3.51	3.53	3.17	2.99
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.104	0.106	0.103	0.108	0.116	0.112	0.106
Sulfur, total	mg/L	-	-	-	0.5 - 10	< 0.50	< 0.50	< 0.50	< 1	< 1	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.0004	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	-	-	0.000013	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00022	0.00029	0.00013	< 0.0002	0.00026	0.00057	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00059	0.00059	0.00022	0.00078	0.00078	0.00016	0.00021
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.0324	0.0455	0.0168	0.0352	0.0408	0.0875	0.00978
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	0.00012	< 0.00010	< 0.00010	< 0.0002	< 0.0002	< 0.0001	0.00014
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000096	0.000088	0.000042	0.000057	0.000061	0.000097	0.000026
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.00150	0.00212	0.00099	0.00190	0.00212	0.00347	0.00097
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.253	0.0717	0.0031	0.0224	0.0241	0.0080	0.0056
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00103	0.00139	0.00092	0.00116	0.00132	0.00179	0.00115
Volatile Organic Compounds												
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	< 0.50	< 0.50	1.32	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	< 0.40	< 0.40	2.10	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	< 0.30	< 0.30	0.96	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	< 0.50	< 0.50	3.06	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	-	1.0	< 1.0	< 1.0	4.4	< 1	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/02/23	7/02/23	8/11/23	9/23/23	6/10/24	6/10/24	8/12/24	8/12/24	9/29/24
						MW22-12-4	MF-B (MW22-12-4)	MW22-12-4	MW22-12-4	MW22-12-4	DUP 04 (MW22-12-4)	MW22-12-4	MWBD2 (MW22-12-4)	MW22-12-4
Anions and Nutrients														
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0404	0.0268	0.0355	0.0369	0.0391	0.169	0.0246	0.0384	0.0568
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.34	0.33	0.38	0.33	0.29	0.28	0.36	0.33	0.28
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.090	0.080	0.080	0.150	0.156	0.151	0.097	0.087	0.230
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0326|0.127	0.0471|0.090	0.160|0.255	0.0458|0.063	0.0246|< 0.1	0.0233|0.068	0.0181|< 0.05	0.0144|< 0.05	0.158|0.274
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	1.43	1.52	1.56	1.43	1.37	1.50	1.28	1.09	1.04
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	4.99	4.44	4.67	4.86	**6.31**	**6.14**	**5.52**	**5.86**	**6.15**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	15	12	20	12	14	15	19	15	20
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Metals														
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0018	< 0.0020	0.0012	0.0020	0.0022	0.0036	0.0018	0.0027	0.0018
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00067	0.00058	0.00068	0.00067	0.00064	0.00064	0.00075	0.00074	0.00066
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0171	0.0166	0.0167	0.0169	0.0176	0.0175	0.0182	0.0180	0.0166
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000040	< 0.000020	< 0.000020	-	-	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000050	< 0.0000050	-	-	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	88.3	88.8	82.1	93.2	68.0	89.9	98.8	97.7	96.0
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00070	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**1.35**	**1.30**	**1.44**	**1.37**	**1.42**	**1.46**	**1.41**	**1.40**	**1.40**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	0.000241	< 0.000050	< 0.000050	-	-	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0010	< 0.0020	0.0011	< 0.0010	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	12.3	12.1	12.5	13.8	13.1	13.4	13.1	13.3	12.2
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.284**	**0.271**	**0.295**	**0.268**	**0.298**	**0.308**	**0.291**	**0.289**	**0.287**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000026	< 0.000020	0.000036	-	0.000028	0.000021	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000229	0.000221	0.000260	0.000282	0.000211	0.000284	0.000306	0.000270	0.000260
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	0.345	0.336	0.353	0.361	0.395	0.405	0.385	0.383	0.358
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00064	0.00058	0.00059	0.00064	0.00066	0.00067	0.00069	0.00065	0.00055
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	0.000350	0.000281	-	-	0.000081	0.000139	0.000230
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	4.83	4.51	4.91	4.96	5.17	5.22	5.39	5.36	5.11
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	1.18	1.16	1.28	1.18	1.33	1.32	1.24	1.26	1.16
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0725	0.0719	0.0715	0.0729	0.0573	0.0762	0.0718	0.0730	0.0683
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	< 0.50	< 1.00	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00017	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00060	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000010	< 0.000020	0.000010	< 0.000010	-	0.000011	-	0.000011	-
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	< 0.0010	< 0.0020	< 0.0010	< 0.0010	< 0.001	< 0.001	0.0011	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00039	< 0.00060	0.00035	0.00033	0.00031	0.00039	0.00039	0.00039	0.00037
Physical Tests														
Conductivity	uS/cm	-	-	-	2	488	493	495	504	472	496	510	506	487
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	307	303	298	299	271	290	342	307	311
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	271	272	256	290	224	280	301	299	290
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	282	298	315	295	291	276	273	304	294
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	371	389	2000	75.8	119	38.6	6.4	6	186
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.21	8.22	8.15	8.23	8.26	8.21	7.82	7.83	8.05
Polycyclic Aromatic Hydrocarbon														
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	0.053	0.031	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	0.018	0.011	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	0.035	0.020	< 0.010	0.014	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	0.103	0.057	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters														
Gross alpha	Bq/l	-	-	-	0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-
Total Metals														
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	1.69	1.16	2.22	0.680	0.487	0.443	0.163	0.148	1.20
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00138	0.00118	0.00171	0.00094	0.00086	0.00086	0.00074	0.00075	0.00144
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0279	0.0257	0.0318	0.0217	0.0220	0.0198	0.0183	0.0180	0.0278
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000075	0.000053	0.000081	0.000033	-	-	-	-	0.000086
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.0001	-	-	-	< 0.0001
Boron, total	mg/L	-	-	-	0.01 - 0.2	< 0.010	< 0.010	< 0.020	0.012	< 0.02	< 0.01	< 0.01	< 0.01	< 0.02
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.0000227	0.0000208	0.0000343	0.0000128	-	0.0000080	-	-	0.0000238
Calcium, total	mg/L	-	-	-	0.05 - 1	120	111	160	99.2	103	94.2	92.2	87.8	159
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000188	0.000138	0.000240	0.000089	0.000056	0.000047	0.000017	0.000015	0.000118
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.00355	0.00248	0.00523	0.00179	0.00130	0.00115	< 0.0005	< 0.0005	0.00324
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00119	0.00080	0.00170	0.00046	0.00038	0.00034	0.00011	0.00011	0.00105
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.00267	0.00210	0.00368	0.00114	0.00148	0.00074	< 0.0005	< 0.0005	0.00161
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**3.49**	**2.89**	**4.67**	**2.38**	**2.20**	**1.98**	**1.64**	**1.58**	**3.50**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.00125	0.000914	0.00200	0.000528	0.000494	0.000389	0.000129	0.000128	0.00112
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0035	0.0030	0.0035	0.0021	< 0.002	0.0016	0.0011	0.0011	0.0031
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	21.4	19.2	31.2	16.2	16.2	14.7	14.1	13.4	26.2
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.358**	**0.344**	**0.410**	**0.294**	**0.328**	**0.307**	**0.315**	**0.305**	**0.421**
Mercury, total	mg/L	-	-	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	0.0000073
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000028	0.000021	-	-	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.000280	0.000252	0.000328	0.000292	0.000283	0.000259	0.000256	0.000247	0.000256
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.00249	0.00173	0.00411	0.00136	0.00105	0.00099	< 0.0005	< 0.0005	0.00230
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0326|0.127	0.0471|0.090	0.160|0.255	0.0458|0.063	0.0246|< 0.1	0.0233|0.068	0.0181|< 0.05	0.0144|< 0.05	0.158|0.274
Potassium, total	mg/L	-	-	-	0.05 - 1	0.921	0.758	1.09	0.577	0.549	0.504	0.424	0.415	0.774
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.00363	0.00279	0.00434	0.00191	0.00154	0.00146	0.00092	0.00081	0.00238
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.0001	-	-	-	< 0.0001
Silicon, total	mg/L	-	-	-	0.1 - 2	8.56	7.52	9.17	6.26	6.02	5.78	5.43	5.38	7.67
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.000018	0.000013	0.000027	0.000011	-	-	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	1.44	1.39	1.51	1.27	1.37	1.27	1.24	1.23	1.42
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.0901	0.0854	0.111	0.0801	0.0825	0.0724	0.0701	0.0704	0.114
Sulfur, total	mg/L	-	-	-	0.5 - 10	0.56	0.59	< 1.00	0.65	< 1	< 0.5	0.53	< 0.5	< 1
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.0002	< 0.0004
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	< 0.000010	< 0.000010	0.000036	< 0.000010	-	-	-	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00081	0.00054	0.00118	0.00030	0.00024	0.00026	< 0.0001	0.00013	0.00074
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00015	0.00011	0.00025	0.00023	< 0.0002	0.00016	< 0.0001	< 0.0001	< 0.0002
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.132	0.0908	0.207	0.0534	0.0426	0.0402	0.0159	0.0149	0.111
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000142	0.000110	0.000250	0.000068	0.000061	0.000055	0.000026	0.000022	0.000186
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.00460	0.00327	0.00653	0.00197	0.00151	0.00142	0.00073	0.00064	0.00392
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0050	0.0040	0.0246	0.0058	< 0.006	0.0050	< 0.003	< 0.003	< 0.006
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00145	0.00093	0.00140	0.00095	0.00087	0.00083	0.00059	0.00055	0.00139
Volatile Organic Compounds														
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	0.73	0.59	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	1.03	0.59	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Ungrouped Analytes														
SUM OF BTEX	ug/L	-	-	-	1.0	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/27/22	6/28/23	8/10/23	8/10/23	9/23/23	9/23/23	6/03/24	8/11/24	10/01/24
						MW22-13-1	MW22-13-1	MW22-13-1	DUP-04 (MW22-13-1)	MW22-13-01	DUP-03 (MW22-13-1)	MW22-13-1	MW22-13-1	MW22-13-1
Anions and Nutrients														
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.149	0.188	0.103	1.15	0.146	0.131	0.547	0.530	0.559
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.58	0.25	0.24	0.33	0.24	0.23	0.34	0.23	0.24
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.125	0.096	0.092	0.026	0.111	0.112	< 0.02	< 0.02	0.068
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.191	0.129|0.115	0.101|0.138	0.173|0.177	0.0747|0.097	0.0766|0.096	0.138|0.194	0.153|0.160	0.126|0.168
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	7.61	7.41	6.94	5.58	6.38	6.39	1.73	0.97	0.91
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	3.42	3.94	2.09	**6.44**	2.62	3.10	**18.2**	**21.8**	**16.9**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	47	20	16	39	< 10	< 10	53	51	50
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	0.056	0.067	0.120	0.072	0.059	0.165	0.170	0.157
Metals														
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0043	0.0028	0.0013	0.0450	0.0028	0.0029	0.0204	0.0174	0.0148
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00154	0.00206	0.00160	0.00389	0.00176	0.00186	0.00678	0.00576	0.00558
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0362	0.0268	0.0230	0.0320	0.0238	0.0237	0.0311	0.0334	0.0290
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000026	0.000035	0.000021
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	0.013	< 0.010	< 0.010	< 0.010	< 0.010	0.017	0.018	0.015
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	73.2	70.8	69.8	76.0	76.0	77.5	92.7	100	91.8
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	0.000013	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00070	< 0.00050	< 0.00050	0.00152	0.00148	0.00127
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00016	0.00014	0.00011
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00032	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**1.01**	**2.96**	**2.20**	**5.78**	**2.35**	**2.45**	**5.90**	**6.26**	**6.12**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000051	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0040	0.0025	0.0038	0.0035	0.0033	0.0031	0.0053	0.0046	0.0037
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	15.6	15.0	16.3	11.8	17.2	17.5	11.8	13.1	12.2
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.126**	**0.164**	**0.111**	**0.274**	**0.122**	**0.123**	**0.379**	**0.411**	**0.385**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000032	0.000050	< 0.000020	< 0.000020	0.000024	0.000054	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000816	0.00111	0.000659	0.000549	0.000706	0.000708	0.000436	0.000418	0.000383
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	0.056	0.067	0.120	0.072	0.059	0.165	0.170	0.157
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	0.967	0.775	0.551	0.848	0.611	0.628	1.11	1.15	1.07
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00098	0.00097	0.00069	0.00126	0.00082	0.00084	0.00103	0.00108	0.00103
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	0.000328	0.000361	0.000988	< 0.000050	0.000202	0.000599	0.000252	0.000175
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	6.46	6.86	6.64	7.78	6.68	6.47	8.45	8.93	8.61
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	2.53	13.4	2.39	4.75	3.99	3.92	12.3	12.2	10.6
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0784	0.0817	0.0760	0.0846	0.0808	0.0787	0.124	0.129	0.121
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	2.80	2.72	2.52	2.19	2.04	2.00	0.60	< 0.5	0.62
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00011	0.00011	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00024	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	0.00049	< 0.00030	0.00359	< 0.00030	< 0.00030	0.00418	0.00405	0.00369
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000246	0.000048	0.000037	0.000054	0.000034	0.000033	0.000029	0.000028	0.000025
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00063	< 0.00050	0.00134	< 0.00050	< 0.00050	0.00393	0.00426	0.00345
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0013	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00031	0.00074	< 0.00030	0.00137	0.00038	0.00038	0.00390	0.00435	0.00377
Physical Tests														
Conductivity	uS/cm	-	-	-	2	461	485	477	487	485	482	502	553	483
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	271	284	268	266	282	284	296	331	324
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	247	238	241	238	261	266	280	304	279
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	314	339	282	285	266	261	332	381	335
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	138	132	131	70.1	13	12.4	6.8	4	5.4
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.09	8.28	7.97	7.93	8.3	8.31	7.84	7.61	8.3
Polycyclic Aromatic Hydrocarbon														
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	< 0.015	< 0.015	0.018	0.015	< 0.015	0.032	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	0.011	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	0.011	0.018	0.015	< 0.01	0.021	0.011
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters														
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	0.16	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals														
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	1.72	1.91	2.08	0.150	0.175	0.206	0.0613	0.0899
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00239	0.00218	0.00461	0.00206	0.00205	0.00644	0.00539	0.00552
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0374	0.0358	0.0468	0.0253	0.0256	0.0325	0.0315	0.0309
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	0.000060	0.000078	0.000073	< 0.000020	< 0.000020	0.000036	0.000023	0.000027
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	0.014	0.010	< 0.020	0.010	0.010	0.016	0.018	0.018
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.0000110	0.0000131	0.0000411	< 0.0000050	0.0000064	0.0000081	-	-
Calcium, total	mg/L	-	-	-	0.05 - 1	-	73.9	95.4	101	72.1	72.3	92.1	95.1	95.3
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000185	0.000232	0.000259	0.000023	0.000025	0.000026	0.000013	0.000013
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00421	0.00459	0.00564	0.00055	0.00063	0.00221	0.00180	0.00168
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00103	0.00115	0.00145	0.00012	0.00012	0.00030	0.00018	0.00019
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.00255	0.00303	0.00461	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**5.03**	**4.64**	**8.72**	**2.83**	**2.92**	**6.46**	**6.30**	**6.21**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000783	0.00114	0.00168	0.000102	0.000112	0.000128	-	-
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0045	0.0058	0.0051	0.0034	0.0033	0.0048	0.0044	0.0042
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	16.7	21.2	14.8	16.2	16.0	12.9	13.4	12.6
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**0.205**	**0.161**	**0.318**	**0.135**	**0.135**	**0.410**	**0.424**	**0.416**
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000022	< 0.000020	0.000095	0.000026	0.000030	0.000064	0.000068	0.000088
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000998	0.000696	0.000554	0.000753	0.000771	0.000450	0.000469	0.000425
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00253	0.00296	0.00358	< 0.00050	< 0.00050	0.00067	< 0.0005	< 0.0005
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.191	0.129|0.115	0.101|0.138	0.173|0.177	0.0747|0.097	0.0766|0.096	0.138|0.194	0.153|0.160	0.126|0.168
Potassium, total	mg/L	-	-	-	0.05 - 1	-	1.31	1.17	1.47	0.646	0.655	1.17	1.14	1.13
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00406	0.00443	0.00505	0.00115	0.00120	0.00144	0.00119	0.00123
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.000050	0.000061	0.000090	0.000077
Silicon, total	mg/L	-	-	-	0.1 - 2	-	10.1	10.7	11.9	7.01	7.21	9.19	8.63	8.50
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000010	0.000013	0.000036	< 0.000010	< 0.000010	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	-	13.6	2.84	5.40	4.44	4.30	12.4	11.7	11.3
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.0821	0.0885	0.0955	0.0781	0.0806	0.124	0.128	0.119
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	2.52	2.49	1.79	2.17	2.35	< 0.5	< 0.5	0.58
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000010	0.000025	0.000030	< 0.000010	< 0.000010	-	0.000019	0.000012
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00058	0.00062	0.00072	< 0.00010	< 0.00010	0.00019	0.00016	0.00019
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00018	0.00028	< 0.00020	0.00016	0.00014	0.00014	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.103	0.114	0.120	0.00936	0.0106	0.0171	0.00758	0.00876
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000132	0.000156	0.000194	0.000048	0.000048	0.000044	0.000031	0.000034
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00473	0.00476	0.00660	0.00079	0.00084	0.00465	0.00456	0.00412
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0051	0.0064	0.0082	< 0.0030	< 0.0030	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00146	0.00112	0.00134	0.00059	0.00068	0.00381	0.00436	0.00384
Volatile Organic Compounds														
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes														
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	11/27/22	6/28/23	8/10/23	9/23/23	6/03/24	8/11/24	8/11/24	10/01/24	11/27/22
						MW22-13-2	MW22-13-2	MW22-13-2	MW22-13-2	MW22-13-2	MW22-13-2	MWBD1 (MW22-13-2)	MW22-13-2	MW22-13-3
Anions and Nutrients														
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.278	0.785	0.547	0.809	1.82	1.53	1.50	1.84	0.112
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10
Chloride	mg/L	250	250	-	0.10 - 0.20	1.04	0.33	0.35	0.33	0.28	0.28	0.24	0.26	0.55
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.057	0.028	0.033	0.043	< 0.02	< 0.02	< 0.02	0.034	0.136
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	0.102	< 0.020	< 0.02	< 0.02	< 0.02	0.051	< 0.020
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.243	0.160|0.400	0.231|0.192	0.141|0.136	0.226|0.243	0.217|0.207	0.204|0.235	0.217|0.280	0.310
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	5.38	1.66	5.30	3.54	0.87	1.22	1.06	0.65	7.73
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**6.39**	**16.4**	**6.12**	**11.9**	**25.4**	**26.7**	**25.9**	**27.7**	2.68
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	4.3	< 2	< 2	< 2	-
Chemical oxygen demand [COD]	mg/L	-	-	-	10	57	60	42	33	73	68	74	73	38
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	0.125	0.159	0.225	0.220	0.234	0.258	< 0.050
Metals														
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0059	0.0282	0.0502	0.0213	0.0664	0.0609	0.0646	0.0725	0.0036
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00080	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00010
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00335	0.00289	0.00393	0.00338	0.00577	0.00622	0.00621	0.00658	0.00140
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0420	0.0441	0.0317	0.0374	0.0298	0.0293	0.0288	0.0270	0.0341
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000040	< 0.000020	< 0.000020	0.000030	0.000046	0.000042	0.000027	< 0.000020
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	-	-	< 0.000050
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.020	< 0.010	0.012	0.011	0.013	0.012	0.012	< 0.010
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000050	< 0.0000050	-	-	-	-	< 0.0000050
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	80.4	97.6	75.9	88.5	93.3	103	105	97.2	72.8
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	0.000014	< 0.000010	0.000012	0.000013	0.000012	0.000012	< 0.000010
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00189	0.00082	0.00131	0.00352	0.00360	0.00370	0.00406	< 0.00050
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00025	< 0.00020	< 0.00010	< 0.00010	0.00023	0.00021	0.00024	0.00022	< 0.00010
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00068	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00025
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**2.30**	**8.38**	**5.68**	**7.25**	**14.4**	**13.8**	**14.1**	**14.6**	**1.32**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	0.000056	< 0.000050					< 0.000050
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0049	0.0024	0.0034	0.0034	0.0018	0.0017	0.0017	0.0013	0.0044
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	14.0	13.8	11.6	12.6	9.62	10.6	10.5	10.0	15.2
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.172**	**0.367**	**0.266**	**0.284**	**0.255**	**0.271**	**0.272**	**0.241**	**0.123**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	< 5e-005	< 5e-005	< 5e-005	< 0.0000050
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000022	< 0.000020	0.000029	< 0.000020	0.000049	0.000083	0.000159	0.000106	0.000042
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00204	0.000456	0.000569	0.000341	0.000322	0.000222	0.000224	0.000226	0.000783
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.00050
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	0.125	0.159	0.225	0.220	0.234	0.258	< 0.050
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	1.36	0.998	0.837	0.979	0.629	0.686	0.699	0.680	0.938
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00163	0.00144	0.00124	0.00149	0.00088	0.00090	0.00093	0.00093	0.00092
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	0.00144	0.000570	0.00114	0.000347	0.000227	0.000327	< 0.000050
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	6.99	8.27	7.83	8.16	7.72	8.64	8.68	8.49	6.53
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	< 0.000010
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	3.40	10.4	4.59	13.6	11.9	12.4	12.9	12.7	2.42
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0893	0.111	0.0864	0.0945	0.0871	0.0938	0.0927	0.0894	0.0773
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	1.91	< 1.00	2.48	1.37	1.06	< 0.5	< 0.5	0.89	2.74
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.00020
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	< 0.000010
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	0.00028	0.00031	0.00030	0.00033	< 0.00010
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00016	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00026
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	0.00060	0.00418	0.00369	0.00313	0.00937	0.00978	0.00947	0.0108	< 0.00030
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00010
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000391	0.000066	0.000053	0.000053	0.000098	0.000078	0.000076	0.000096	0.000203
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00372	0.00134	0.00260	0.00846	0.00840	0.00851	0.00922	< 0.00050
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0027	< 0.0020	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001	< 0.001	0.0010
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00075	0.00302	0.00136	0.00226	0.00559	0.00553	0.00551	0.00591	< 0.00030
Physical Tests														
Conductivity	uS/cm	-	-	-	2	495	579	467	540	549	554	560	504	452
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	299	343	258	318	323	328	334	322	268
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	258	300	237	273	272	301	305	284	244
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	369	400	272	332	381	390	375	360	350
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	383	148	44.7	8.8	4.2	< 3	< 3	4.8	333
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	7.89	8.13	7.87	8.14	7.65	7.28	7.35	8.09	8.04
Polycyclic Aromatic Hydrocarbon														
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Acenaphthylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Benz(a)anthracene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	-
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Chrysene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	-
Fluoranthene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.02	< 0.01	< 0.01	< 0.01	-
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	< 0.015	< 0.015	0.037	< 0.015	0.019	0.019	0.029	-
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	0.013	< 0.01	< 0.01	< 0.01	0.010	-
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	< 0.010	0.014	0.024	< 0.01	0.019	0.019	0.019	-
Naphthalene	ug/L	-	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	-
Phenanthrene	ug/L	-	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	-
Pyrene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Fluorene	ug/L	-	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-
Radiological Parameters														
Gross alpha	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	0.14	-	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-	-
Total Metals														
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	-	1.93	2.84	0.131	0.145	0.0702	0.0713	0.119	-
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00020	< 0.00020	0.00015	< 0.0001	< 0.0001	< 0.0001	< 0.0001	-
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00402	0.00477	0.00323	0.00529	0.00560	0.00549	0.00652	-
Barium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.0593	0.0524	0.0382	0.0302	0.0275	0.0277	0.0286	-
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	-	0.000097	0.000120	< 0.000020	0.000038	0.000039	0.000039	0.000040	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000100	< 0.000050	-	-	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	-	< 0.020	< 0.020	0.010	0.011	0.013	0.014	0.014	-
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	-	0.0000242	0.0000458	0.0000074	0.0000051	-	-	0.0000073	-
Calcium, total	mg/L	-	-	-	0.05 - 1	-	103	99.4	83.6	93.9	97.8	94.4	102	-
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000238	0.000342	0.000024	0.000021	0.000014	0.000014	0.000019	-
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00680	0.00778	0.00170	0.00403	0.00374	0.00384	0.00431	-
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00146	0.00190	0.00014	0.00032	0.00024	0.00025	0.00026	-
Copper, total	mg/L	1	1	-	0.0005 - 0.01	-	0.00452	0.00626	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	-	**11.8**	**9.69**	**7.37**	**15.2**	**14.0**	**14.2**	**14.8**	-
Lead, total	mg/L	-	-	-	0.00005 - 0.001	-	0.00128	0.00222	0.000087	0.000063	-	-	-	-
Lithium, total	mg/L	-	-	-	0.001 - 0.02	-	0.0061	0.0064	0.0034	0.0016	0.0017	0.0019	0.0017	-
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	-	15.5	16.2	12.1	10.2	10.4	10.5	10.2	-
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	-	**0.435**	**0.338**	**0.279**	**0.263**	**0.278**	**0.282**	**0.259**	-
Mercury, total	mg/L	-	-	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	0.000130	-	0.000178	0.000117	0.000319	0.000322	0.000198	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	-	0.000473	0.000623	0.000394	0.000315	0.000246	0.000240	0.000226	-
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00350	0.00492	0.00058	0.00055	< 0.0005	< 0.0005	< 0.0005	-
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.243	0.160|0.400	0.231|0.192	0.141|0.136	0.226|0.243	0.217|0.207	0.204|0.235	0.217|0.280	0.310
Potassium, total	mg/L	-	-	-	0.05 - 1	-	1.65	1.72	0.966	0.670	0.665	0.683	0.719	-
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00503	0.00667	0.00166	0.00110	0.00093	0.00088	0.00105	-
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000100	0.000054	0.000114	0.000088	0.000074	0.000065	-
Silicon, total	mg/L	-	-	-	0.1 - 2	-	12.0	13.6	8.29	7.98	8.42	8.38	8.08	-
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000024	0.000051	< 0.000010	0.000010	-	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	-	10.8	5.68	12.3	12.2	12.3	12.2	12.5	-
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.112	0.103	0.0940	0.0900	0.0939	0.0902	0.0891	-
Sulfur, total	mg/L	-	-	-	0.5 - 10	-	< 1.00	1.84	1.53	0.52	0.58	0.64	< 0.5	-
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	-	< 0.00040	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	-
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	-	< 0.000020	0.000065	< 0.000010	-	-	-	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00061	0.00097	0.00013	0.00036	0.00032	0.00032	0.00040	-
Tin, total	mg/L	-	-	-	0.0001 - 0.002	-	0.00036	0.00025	0.00024	0.00011	< 0.0001	< 0.0001	< 0.0001	-
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	-	0.107	0.159	0.0104	0.0162	0.0108	0.0113	0.0149	-
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	-	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	-
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	-	0.000188	0.000256	0.000068	0.000118	0.000077	0.000078	0.000092	-
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	-	0.00888	0.00836	0.00308	0.00921	0.00840	0.00863	0.0103	-
Zinc, total	mg/L	5	5	-	0.003 - 0.06	-	0.0139	0.0106	0.0031	< 0.003	< 0.003	< 0.003	0.0058	-
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	-	0.00296	0.00161	0.00231	0.00531	0.00547	0.00538	0.00614	-
Volatile Organic Compounds														
Acetone	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
Benzene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Bromodichloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Bromoform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Bromomethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Carbon Disulfide	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	-
Chlorobenzene	ug/L	30	30	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Chloroethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Chloroform	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Chloromethane	ug/L	-	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	-
Dibromochloromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	-
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichloromethane	ug/L	-	-	-	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	-
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	-
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Hexane, n-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Hexanone, 2-	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Styrene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Tetrachloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Toluene	ug/L	24	24	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Trichloroethylene	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Vinyl Chloride	ug/L	-	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Xylene, m+p-	ug/L	-	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4	-
Xylene, o-	ug/L	-	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	-
Xylenes, Total	ug/L	20	20	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-
Ungrouped Analytes														
SUM OF BTEX	ug/L	-	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/02/23	9/21/23	6/03/24	8/11/24	10/01/24	7/02/23	8/10/23	9/21/23	6/03/24	8/12/24	10/01/24
						MW22-14-1	MW22-14-1	MW22-14-1	MW22-14-1	MW22-14-1	MW22-14-2	MW22-14-2	MW22-14-2	MW22-14-2	MW22-14-2	MW22-14-2
Anions and Nutrients																
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0905	< 0.0050	0.123	< 0.005	0.505	0.0059	0.0198	< 0.0050	0.0534	0.0970	0.0390
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	-	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.93	0.68	0.72	0.46	0.48	0.61	-	0.79	0.83	0.71	0.68
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.082	0.111	0.039	0.026	0.182	0.054	-	0.078	0.028	0.054	0.129
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	-	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0207|0.176	0.0462|0.059	0.0584|0.151	0.0319|0.110	0.0787|0.124	0.0117|0.095	0.066|0.273	0.0147|0.079	0.0181|< 0.05	0.0434|< 0.05	0.0155|< 0.05
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	6.35	6.63	6.66	7.05	6.91	3.97	-	2.67	4.77	4.60	4.49
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	1.60	3.11	1.73	1.76	1.46	2.70	2.04	2.33	2.45	4.02	4.53
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 2.0	3.4	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	< 10	14	12	< 10	18	11	25	< 10	10	13	11
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Metals																
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0164	0.0018	< 0.001	0.0340	< 0.001	0.0020	0.0030	0.0027	0.0030	0.0046	0.0066
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00024	0.00049	0.00013	0.00090	0.00014	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00020	0.00022	0.00015	0.00051	0.00014	0.00012	0.00019	0.00029	0.00016	0.00019	0.00020
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0264	0.0256	0.0259	0.0220	0.0250	0.0207	0.0317	0.0295	0.0200	0.0200	0.0209
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.010	< 0.01	0.011	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	0.0000119	-	< 0.0001	0.0000071	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	80.6	80.4	77.5	50.7	80.4	72.7	71.9	78.0	72.5	75.8	72.1
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	0.00092	0.00120	0.00097	0.00090	0.00088	0.00091
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	0.00091	0.00078	0.00079	0.00094	0.00106	0.00086
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00036	0.00028	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00030	0.00026	< 0.0002	0.00090	< 0.0002	0.00041	0.00028	0.00085	< 0.0002	0.00038	0.00038
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	0.016	0.012	0.025	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0080	0.0089	0.0092	0.0044	0.0085	0.0057	0.0079	0.0054	0.0047	0.0056	0.0050
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	21.6	24.7	22.0	12.9	23.6	16.0	18.5	19.3	16.2	17.4	16.2
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.132**	**0.0673**	0.0279	0.0110	0.0214	0.00215	0.00875	0.00553	0.00069	0.00044	0.00077
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	-	0.000058	-	< 0.000020	0.000090	0.000026	0.000040	0.000036	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00172	0.00118	0.00106	0.0844	0.00114	0.000257	0.000556	0.000412	0.000157	0.000144	0.000153
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00085	0.00060	< 0.0005	0.00057	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	1.21	1.23	1.13	1.07	1.20	0.341	1.12	0.914	0.181	0.181	0.224
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	0.00032	0.00025	0.00036	0.00033	0.00078	0.00160	0.00146	0.00032	0.00046	0.00046
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000348	0.000379	0.000461	0.000526	0.000486	0.000317	0.000258	0.000159	0.000317	0.000271	0.000169
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	5.90	6.56	6.35	3.80	6.67	6.35	7.46	7.36	6.15	7.42	7.32
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	6.88	7.16	6.54	8.16	6.95	4.63	5.18	5.26	3.89	4.54	5.18
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.136	0.129	0.127	0.0863	0.128	0.105	0.114	0.118	0.0931	0.0983	0.0921
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	2.15	2.30	2.74	1.47	2.33	1.32	1.17	0.87	1.88	1.66	1.55
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00011	0.00033	0.00017	0.00157	< 0.0001	0.00021	< 0.00010	0.00033	0.00011	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	0.00077	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.0001	0.00038	< 0.0001	< 0.00010	< 0.00010	0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00535	0.00302	0.00277	0.00168	0.00287	0.000566	0.000799	0.000682	0.000464	0.000479	0.000486
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.0005	0.00077	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	< 0.0010	0.0015	< 0.001	0.0046	0.0017	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																
Conductivity	uS/cm	-	-	-	2	471	504	515	547	400	410	-	458	448	442	346
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	290	299	294	306	278	263	-	278	251	263	267
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	290	302	284	180	298	247	256	274	248	261	247
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	328	311	311	292	306	262	-	271	269	275	260
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	145	120	116	5.6	78.2	29.5	-	77.2	16	88	30.4
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	7.91	7.85	7.87	7.85	7.89	7.93	-	7.88	7.94	7.98	7.95
Polycyclic Aromatic Hydrocarbon																
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	0.286	0.108	0.016	0.046	0.036	0.090	0.048	0.028	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	0.079	0.027	< 0.01	0.015	0.012	0.026	0.014	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	0.207	0.081	0.016	0.031	0.024	0.064	0.034	0.028	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	0.644	0.160	< 0.05	0.058	< 0.05	0.258	0.118	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																
Gross alpha	Bq/l	-	-	-	0.1	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	-	-	-	-
Total Metals																
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	4.90	0.870	1.81	1.77	1.84	1.18	1.33	0.941	0.378	0.213	0.545
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	0.00037	0.00082	0.00041	0.00126	0.00027	< 0.00010	< 0.00010	0.00034	0.00020	< 0.0001	< 0.0001
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00144	0.00047	0.00064	0.00092	0.00066	0.00051	0.00066	0.00056	0.00025	0.00023	0.00032
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0675	0.0340	0.0432	0.0374	0.0401	0.0301	0.0428	0.0319	0.0230	0.0210	0.0245
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000199	0.000036	0.000072	0.000063	0.000078	0.000045	0.000042	0.000031	-	-	0.000022
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.0001	< 0.0001	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	< 0.020	< 0.010	< 0.02	< 0.02	< 0.01	< 0.010	0.014	< 0.010	< 0.01	< 0.01	< 0.01
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.0000316	0.0000320	0.000193	0.0000761	0.0000228	0.0000178	0.0000207	0.0000905	0.0000233	-	0.0000073
Calcium, total	mg/L	-	-	-	0.05 - 1	118	88.0	99.3	72.6	106	86.7	92.0	92.5	75.8	70.1	77.2
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000587	0.000109	0.000220	0.000195	0.000220	0.000124	0.000158	0.000109	0.000051	0.000030	0.000066
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.00980	0.00224	0.00401	0.00398	0.00453	0.00310	0.00385	0.00319	0.00179	0.00133	0.00182
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	0.00090	0.00089	0.00079	0.00085	0.00100	0.00076
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00293	0.00084	0.00127	0.00113	0.00112	0.00071	0.00085	0.00071	0.00022	0.00013	0.00025
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.00684	0.00193	0.00315	0.00327	0.00292	0.00221	0.00286	0.00299	0.00098	0.00072	0.00110
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**5.59**	**1.12**	**2.19**	**2.03**	**2.21**	**1.30**	**1.65**	**1.24**	**0.461**	0.246	**0.515**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.00232	0.000566	0.00110	0.00100	0.000980	0.000588	0.000801	0.000627	0.000223	0.000107	0.000237
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0160	0.0102	0.0110	0.0077	0.0123	0.0076	0.0070	0.0068	0.0047	0.0056	0.0060
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	30.7	25.9	29.4	18.9	28.9	20.1	21.6	21.6	17.5	16.8	16.8
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.257**	**0.0925**	**0.103**	**0.0709**	**0.0837**	0.0380	0.0456	0.0393	0.0102	0.00545	0.0108
Mercury, total	mg/L	-	-	-	0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	0.000022	0.000110	-	< 0.000020	0.000030	< 0.000020	-	-	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.00162	0.000989	0.00109	0.0815	0.00111	0.000239	0.000507	0.000308	0.000139	0.000158	0.000154
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.00731	0.00208	0.00328	0.00312	0.00303	0.00152	0.00225	0.00301	0.00081	< 0.0005	0.00065
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0207|0.176	0.0462|0.059	0.0584|0.151	0.0319|0.110	0.0787|0.124	0.0117|0.095	0.066|0.273	0.0147|0.079	0.0181|< 0.05	0.0434|< 0.05	0.0155|< 0.05
Potassium, total	mg/L	-	-	-	0.05 - 1	2.72	1.43	1.78	1.60	1.72	0.635	1.61	0.987	0.308	0.249	0.347
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.00846	0.00192	0.00360	0.00334	0.00345	0.00257	0.00406	0.00294	0.00113	0.00084	0.00136
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	0.000268	0.000392	0.000243	0.000281	0.000533	0.000312	0.000250	0.000131	0.000279	0.000219	0.000122
Silicon, total	mg/L	-	-	-	0.1 - 2	16.6	8.23	10.1	7.70	10.1	9.32	10.1	8.82	6.92	7.44	8.02
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.000022	< 0.000010	0.000094	-	0.000012	< 0.000010	0.000013	0.000011	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	7.66	6.46	7.17	8.19	7.42	4.76	5.70	4.64	4.01	4.25	5.80
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.162	0.136	0.148	0.105	0.143	0.106	0.125	0.121	0.0997	0.0937	0.0965
Sulfur, total	mg/L	-	-	-	0.5 - 10	2.22	2.43	2.38	1.95	2.60	1.35	1.11	0.99	1.69	1.98	1.73
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.0004	< 0.0004	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000022	0.000011	0.000025	0.000025	0.000026	< 0.000010	0.000031	0.000019	-	-	0.000010
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00205	0.00040	0.00085	0.00066	0.00072	0.00058	0.00062	0.00046	0.00018	< 0.0001	0.00021
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00090	0.00066	0.00105	0.00305	0.00055	0.00050	0.00010	0.00040	0.00026	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.282	0.0594	0.129	0.109	0.127	0.0796	0.0902	0.0692	0.0264	0.0127	0.0311
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00020	< 0.00010	< 0.0002	0.00034	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00639	0.00331	0.00337	0.00197	0.00312	0.000599	0.000912	0.000609	0.000510	0.000485	0.000501
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.0109	0.00243	0.00452	0.00469	0.00467	0.00292	0.00324	0.00243	0.00123	0.00096	0.00158
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0145	0.0049	0.0104	0.0120	0.0101	0.0066	0.0057	0.0089	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00137	0.00075	0.00086	0.00113	0.00214	0.00091	0.00104	0.00082	0.00035	0.00025	0.00053
Volatile Organic Compounds																
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	1.30	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	4.04	1.14	< 0.5	< 0.5	< 0.5	1.38	1.31	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	6.32	1.66	< 0.4	< 0.4	< 0.4	1.91	1.89	0.45	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	2.66	0.66	< 0.3	< 0.3	< 0.3	0.81	0.88	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	8.98	2.32	< 0.5	< 0.5	< 0.5	2.72	2.77	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																
SUM OF BTEX	ug/L	-	-	-	1.0	14.3	3.5	< 1	< 1	< 1	4.1	4.1	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/05/23	9/21/23	6/05/24	8/13/24	10/03/24	7/05/23	9/21/23	6/05/24	8/13/24	10/03/24
						MW22-15-1	MW22-15-1	MW22-15-1	MW22-15-1	MW22-15-1	MW22-15-3	MW22-15-3	MW22-15-3	MW22-15-3	MW22-15-3
Anions and Nutrients															
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	< 0.0050	0.0518	0.0560	0.0112	0.0326	0.100	0.140	0.571	0.101	0.0486
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.72	0.71	0.41	0.47	0.44	2.73	2.95	1.50	1.27	1.11
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.076	0.086	0.028	0.039	0.129	0.052	0.067	< 0.02	0.027	0.085
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.02	0.100	0.053
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0554|0.074	0.0403|< 0.100	0.0452|< 0.1	0.0231|0.060	0.0077|< 0.05	0.0189|< 0.100	0.0874|0.207	< 0.1|3.38	0.150|< 0.05	0.0195|< 0.05
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	3.68	3.85	2.13	4.09	3.98	13.0	17.0	15.4	11.8	11.2
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	2.72	1.91	1.53	2.42	2.42	3.85	**5.34**	4.79	**5.44**	3.73
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	-	< 2	< 2	< 3
Chemical oxygen demand [COD]	mg/L	-	-	-	10	19	12	11	13	< 10	17	31	470	21	18
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Metals															
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0040	0.0027	0.0026	0.0030	0.0026	0.0017	0.0108	0.0122	0.0090	0.0123
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00014	0.00017	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	0.00021	< 0.0001	0.00024
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00046	0.00034	0.00022	0.00039	0.00028	0.00048	0.00055	0.00035	0.00041	0.00036
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0256	0.0307	0.0271	0.0320	0.0309	0.0427	0.0431	0.0447	0.0482	0.0410
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.015	0.012	< 0.01	0.013	0.013	< 0.010	< 0.010	< 0.01	0.010	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000050	0.0000103	-	0.0000079	0.0000074	0.0000238	0.0000893	-	0.0000565
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	64.1	75.0	61.2	72.2	70.5	85.7	89.2	76.4	87.5	85.6
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	0.00037	0.00020	0.00034	0.00028	0.00080	0.00104	0.00081	0.00088	0.00068
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00158	< 0.00020	< 0.0002	0.00274	< 0.0002	0.00122	0.00132	0.00033	< 0.0002	0.00170
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	0.011	0.112	0.112	0.241	0.178	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	-	0.000058	-	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0032	0.0037	0.0034	0.0031	0.0032	0.0040	0.0037	0.0043	0.0040	0.0034
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	15.7	17.7	14.3	15.6	15.2	17.6	18.7	17.0	18.7	18.3
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	0.00028	**0.194**	**0.127**	**0.217**	**0.194**	**0.466**	**0.636**	**0.561**	**0.889**	**0.732**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	0.000030	0.000023	0.000052	-	< 0.000020	< 0.000020	0.000027	-	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.0137	0.00739	0.00742	0.00934	0.00817	0.00719	0.00675	0.00712	0.00718	0.00583
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00179	0.00308	0.00118	0.00069	0.00058	0.00065	0.00221	0.00456	0.00225	0.00322
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	4.95	5.85	5.05	5.88	6.03	6.78	7.94	7.02	7.68	8.09
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00247	0.00240	0.00163	0.00174	0.00172	0.00093	0.00106	0.00085	0.00086	0.00083
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	0.000052	0.000050	< 0.000050	-	-	-
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	4.58	4.96	4.35	4.78	4.76	6.41	6.99	6.12	6.88	7.10
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	-	-	0.000013	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	3.84	3.68	4.89	5.34	5.44	13.3	12.9	23.4	20.3	13.7
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0717	0.0769	0.0647	0.0685	0.0654	0.0784	0.0808	0.0756	0.0809	0.0770
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	1.52	1.03	0.98	1.22	1.40	4.67	4.51	5.48	4.54	4.24
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00013	0.00015	< 0.0001	0.00027	< 0.0001	0.00016	0.00028	0.00039	0.00031	0.00018
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0149	0.0176	0.00843	0.0140	0.0136	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000601	0.000467	0.000274	0.000331	0.000344	0.00173	0.00139	0.00168	0.00146	0.00110
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0011	0.0030	0.0010	0.0023	< 0.001	0.0014	0.0272	0.0092	0.0028	0.0059
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests															
Conductivity	uS/cm	-	-	-	2	409	454	425	443	422	545	583	586	564	540
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	247	270	246	286	273	308	334	327	319	322
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	225	260	212	244	239	286	300	261	295	289
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	252	258	232	232	238	342	360	332	340	308
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	65.8	95	76.1	25.6	18	142	178	34.9	15.2	19.6
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.17	8.07	8.17	8.2	8.05	8.29	8.31	8.25	8.19	8.04
Polycyclic Aromatic Hydrocarbon															
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	-	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	-	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	< 0.015	0.018	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	< 0.010	0.018	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	-	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	-	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	-	< 0.01	< 0.01	< 0.01
Radiological Parameters															
Gross alpha	Bq/l	-	-	-	0.1	< 0.1	< 0.1	-	-	-	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	0.15	< 0.1	-	-	-	0.26	-	-	-	-
Total Metals															
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	1.22	0.754	0.712	0.558	0.0301	1.33	2.75	1.54	0.408	0.300
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	0.00017	0.00063	0.00027	0.00019	< 0.0001	< 0.00020	0.00087	0.00043	0.00010	0.00055
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00078	0.00071	0.00056	0.00046	0.00034	0.00092	0.00184	0.00083	0.00054	0.00046
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0369	0.0390	0.0350	0.0342	0.0325	0.0520	0.0685	0.0598	0.0476	0.0466
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000034	0.000048	0.000050	0.000030	-	0.000048	0.000126	0.000054	-	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000050	< 0.000100	< 0.0001	-	-	< 0.000100	< 0.000100	< 0.0001	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	0.017	< 0.020	< 0.02	0.013	0.014	< 0.020	< 0.020	< 0.02	0.012	0.011
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.0000315	0.0000441	0.0000570	0.0000284	0.0000082	0.0000164	0.000204	0.000140	0.0000157	0.0000783
Calcium, total	mg/L	-	-	-	0.05 - 1	77.5	77.0	75.1	72.6	74.3	102	104	104	85.1	87.0
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000114	0.000079	0.000068	0.000048	-	0.000164	0.000286	0.000139	0.000038	0.000020
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.00280	0.00338	0.00228	0.00189	< 0.0005	0.00290	0.00753	0.00414	0.00112	0.00080
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00116	0.00094	0.00072	0.00061	0.00037	0.00167	0.00211	0.00218	0.00127	0.00085
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.00311	0.00243	0.00311	0.00192	< 0.0005	0.00248	0.00654	0.00334	0.00074	0.00068
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**1.39**	**1.10**	**1.13**	**0.828**	**0.305**	**1.64**	**3.52**	**1.79**	**0.441**	0.268
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.000598	0.000604	0.000723	0.000452	-	0.000764	0.00226	0.00104	0.000257	0.000185
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0050	0.0048	0.0036	0.0037	0.0038	0.0056	0.0085	0.0056	0.0046	0.0043
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	16.8	18.4	17.6	17.7	15.8	21.1	23.8	23.5	19.3	18.9
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.233**	**0.208**	**0.224**	**0.210**	**0.213**	**0.520**	**0.446**	**0.757**	**0.944**	**0.786**
Mercury, total	mg/L	-	-	-	0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	0.0000106	0.0000152	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	0.000030	0.000058	0.000053	-	0.000092	< 0.000020	0.000029	0.000036	-	0.000048
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.0137	0.0113	0.00815	0.00916	0.00820	0.00721	0.0111	0.00681	0.00727	0.00619
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.00370	0.0109	0.00304	0.00281	0.00065	0.00260	0.0133	0.00703	0.00316	0.00509
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0554|0.074	0.0403|< 0.100	0.0452|< 0.1	0.0231|0.060	0.0077|< 0.05	0.0189|< 0.100	0.0874|0.207	< 0.1|3.38	0.150|< 0.05	0.0195|< 0.05
Potassium, total	mg/L	-	-	-	0.05 - 1	5.21	5.27	5.03	5.09	6.35	6.98	7.95	7.59	7.01	8.23
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.00441	0.00394	0.00301	0.00269	0.00194	0.00317	0.00520	0.00313	0.00129	0.00120
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	0.000056	< 0.000100	< 0.0001	-	-	0.000114	< 0.000100	< 0.0001	0.000064	-
Silicon, total	mg/L	-	-	-	0.1 - 2	6.82	6.50	5.82	5.50	4.70	9.31	11.8	9.29	7.52	7.03
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.000671	0.000599	0.00175	0.000576	0.000026	< 0.000020	0.000048	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	4.07	4.11	5.70	5.39	5.40	13.9	24.5	21.5	19.4	19.1
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.0797	0.0811	0.0760	0.0706	0.0676	0.0880	0.0957	0.0895	0.0806	0.0782
Sulfur, total	mg/L	-	-	-	0.5 - 10	1.45	1.40	< 1	1.35	1.55	4.71	6.32	5.45	5.06	5.00
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00020	< 0.00040	< 0.0004	< 0.0002	< 0.0002	< 0.00040	< 0.00040	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000023	< 0.000020	-	0.000012	-	0.000035	0.000038	0.000027	0.000022	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00039	0.00038	0.00041	0.00034	< 0.0001	0.00036	0.00102	0.00038	0.00013	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00055	0.00138	0.00118	0.00070	< 0.0001	0.00050	0.00293	0.00152	0.00054	0.00056
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.0804	0.0509	0.0491	0.0475	0.00212	0.0758	0.146	0.0850	0.0202	0.0124
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	0.0234	0.0165	0.0151	0.0135	0.0154	< 0.00020	< 0.00020	< 0.0002	< 0.0001	< 0.0001
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000718	0.000713	0.000424	0.000392	0.000376	0.00193	0.00308	0.00197	0.00142	0.00125
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.00268	0.00151	0.00145	0.00132	< 0.0005	0.00320	0.00623	0.00354	0.00096	0.00067
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0050	0.0220	0.0082	0.0054	< 0.003	< 0.0060	0.192	0.0328	0.0112	0.0114
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00093	0.00057	< 0.0004	0.00040	< 0.0002	0.00056	0.00136	0.00052	0.00033	0.00038
Volatile Organic Compounds															
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes															
SUM OF BTEX	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/05/23	7/05/23	8/09/23	9/25/23	8/15/24	10/01/24	7/05/23	9/25/23	8/15/24	10/01/24
						MW22-16-1	DUPLICATE MF-D (MW22-16-1)	MW22-16-1	MW22-16-1	MW22-16-1	MW22-16-1	MW22-16-2	MW22-16-2	MW22-16-2	MW22-16-2
Anions and Nutrients															
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	< 0.0050	< 0.0050	< 0.0050	0.175	3.18	0.0597	< 0.0050	0.0204	3.01	0.0588
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.10	< 0.10	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.30	0.31	0.51	0.24	0.13	0.20	1.44	0.59	< 0.1	0.24
Fluoride	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	0.029	0.036	< 0.020	< 0.02	0.040
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	0.027	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.0307|< 0.050	0.0284|0.054	0.0487|< 0.050	0.0141|< 0.050	0.0041|< 0.05	0.0030|< 0.05	0.236|0.201	0.106|0.257	< 0.05|0.903	0.0674|0.104
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	2.68	2.69	3.93	3.10	1.57	1.84	3.32	4.73	1.29	6.62
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	1.27	1.36	1.33	1.04	1.97	1.43	**8.57**	**6.84**	2.89	4.44
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	-	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	10	13	< 10	< 10	10	< 10	57	29	30	12
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05
Metals															
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0053	0.0049	0.0049	0.0044	0.0070	0.0047	0.0069	0.0052	0.0034	0.0088
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00045	0.00045	0.00018	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00025	0.00026	0.00024	0.00022	0.00025	0.00022	0.00047	0.00019	0.00024	0.00013
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0420	0.0404	0.0411	0.0414	0.0270	0.0282	0.0377	0.0256	0.0361	0.0173
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	0.047	0.023	0.026	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	0.0000201	0.0000180	0.0000175	0.0000158	0.0000108	0.0000100	0.0000138	0.0000263	0.0000304	0.0000292
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	31.8	31.4	35.8	36.9	33.2	35.2	63.7	51.0	58.0	29.0
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000222	0.000224	0.000241	0.000284	0.000261	0.000316	0.000012	< 0.000010	0.000011	0.000048
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00054	< 0.00050	0.00187	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00149	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00043	0.00042	0.00025	0.00015	< 0.0001	< 0.0001	0.00110	0.00011	< 0.0001	< 0.0001
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00174	0.00157	0.00138	0.00124	0.00205	0.00088	0.00145	0.00171	0.00442	0.00066
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	0.011	< 0.01	< 0.010	< 0.010	0.010	< 0.01
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	0.000120	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0099	0.0092	0.0077	0.0071	0.0039	0.0041	0.0085	0.0067	0.0083	0.0034
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	7.60	7.66	8.41	9.82	8.44	8.86	15.8	9.84	13.6	6.84
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	0.0140	0.0141	0.00837	0.00742	0.00048	0.00018	**0.530**	0.0313	**0.280**	**0.109**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000020	< 0.000020	0.000125	< 0.000020	0.000068	0.000024	0.000024	0.000034	0.000059	0.000082
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000634	0.000611	0.000572	0.000429	0.000501	0.000318	0.00511	0.00287	0.00462	0.00159
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00354	0.00347	0.00276	0.00197	0.00150	0.00166	0.00363	0.00135	0.00209	0.00106
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	3.77	3.62	3.22	2.86	1.54	1.66	6.38	5.08	5.96	2.58
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0133	0.0131	0.0122	0.0117	0.00647	0.00688	0.00048	0.00133	0.00054	0.00170
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000087	0.000093	0.000106	0.000105	-	0.000069	0.000127	0.000082	0.000087	0.000050
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	3.99	3.97	4.19	4.12	4.09	4.19	4.94	4.13	4.34	4.04
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	0.000013	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	1.67	1.70	2.03	1.65	1.55	1.51	6.01	3.84	16.5	7.99
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0272	0.0274	0.0294	0.0290	0.0266	0.0282	0.0710	0.0497	0.0617	0.0298
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	1.13	1.11	1.53	0.85	0.76	0.53	1.36	1.67	6.87	1.57
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000040	0.000038	0.000030	0.000028	0.000029	0.000027	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00050	0.00016	0.00022	0.00037	0.00084	0.00026
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0335	0.0351	0.0152	0.00666	0.00211	0.00123	< 0.00010	0.00016	0.00012	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00132	0.00134	0.00160	0.00145	0.000937	0.00124	0.0107	0.00711	0.0117	0.00424
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00050	< 0.0005	0.00053	0.00061	< 0.00050	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0014	< 0.0010	< 0.0010	< 0.0010	0.0016	< 0.001	0.0017	0.0018	0.0061	0.0013
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	0.00039	< 0.00030	< 0.0003	< 0.0003
Physical Tests															
Conductivity	uS/cm	-	-	-	2	213	212	238	270	197	224	455	324	143	260
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	117	116	127	148	110	156	274	175	76.8	226
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	111	110	124	132	118	124	224	168	201	100
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	120	120	134	148	108	124	334	192	116	169
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	12.9	17	46	30.6	< 3	7.4	406	279	784	738
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.1	8.13	8.07	7.84	7.94	7.52	8.26	7.87	7.75	7.67
Polycyclic Aromatic Hydrocarbon															
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.103	0.048	-	< 0.015	0.118	0.066
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.034	0.016	-	< 0.010	0.043	0.026
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	< 0.010	< 0.010	0.013	< 0.010	0.069	0.032	-	< 0.010	0.075	0.040
Naphthalene	ug/L	-	-	-	0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.086	< 0.05	-	< 0.050	0.123	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	-	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.01	< 0.01
Radiological Parameters															
Gross alpha	Bq/l	-	-	-	0.1	< 0.1	< 0.1	0.46	0.10	-	-	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	0.22	0.27	0.54	0.15	-	-	-	-	-	-
Total Metals															
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	2.09	2.36	1.86	0.770	0.415	0.0660	11.2	11.4	1.49	3.60
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00010	0.00012	0.00017	0.00012	< 0.0001	< 0.0001	0.00049	0.00097	0.00034	0.00022
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00179	0.00176	0.00136	0.00073	0.00051	0.00027	0.00199	0.00168	0.00047	0.00064
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0694	0.0694	0.0665	0.0573	0.0314	0.0302	0.136	0.132	0.0498	0.0527
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000064	0.000065	0.000046	0.000026	0.000024	-	0.000568	0.000592	0.000086	0.000236
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	0.000132	0.000147	0.000103	< 0.000050	-	-	0.000310	0.000348	-	0.000148
Boron, total	mg/L	-	-	-	0.01 - 0.2	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	0.061	0.033	0.024	0.017
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.0000345	0.0000369	0.0000427	0.0000349	0.0000234	0.0000166	0.0000488	0.0000973	0.0000529	0.0000571
Calcium, total	mg/L	-	-	-	0.05 - 1	32.6	32.2	32.8	35.3	35.0	37.6	94.8	66.9	66.4	37.0
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00110	0.00116	0.000917	0.000626	0.000477	0.000345	0.00742	0.00800	0.000962	0.00287
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.0108	0.0123	0.0104	0.00452	0.00261	0.00080	0.0384	0.0436	0.00521	0.0151
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00207	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00257	0.00302	0.00221	0.00109	0.00073	0.00019	0.00973	0.00944	0.00134	0.00333
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.0152	0.0164	0.0132	0.00646	0.00422	0.00128	0.0179	0.0196	0.00334	0.00695
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**2.42**	**2.71**	**2.33**	**0.958**	**0.539**	0.069	**14.1**	**15.5**	**1.95**	**4.76**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.00369	0.00399	0.00276	0.00122	0.000643	0.000066	0.00367	0.00380	0.000535	0.00110
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0136	0.0137	0.0126	0.0095	0.0044	0.0045	0.0347	0.0370	0.0116	0.0146
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	8.39	8.98	9.16	9.38	8.52	8.73	26.8	19.1	15.6	10.0
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	0.0478	**0.0511**	0.0424	0.0219	0.0173	0.00305	**0.791**	**0.293**	**0.358**	**0.274**
Mercury, total	mg/L	-	-	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	0.0000053	0.0000415	0.0000056
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	0.000052	0.000035	0.000250	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.000676	0.000606	0.000685	0.000502	0.000395	0.000349	0.00496	0.00236	0.00405	0.00197
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.0128	0.0134	0.0115	0.00564	0.00356	0.00198	0.0322	0.0324	0.00613	0.0125
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.0307|< 0.050	0.0284|0.054	0.0487|< 0.050	0.0141|< 0.050	0.0041|< 0.05	0.0030|< 0.05	0.236|0.201	0.106|0.257	< 0.05|0.903	0.0674|0.104
Potassium, total	mg/L	-	-	-	0.05 - 1	4.26	4.17	4.57	3.24	1.63	1.76	11.3	9.38	7.40	5.01
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.0172	0.0171	0.0166	0.0148	0.00754	0.00745	0.0343	0.0386	0.00505	0.0136
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	0.000104	0.000110	0.000096	0.000090	0.000103	0.000054	0.000167	0.000115	0.000074	0.000073
Silicon, total	mg/L	-	-	-	0.1 - 2	7.64	8.22	6.97	5.58	4.69	4.06	24.5	23.9	7.10	9.76
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.00270	0.00264	0.00211	0.000885	0.000729	0.000135	0.000060	0.000103	-	0.000126
Sodium, total	mg/L	200	200	-	0.05 - 1	1.90	1.91	3.53	1.53	1.51	1.47	6.50	3.28	18.4	9.96
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.0320	0.0317	0.0318	0.0315	0.0287	0.0273	0.0954	0.0608	0.0655	0.0369
Sulfur, total	mg/L	-	-	-	0.5 - 10	1.20	1.17	1.94	0.99	0.61	0.55	1.31	1.61	6.73	1.90
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00040	< 0.00040	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000078	0.000080	0.000074	0.000045	0.000040	0.000030	0.000215	0.000245	0.000031	0.000086
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00052	0.00057	0.00044	0.00019	< 0.0001	< 0.0001	0.00213	0.00210	0.00033	0.00060
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00023	0.00022	0.00058	0.00022	0.00024	< 0.0001	0.00114	0.00227	0.00144	0.00062
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.129	0.149	0.124	0.0545	0.0294	0.00421	0.742	0.828	0.112	0.268
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	0.0340	0.0234	0.0210	0.00794	0.00253	0.00166	0.00074	0.00095	0.00024	0.00046
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00184	0.00168	0.00210	0.00190	0.00101	0.00136	0.0131	0.00874	0.0117	0.00582
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.00569	0.00632	0.00526	0.00260	0.00169	0.00079	0.0288	0.0315	0.00410	0.0110
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0097	0.0109	0.0092	0.0042	< 0.003	< 0.003	0.0287	0.0380	0.0068	0.0111
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00070	0.00072	0.00069	0.00039	0.00020	< 0.0002	0.00346	0.00232	0.00104	0.00311
Volatile Organic Compounds															
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	-	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1.0	< 6.0	< 1	< 1	-	< 4.5	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	-	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1	< 1
Ungrouped Analytes															
SUM OF BTEX	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/04/23	8/09/23	8/09/23	9/24/23	6/05/24	6/05/24	8/13/24	10/03/24
						MW22-17-1	MW22-17-1	DUP-3 (MW22-17-1)	MW22-17-1	MW22-17-1	DUP-02 (MW22-17-1)	MW22-17-1	MW22-17-1
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0156	0.0069	0.0212	0.0253	0.546	0.0342	0.0208	0.906
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.12	0.19	0.22	0.13	< 0.1	0.11	< 0.1	< 0.1
Fluoride	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	0.021	< 0.02	< 0.02	< 0.02	0.035
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	0.306	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.254|0.640	0.163|0.280	0.0632|0.084	0.0147|< 0.050	< 0.002|< 0.05	0.0048|< 0.05	0.0055|< 0.05	0.0200|< 0.05
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	0.41	< 0.30	0.37	0.63	0.71	0.58	0.46	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**8.15**	**10.1**	**10.5**	**7.45**	**8.27**	**8.37**	**8.42**	**8.55**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 2.0	4.3	4.9	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	40	47	35	19	23	30	31	26
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Metals													
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0099	0.0076	0.0086	0.0051	0.0055	0.0056	0.0056	0.0082
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00039	0.00036	0.00038	0.00037	0.00021	0.00023	0.00027	0.00025
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0271	0.0239	0.0249	0.0236	0.0238	0.0246	0.0333	0.0254
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000040	< 0.000040	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.020	< 0.020	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000100	< 0.0000050	-	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	58.7	60.4	61.7	57.6	55.0	54.1	60.4	60.0
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000020	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00100	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00070	0.00051	0.00051	0.00051	0.00044	0.00044	0.00042	0.00044
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00026	< 0.00040	< 0.00040	< 0.00020	< 0.0002	< 0.0002	0.00152	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**0.401**	**0.569**	**0.593**	**0.436**	0.260	0.255	0.262	0.296
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000050				
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0035	0.0034	0.0032	0.0034	0.0036	0.0039	0.0034	0.0034
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	11.0	11.2	11.2	12.2	10.1	10.4	11.4	10.9
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.628**	**0.556**	**0.560**	**0.600**	**0.522**	**0.542**	**0.524**	**0.556**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	0.000029	0.000050	0.000021	0.000026	-	-	0.000021
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00199	0.00326	0.00321	0.00117	0.000808	0.000829	0.000830	0.000924
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00212	0.00152	0.00152	0.00122	0.00107	0.00108	0.00111	0.00116
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	3.11	2.94	2.98	3.11	2.76	2.79	3.03	2.98
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00131	0.00114	0.00109	0.00087	0.00070	0.00059	0.00064	0.00066
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000051	0.000661	0.000607	0.000461	0.000272	0.000288	0.000078	0.000083
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	4.99	5.20	5.41	5.20	4.76	4.79	5.25	5.31
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000020	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	1.69	3.37	3.38	1.77	1.12	1.41	1.11	1.24
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0502	0.0531	0.0522	0.0511	0.0472	0.0468	0.0513	0.0494
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	< 0.50	< 1.00	< 1.00	< 0.50	< 0.5	0.84	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000020	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00013	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00060	< 0.00060	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0152	0.0133	0.0127	0.00294	0.00169	0.00155	0.00121	0.00162
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00136	0.00114	0.00114	0.00122	0.00137	0.00126	0.00136	0.00136
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00098	< 0.00100	< 0.00100	0.00075	0.00059	0.00057	0.00058	0.00064
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0174	< 0.0020	< 0.0020	< 0.0010	< 0.001	< 0.001	0.0012	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00092	0.00081	0.00081	0.00080	0.00075	0.00076	0.00086	0.00088
Physical Tests													
Conductivity	uS/cm	-	-	-	2	359	362	357	373	347	354	342	326
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	214	246	240	226	197	201	227	228
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	192	197	200	194	179	178	198	195
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	211	261	227	222	198	204	205	220
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	348	778	244	19.6	3.1	3.1	< 3	13.9
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.23	8.02	8.21	7.91	8.25	8.19	8.13	7.92
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.034	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	0.011	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.012
Naphthalene	ug/L	-	-	-	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	-	0.1	< 0.1	< 0.1	< 0.1	0.13	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	0.19	0.55	0.28	0.17	-	-	-	-
Total Metals													
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	3.79	3.06	1.60	0.493	0.0446	0.0470	0.0227	0.143
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	0.00014	0.00027	0.00023	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00140	0.00094	0.00068	0.00049	0.00026	0.00023	0.00026	0.00031
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0739	0.0473	0.0372	0.0292	0.0247	0.0248	0.0238	0.0263
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000161	0.000105	0.000052	< 0.000020	-	-	-	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	0.016	0.011	0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.000334	0.000174	0.000152	0.0000286	0.0000510	-	-	0.0000232
Calcium, total	mg/L	-	-	-	0.05 - 1	181	89.6	73.8	59.4	57.9	55.8	56.7	62.6
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000369	0.000321	0.000166	0.000052	-	-	-	0.000015
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.0124	0.00932	0.00479	0.00156	< 0.0005	< 0.0005	< 0.0005	0.00060
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00491	0.00284	0.00171	0.00090	0.00049	0.00049	0.00043	0.00056
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.0295	0.0158	0.00823	0.00242	0.00090	< 0.0005	< 0.0005	0.00108
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**5.57**	**4.57**	**2.68**	**1.06**	**0.309**	0.300	0.284	**0.491**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.00685	0.00286	0.00156	0.000466	-	-	-	0.000158
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0095	0.0076	0.0054	0.0045	0.0033	0.0034	0.0035	0.0040
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	39.4	21.1	16.3	11.4	11.1	10.7	11.4	11.6
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.899**	**0.740**	**0.677**	**0.603**	**0.559**	**0.534**	**0.541**	**0.579**
Mercury, total	mg/L	-	-	-	0.0000050	0.0000131	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	0.000078	0.000028	0.000042	0.000031	-	0.000187
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.00129	0.00335	0.00333	0.00160	0.000816	0.000819	0.000811	0.00104
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.0145	0.00880	0.00522	0.00262	0.00123	0.00120	0.00116	0.00154
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.254|0.640	0.163|0.280	0.0632|0.084	0.0147|< 0.050	< 0.002|< 0.05	0.0048|< 0.05	0.0055|< 0.05	0.0200|< 0.05
Potassium, total	mg/L	-	-	-	0.05 - 1	4.73	4.60	3.94	3.03	2.86	2.84	2.88	3.13
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.0121	0.00858	0.00479	0.00194	0.00072	0.00073	0.00068	0.00106
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	0.000062	0.000104	0.000079	0.000062	-	-	-	-
Silicon, total	mg/L	-	-	-	0.1 - 2	12.2	11.2	8.27	6.32	5.03	4.91	5.18	5.30
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.00165	0.00468	0.00298	0.000602	0.000035	0.000031	0.000012	0.000153
Sodium, total	mg/L	200	200	-	0.05 - 1	2.09	4.28	4.24	1.61	1.15	1.12	1.11	1.29
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.126	0.0784	0.0655	0.0545	0.0489	0.0483	0.0498	0.0498
Sulfur, total	mg/L	-	-	-	0.5 - 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000083	0.000058	0.000029	< 0.000010	-	-	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00175	0.00101	0.00060	0.00020	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00032	0.00046	0.00038	0.00031	0.00018	0.00017	< 0.0001	0.00022
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.187	0.224	0.120	0.0352	0.00271	0.00312	0.00122	0.00987
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	0.0115	0.0222	0.0187	0.00594	0.00165	0.00168	0.00114	0.00265
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00276	0.00160	0.00139	0.00148	0.00134	0.00133	0.00128	0.00143
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.0116	0.00819	0.00475	0.00193	0.00074	0.00072	0.00068	0.00112
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0229	0.0168	0.0098	0.0031	< 0.003	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00316	0.00251	0.00193	0.00125	0.00077	0.00076	0.00082	0.00096
Volatile Organic Compounds													
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	16.8	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/04/23	8/09/23	9/24/23	6/05/24	8/13/24	10/03/24	7/04/23	8/09/23	9/24/23	6/05/24	8/13/24	10/01/24
						MW22-17-2	MW22-17-2	MW22-17-2	MW22-17-2	MW22-17-2	MW22-17-2	MW22-18-1	MW22-18-1	MW22-18-1	MW22-18-1	MW22-18-1	MW22-18-1
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	< 0.0050	0.0310	0.0564	0.308	0.0784	0.156	0.0140	0.0216	0.0359	0.0672	0.0771	0.373
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	0.17	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	2.82	1.47	1.42	0.82	0.68	0.41	0.74	0.34	0.32	3.51	0.35	0.39
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.020	0.020	0.042	0.044	< 0.02	0.053	0.076	0.091	0.091	0.041	0.058	0.113
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	0.024	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.119|0.144	0.107|0.847	0.0596|0.597	0.0344|< 0.05	0.0347|< 0.1	0.0221|< 0.05	0.0349|0.060	0.0508|0.076	0.0188|< 0.050	0.0138|< 0.05	0.0482|< 0.05	0.0070|< 0.05
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	< 0.30	< 0.30	1.38	1.58	0.47	< 0.3	1.33	2.34	1.50	2.34	0.70	0.52
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**8.68**	**9.54**	**10.5**	**11.9**	**11.1**	**12.2**	**10.9**	**11.3**	**13.0**	**11.2**	**12.6**	**11.3**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	3.1	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	31	17	32	38	40	35	32	30	42	39	39	34
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05
Metals																	
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0050	0.0062	0.0085	0.0083	0.0084	0.0086	0.0468	0.0091	0.0206	0.0103	0.0101	0.0076
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	0.00011	0.00012	< 0.0001	0.00013	0.00035	< 0.00010	< 0.00020	0.00046	0.00021	0.00017	0.00011
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00128	0.00180	0.00206	0.00165	0.00149	0.00184	0.00070	0.00085	0.00050	0.00117	0.00054	0.00047
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0196	0.0190	0.0193	0.0157	0.0176	0.0153	0.0337	0.0315	0.0290	0.0367	0.0400	0.0381
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	0.000375	0.000396	0.000386	0.000360	0.000510	0.000578
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000100	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.067	0.074	0.071	0.052	0.063	0.063	0.011	< 0.020	< 0.010	0.011	< 0.01	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	0.0000203	0.0000212	0.0000141	0.0000441	0.0000565	0.0000116	< 0.0000100	0.0000191	-	0.0000108	0.0000202
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	62.4	58.7	55.4	47.6	54.0	53.4	27.8	24.8	30.0	27.2	31.2	29.2
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	0.000027	< 0.000020	0.000010	-	0.000010	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	0.00091	0.00108	0.00128	0.00102	0.00107	0.00112
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00021	0.00023	0.00020	0.00022	0.00022	0.00017	0.00022	< 0.00020	0.00019	0.00038	0.00014	0.00011
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00157	0.00052	0.00111	0.00041	0.00161	0.00036	0.00107	0.00086	0.00077	< 0.0002	0.00038	0.00031
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	0.064	0.127	0.175	0.173	0.153	0.251	**0.500**	**0.693**	**0.667**	**0.798**	**0.793**	**0.923**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	0.000264	< 0.000100	0.000087	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0014	0.0013	0.0018	0.0018	0.0011	0.0015	0.0167	0.0149	0.0166	0.0165	0.0149	0.0134
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	12.3	11.9	11.3	9.00	10.6	10.4	7.27	7.20	7.79	6.90	7.46	7.24
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.282**	**0.282**	**0.263**	**0.282**	**0.275**	**0.272**	**0.445**	**0.390**	**0.490**	**0.639**	**0.493**	**0.483**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000037	0.000111	-	0.000025	0.000054	0.000049	0.000032	0.000032	< 0.000020	-	0.000036	0.000045
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00581	0.00660	0.00735	0.00691	0.00648	0.00515	0.00451	0.00511	0.00174	0.00546	0.00179	0.00120
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00113	0.00244	0.00153	0.00160	0.00186	0.00208	0.00114	0.00133	0.00111	0.00205	0.00252	0.00127
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	2.64	2.47	2.71	2.47	2.67	2.68	2.10	2.08	1.99	2.27	1.67	1.70
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00099	0.00101	0.00103	0.00097	0.00105	0.00099	0.00304	0.00315	0.00280	0.00315	0.00233	0.00254
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000066	0.000070	0.000106	0.000101	0.000191	0.000050	0.000237	0.000269	0.000215	0.000144	0.000250	0.000059
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	5.58	6.20	6.11	6.21	6.30	6.52	15.4	14.8	15.9	15.2	16.3	16.6
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	0.000010	-	< 0.000010	< 0.000020	< 0.000010	-	0.000011	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	5.49	8.65	19.1	22.8	18.2	11.9	8.08	8.58	4.48	6.99	2.81	2.09
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0572	0.0569	0.0537	0.0466	0.0522	0.0474	0.172	0.180	0.164	0.182	0.160	0.150
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	< 0.50	< 0.50	< 0.50	0.80	< 0.5	< 0.5	0.98	< 1.00	< 0.50	1.38	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000020	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00029	0.00026	0.00031	0.00027	0.00031	0.00031
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00111	0.00031	0.00078	0.00147	0.00098	0.00058	0.00019	< 0.00020	0.00110	0.00246	0.00093	0.00046
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	0.00041	0.00050	0.00045	0.00036	0.00214	0.00160	0.00191	0.00179	0.00182	0.00181
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0226	0.0201	0.0221	0.0158	0.0169	0.0142	0.0313	0.0361	0.00914	0.0123	0.00299	0.00198
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.00186	0.00150	0.00172	0.00129	0.00152	0.00105	0.00285	0.00339	0.00181	0.00194	0.00154	0.00174
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00053	0.00082	0.00092	0.00096	0.00098	0.00437	0.00454	0.00484	0.00545	0.00544	0.00576
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0012	0.0015	0.0032	0.0011	0.0044	0.0027	0.0012	< 0.0020	0.0024	0.0012	0.0021	0.0016
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00076	0.00085	0.00121	0.00164	0.00152	0.00150	0.00280	0.00248	0.00306	0.00320	0.00330	0.00329
Physical Tests																	
Conductivity	uS/cm	-	-	-	2	389	379	409	381	360	331	207	211	220	223	190	185
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	245	230	244	218	237	232	116	115	117	115	107	110
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	206	196	185	156	178	176	99.4	91.6	107	96.3	109	103
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	251	230	252	234	230	234	148	164	164	172	150	138
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	307	71.2	457	39.5	107	7.5	37.1	102	12.6	8.5	29.8	< 3
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.37	8.34	8.07	8.36	8.19	8.06	8.12	8.07	7.99	7.98	7.95	7.54
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	0.012	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	2.30	2.50	2.10	-	-	-
Gross beta	Bq/l	-	-	-	0.1	0.14	< 0.1	0.16	-	-	-	1.01	1.15	1.05	-	-	-
Total Metals																	
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	1.69	2.79	2.27	0.308	0.517	0.152	1.68	0.890	0.293	0.0773	0.0618	0.0547
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00020	< 0.00010	0.00030	0.00040	< 0.0002	0.00014	0.00013	0.00018	0.00055	0.00037	0.00021	0.00022
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00186	0.00317	0.00327	0.00178	0.00160	0.00234	0.00130	0.00100	0.00090	0.00102	0.00055	0.00061
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0321	0.0361	0.0382	0.0191	0.0217	0.0175	0.0526	0.0468	0.0393	0.0378	0.0383	0.0408
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000061	0.000098	0.000104	0.000025	-	-	0.000674	0.000535	0.000373	0.000381	0.000554	0.000567
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000100	-	< 0.0001	-	0.000090	0.000061	< 0.000050	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	0.072	0.089	0.076	0.056	0.072	0.077	0.014	0.010	0.011	0.010	< 0.01	< 0.01
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.0000223	0.0000511	0.0000952	0.0000572	0.0000726	0.0000223	0.0000203	0.0000471	0.0000444	0.0000204	0.0000206	0.0000384
Calcium, total	mg/L	-	-	-	0.05 - 1	93.3	149	133	54.1	60.0	58.6	29.9	26.6	28.1	29.2	29.7	30.1
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000157	0.000261	0.000158	0.000031	0.000050	0.000012	0.000190	0.000106	0.000048	0.000018	0.000016	0.000016
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.0037	0.00802	0.00588	0.00100	0.00153	0.00063	0.00227	0.00309	0.00151	0.00140	0.00130	0.00140
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00143	0.00249	0.00212	0.00046	0.00059	0.00032	0.00078	0.00090	0.00048	0.00038	0.00018	0.00016
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.00566	0.00604	0.00638	0.00161	0.00247	0.00083	0.00984	0.00546	0.00240	0.00080	0.00060	0.00088
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**2.24**	**4.44**	**3.44**	**0.583**	**0.800**	**0.602**	**1.96**	**1.79**	**0.894**	**0.860**	**0.986**	**0.985**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.00124	0.00237	0.00212	0.000321	0.000491	0.000159	0.00251	0.000842	0.000314	0.000161	0.000099	0.000144
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0037	0.0060	0.0050	0.0015	< 0.002	0.0018	0.0185	0.0195	0.0178	0.0151	0.0147	0.0156
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	19.6	31.6	31.9	11.2	12.4	11.6	7.80	7.67	7.21	7.32	7.59	7.55
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.328**	**0.463**	**0.420**	**0.290**	**0.331**	**0.314**	**0.478**	**0.492**	**0.465**	**0.644**	**0.535**	**0.525**
Mercury, total	mg/L	-	-	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	0.000044	0.000071	0.000071	0.000045	0.000064	0.000023	< 0.000020	< 0.000020	0.000021	0.000026	0.000113	0.000028
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.00546	0.00592	0.00756	0.00761	0.00716	0.00533	0.00504	0.00349	0.00478	0.00436	0.00196	0.00130
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.00378	0.00618	0.00586	0.00245	0.00308	0.00140	0.00244	0.00557	0.00258	0.00240	0.00284	0.00164
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.119|0.144	0.107|0.847	0.0596|0.597	0.0344|< 0.05	0.0347|< 0.1	0.0221|< 0.05	0.0349|0.060	0.0508|0.076	0.0188|< 0.050	0.0138|< 0.05	0.0482|< 0.05	0.0070|< 0.05
Potassium, total	mg/L	-	-	-	0.05 - 1	2.78	3.48	3.24	2.65	2.93	2.72	2.59	2.38	2.71	2.20	1.66	1.85
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.00414	0.00687	0.00430	0.00160	0.00190	0.00122	0.00461	0.00428	0.00450	0.00311	0.00238	0.00290
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000100	0.000073	< 0.000100	0.000088	0.000134	0.000068	0.000257	0.000167	0.000221	0.000071	-	-
Silicon, total	mg/L	-	-	-	0.1 - 2	8.47	11.0	10.2	7.01	7.92	6.54	18.6	17.3	15.3	15.4	16.4	15.8
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.000102	0.000057	0.000234	0.000060	0.000033	0.000019	0.000522	0.00191	0.000218	0.000074	0.000035	0.000023
Sodium, total	mg/L	200	200	-	0.05 - 1	5.27	10.2	19.4	24.0	18.7	11.3	9.11	5.88	6.51	5.96	2.84	2.36
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.0785	0.119	0.107	0.0542	0.0576	0.0532	0.195	0.185	0.189	0.183	0.160	0.149
Sulfur, total	mg/L	-	-	-	0.5 - 10	< 1.00	< 0.50	< 1.00	0.60	< 1	< 0.5	1.10	0.64	0.88	1.00	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.00040	< 0.0002	< 0.0004	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000034	0.000087	0.000034	-	-	-	0.000014	0.000019	< 0.000010	-	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00061	0.00084	0.00105	0.00018	0.00089	0.00010	0.00127	0.00099	0.00045	0.00037	0.00038	0.00034
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00150	0.00023	0.00146	0.00278	0.00155	0.00080	0.00049	0.00082	0.00224	0.00345	0.00137	0.00081
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.122	0.261	0.266	0.0240	0.0374	0.0143	0.0280	0.0414	0.0142	0.00668	0.00535	0.00431
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	0.0198	0.0184	0.0197	0.0174	0.0167	0.0150	0.0359	0.0247	0.0277	0.0108	0.00291	0.00237
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00213	0.00197	0.00229	0.00149	0.00158	0.00123	0.00457	0.00249	0.00337	0.00189	0.00143	0.00185
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.00457	0.00890	0.00778	0.00178	0.00232	0.00152	0.00717	0.00703	0.00511	0.00585	0.00613	0.00634
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0065	0.0128	0.0108	0.0048	0.0094	< 0.003	0.0053	0.0064	0.0032	< 0.003	< 0.003	0.0043
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00140	0.00195	0.00187	0.00173	0.00188	0.00167	0.00101	0.00180	0.00214	0.00282	0.00306	0.00328
Volatile Organic Compounds																	
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/04/23	8/09/23	9/24/23	6/05/24	8/13/24	10/01/24	7/03/23	8/10/23	9/21/23	6/04/24	8/11/24	10/02/24
						MW22-18-2	MW22-18-2	MW22-18-2	MW22-18-2	MW22-18-2	MW22-18-2	MW22-19-1	MW22-19-1	MW22-19-1	MW22-19-1	MW22-19-1	MW22-19-1
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0185	0.0181	0.0253	0.0146	0.0279	0.516	< 0.0050	0.0168	0.0243	0.0553	0.0168	0.0236
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	0.18	0.12	0.29	0.34	0.20	0.24	0.48	0.75	0.21	0.31	0.24	0.38
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.027	< 0.020	0.033	< 0.02	< 0.02	0.038	< 0.020	0.030	0.031	< 0.02	< 0.02	0.039
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	< 0.020	0.039	0.581	0.101	< 0.02	0.156	0.112	0.068	0.210	0.194	0.189	0.209
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.169|0.325	0.808|1.74	0.0140|< 0.050	0.0329|< 0.1	0.0168|< 0.05	0.0080|< 0.05	0.0584|0.116	0.543|1.47	0.647|2.54	0.0533|< 0.1	0.0952|< 0.05	0.0291|< 0.05
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	0.98	1.48	3.63	1.75	1.05	1.10	9.34	14.0	4.69	6.71	6.85	3.93
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**14.2**	**12.5**	**13.2**	**19.8**	**31.2**	**17.9**	3.42	2.62	3.22	2.50	3.16	2.52
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 3.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	48	68	31	60	78	50	< 10	37	11	15	< 10	14
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Metals																	
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.429	0.206	0.403	0.674	1.04	0.600	0.182	0.0018	0.0021	0.0017	0.0221	0.0022
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00030	0.00037	0.00013	0.00038	0.00013	0.00014
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00059	0.00066	0.00046	0.00066	0.00093	0.00059	0.00059	0.00039	0.00029	0.00016	0.00020	0.00021
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0124	0.0262	0.0205	0.0104	0.0140	0.0136	0.0159	0.0163	0.0136	0.0141	0.0160	0.0149
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	0.000069	0.000164	0.000070	0.000073	0.000114	0.000090	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	0.0000318	0.0000345	0.0000341	0.0000246	0.0000290	0.0000283	0.0000151	0.0000082	0.0000140	0.0000151	0.0000096	0.0000219
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	8.59	18.2	11.7	5.49	6.56	8.66	90.0	83.6	92.0	81.7	91.6	89.3
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000067	0.000067	0.000154	0.000074	0.000129	0.000137	0.000033	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00131	0.00113	0.00116	0.00109	0.00171	0.00160	0.00078	< 0.00050	0.00072	0.00066	0.00081	0.00091
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	0.00055	0.00067	0.00080	0.00081
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00177	0.00156	0.00274	0.00209	0.00089	0.00106	0.00147	0.00204	0.00044	0.00015	0.00015	0.00010
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.0126	0.0190	0.0202	0.0169	0.0168	0.0118	0.00344	0.00143	0.00200	0.00081	0.00126	0.00105
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**0.339**	**0.318**	0.287	**0.482**	**0.741**	**0.446**	0.281	0.014	< 0.010	< 0.01	0.027	< 0.01
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000173	< 0.000050	0.000054	-	0.000088	-	0.000354	< 0.000050	< 0.000050	-	0.000071	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0025	0.0057	0.0042	0.0024	0.0033	0.0028	0.0113	0.0092	0.0164	0.0023	0.0021	0.0024
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	1.93	2.64	2.16	1.29	1.38	1.66	16.8	15.8	17.9	14.4	16.5	17.1
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.0698**	**0.308**	**0.104**	0.0136	0.0206	0.0402	**0.0916**	**0.0851**	0.0393	0.00303	0.00360	0.00222
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	0.0000087	-	< 5e-005	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	0.000029	0.000135	< 0.000020	-	0.000031	0.000062	0.000020	0.000110	0.000020	0.000045	0.000054	0.000048
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00155	0.00937	0.00485	0.00102	0.000773	0.00126	0.00516	0.00308	0.00124	0.00108	0.00110	0.000422
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00492	0.00369	0.0106	0.00516	0.00566	0.00624	0.00179	0.00245	0.00116	0.00095	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	1.81	3.23	3.08	1.20	1.29	1.43	1.12	1.07	1.05	0.762	0.791	0.928
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00696	0.0112	0.0108	0.00494	0.00652	0.00691	0.00258	0.00264	0.00199	0.00135	0.00164	0.00150
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000077	0.000086	0.000059	0.000090	0.000158	0.000100	0.000859	0.00109	0.000439	0.000575	0.000772	0.000342
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	5.80	6.80	6.69	4.55	5.97	6.84	4.73	5.08	6.16	5.06	5.61	6.17
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	0.000129	0.000030	0.000138	0.000106	0.000065	0.000060	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	1.62	2.40	2.68	0.892	1.06	1.24	13.6	10.7	5.58	16.8	14.7	6.47
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0411	0.0980	0.0739	0.0292	0.0319	0.0379	0.0956	0.0848	0.0920	0.0746	0.0795	0.0776
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	< 0.50	< 0.50	0.82	0.61	< 0.5	< 0.5	3.38	4.08	2.32	2.74	2.17	1.48
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000020	0.000023	0.000019	0.000018	0.000015	0.000012	< 0.000010	0.000016	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00058	0.00056	0.00050	0.00042	0.00059	0.00064	0.00012	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00047	< 0.00010	< 0.00010	0.00010	0.00013	< 0.0001	0.00021	< 0.00010	0.00015	0.00067	0.00053	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	0.00265	0.00180	0.00372	0.00517	0.00889	0.00426	0.00942	< 0.00030	< 0.00030	< 0.0003	0.00088	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0326	0.0110	0.0763	0.0204	0.00921	0.0107	0.0898	0.0576	0.0306	0.00490	0.00411	0.00579
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000577	0.00102	0.000758	0.000630	0.000893	0.000681	0.0408	0.0468	0.0129	0.00216	0.00129	0.00137
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00055	0.00114	0.00060	0.00050	0.00068	0.00062	0.00111	0.00073	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0043	0.0028	0.0051	0.0041	0.0029	0.0022	0.0055	0.0016	0.0021	0.0034	0.0023	0.0019
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00063	0.00086	0.00066	0.00052	0.00073	0.00072	0.00068	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																	
Conductivity	uS/cm	-	-	-	2	71.9	115	112	50.2	42.8	63.1	498	517	502	508	536	492
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	38.1	60.2	50.1	22.4	16.3	29.9	295	334	292	283	305	302
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	29.4	56.3	38.1	19	22.1	28.4	294	274	303	263	297	293
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	72	103	91	75	81	66	388	390	319	304	324	283
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	336	758	< 3.0	13.7	< 3	3	1020	3260	444	65.3	16.8	23.4
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	7.28	**6.79**	**6.87**	**6.97**	**6.66**	**6.69**	8.11	7.94	7.94	7.95	7.89	7.97
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	-	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	-	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.235	0.113	-	0.047	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.071	0.039	-	0.015	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.164	0.074	-	0.032	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	0.565	0.214	-	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	-	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	0.013	-	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	-	0.1	0.24	0.56	0.31	-	-	-	1.30	0.90	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	0.14	0.51	0.26	-	-	-	0.40	0.32	-	-	-	-
Total Metals																	
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	4.42	11.8	0.543	1.02	1.13	0.757	2.13	19.0	5.02	0.552	0.101	0.252
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00020	< 0.00020	< 0.00010	0.00021	0.00013	0.00013	0.00038	< 0.00050	0.00027	0.00114	0.00013	0.00061
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00220	0.00419	0.00057	0.00075	0.00096	0.00070	0.00106	0.00624	0.00333	0.00030	0.00022	0.00026
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0632	0.153	0.0252	0.0169	0.0144	0.0149	0.0294	0.141	0.0472	0.0198	0.0156	0.0188
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000424	0.000985	0.000082	0.000104	0.000121	0.000099	0.000097	0.00106	0.000274	0.000061	-	0.000024
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	0.000110	0.000200	< 0.000050	< 0.0001	-	-	< 0.000100	< 0.000250	< 0.000100	< 0.0001	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	< 0.020	< 0.020	0.010	< 0.02	< 0.01	< 0.01	< 0.020	< 0.050	0.024	< 0.02	< 0.01	< 0.01
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.000107	0.000205	0.0000466	0.0000306	0.0000294	0.0000343	0.0000356	0.000320	0.000177	0.0000363	0.0000098	0.0000394
Calcium, total	mg/L	-	-	-	0.05 - 1	12.2	21.4	13.3	7.22	6.63	8.20	108	550	417	90.4	81.2	91.3
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000998	0.00188	0.000206	0.000159	0.000136	0.000152	0.000228	0.00198	0.000353	0.000067	0.000012	0.000035
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.00691	0.0171	0.00136	0.00177	0.00200	0.00192	0.00517	0.0502	0.0157	0.00168	0.00100	0.00146
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	0.00073	0.00060	0.00066	0.00071
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00521	0.0102	0.00282	0.00156	0.00091	0.00108	0.00306	0.0180	0.00756	0.00074	0.00026	0.00041
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.0396	0.0857	0.0228	0.0203	0.0168	0.0127	0.00842	0.0679	0.0218	0.00360	0.00153	0.00215
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**5.30**	**14.1**	**0.445**	**0.858**	**0.844**	**0.575**	**2.65**	**27.4**	**9.18**	**0.585**	0.123	0.299
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.00405	0.00815	0.000153	0.000270	0.000160	0.000101	0.00138	0.0156	0.00536	0.000679	0.000088	0.000259
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0121	0.0296	0.0046	0.0030	0.0035	0.0034	0.0152	0.0347	0.0130	0.0026	0.0025	0.0026
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	4.23	9.15	2.36	1.65	1.50	1.66	23.4	126	92.6	17.2	16.3	17.3
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.163**	**0.485**	**0.119**	0.0219	0.0258	0.0418	**0.154**	**0.945**	**0.561**	0.0210	0.00754	0.0153
Mercury, total	mg/L	-	-	-	0.0000050	0.0000065	< 0.0000050	< 0.0000050	0.0000079	0.0000090	0.0000074	< 0.0000050	0.0000121	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	0.000037	< 0.000020	< 0.000020	-	-	< 0.0002	< 0.000020	0.000027	< 0.000020	0.000031	-	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.00209	0.00503	0.00549	0.00136	0.000824	0.00113	0.00578	0.00239	0.00119	0.00118	0.00117	0.000914
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.00976	0.0161	0.0116	0.00650	0.00590	0.00631	0.00464	0.0339	0.0118	0.00187	0.00051	0.00094
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.169|0.325	0.808|1.74	0.0140|< 0.050	0.0329|< 0.1	0.0168|< 0.05	0.0080|< 0.05	0.0584|0.116	0.543|1.47	0.647|2.54	0.0533|< 0.1	0.0952|< 0.05	0.0291|< 0.05
Potassium, total	mg/L	-	-	-	0.05 - 1	3.21	6.42	3.24	1.44	1.32	1.41	1.90	5.07	1.95	0.929	0.807	0.983
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.0166	0.0314	0.0115	0.00584	0.00647	0.00732	0.00609	0.0311	0.00755	0.00229	0.00179	0.00205
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000100	0.000101	0.000092	0.000111	0.000143	0.000114	0.000770	0.00123	0.000312	0.000518	0.000524	0.000352
Silicon, total	mg/L	-	-	-	0.1 - 2	14.1	27.7	7.17	5.43	6.10	6.79	8.92	40.5	15.0	6.14	5.70	5.91
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.00955	0.0213	0.000604	0.000922	0.000223	0.000330	< 0.000020	0.000127	0.000036	-	-	-
Sodium, total	mg/L	200	200	-	0.05 - 1	2.40	4.97	2.42	1.02	1.11	1.32	14.1	15.2	3.92	16.6	15.0	14.2
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.107	0.258	0.0792	0.0384	0.0340	0.0375	0.104	0.374	0.295	0.0823	0.0737	0.0766
Sulfur, total	mg/L	-	-	-	0.5 - 10	< 1.00	< 1.00	1.16	< 1	< 0.5	< 0.5	3.86	3.69	2.16	2.34	2.79	2.02
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00040	< 0.00040	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.00040	< 0.00100	< 0.00040	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000073	0.000122	0.000026	0.000025	0.000015	0.000017	< 0.000020	0.000292	0.000098	-	-	0.000011
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00381	0.00637	0.00060	0.00057	0.00054	0.00062	0.00087	0.00940	0.00318	0.00033	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00089	0.00096	0.00010	0.00034	0.00015	0.00015	0.00057	0.00304	0.00110	0.00207	0.00036	0.00084
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.163	0.389	0.0101	0.0227	0.0120	0.00857	0.150	1.39	0.659	0.0266	0.00799	0.0171
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	0.0580	0.0667	0.0867	0.0265	0.00955	0.0108	0.0955	0.0341	0.0315	0.00777	0.00464	0.00469
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00159	0.00238	0.000929	0.000800	0.000921	0.000729	0.0509	0.0190	0.0111	0.00303	0.00120	0.00101
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.00968	0.0272	0.00092	0.00121	0.00084	0.00091	0.00556	0.0496	0.0183	0.00124	0.00055	0.00091
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0275	0.0530	0.0054	< 0.006	0.0050	< 0.003	0.0147	0.0897	0.0295	0.0149	< 0.003	0.0049
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00079	0.00095	0.00069	0.00048	0.00062	0.00072	0.00098	0.00364	0.00240	< 0.0004	0.00022	0.00048
Volatile Organic Compounds																	
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	1.36	0.83	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	4.61	1.99	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	6.14	4.28	0.99	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	2.84	1.83	0.65	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	8.98	6.11	1.64	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	15.0	8.9	1.6	< 1	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/03/23	6/04/24	8/11/24	7/03/23	7/03/23	8/10/23	9/21/23	9/21/23	6/04/24	8/15/24	8/15/24	10/02/24	10/02/24
						MW22-19-2	MW22-19-2	MW22-19-2	MW22-20-1	MF-C (MW22-20-1)	MW22-20-1	MW22-20-01	DUP 2 (MW22-20-1)	MW22-20-1	MW22-20-1	MWBD4 (MW22-20-1)	MW22-20-1	MW DUP-04 (MW22-20-1)
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	-	-	0.0250	0.227	0.246	0.251	0.257	0.266	0.365	0.343	0.296	0.357	0.476
Bromide	mg/L	-	-	-	0.10 - 0.20	-	-	< 0.1	< 0.10	< 0.10	0.13	< 0.20	< 0.20	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	-	-	0.25	4.04	4.09	4.14	5.02	5.06	3.14	3.27	3.21	3.16	3.24
Fluoride	mg/L	-	-	-	0.020 - 0.040	-	-	< 0.02	0.116	0.128	0.115	0.150	0.150	0.154	0.078	0.078	0.127	0.128
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	-	-	0.118	0.020	< 0.020	< 0.020	< 0.040	< 0.040	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.020	< 0.020	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.210	-	0.832|0.275	0.174|0.127	0.110|0.131	0.131|0.128	0.134|0.129	0.137|0.128	0.126|0.169	0.118|0.129	0.116|0.146	0.128|0.159	0.129|0.148
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	-	-	0.86	15.8	16.4	14.2	10.4	10.3	0.31	< 0.3	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	-	4.68	4.65	4.65	**5.09**	**5.02**	**10.2**	**9.56**	2.51	3.25	3.60	2.97	3.50
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	-	< 2	< 2	< 2.0	< 2.0	< 2.0	11.3	12.7	< 2	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	-	-	65	21	11	23	30	28	15	11	15	13	< 10
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	0.105	0.110	0.103	0.122	0.142	0.120	0.147	0.147
Metals																		
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0036	0.0258	0.0043	0.0014	0.0011	0.0141	0.0024	0.0022	0.0018	0.0252	< 0.001	0.0012	0.0021
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	0.00020	0.00012	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00024	0.00018	0.00026	0.00123	0.00171	0.00088	0.00042	0.00041	0.00036	0.00021	0.00020	0.00020	0.00023
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00988	0.00752	0.0104	0.0307	0.0317	0.0344	0.0389	0.0383	0.0471	0.0416	0.0394	0.0412	0.0461
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.086	0.014	0.022	0.043	0.036	0.038	0.034	0.033	0.034	0.040	0.040	0.039	0.040
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	0.000151	0.0000172	0.0000149	0.0000065	0.0000075	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000108	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	78.8	69.0	78.9	75.0	74.1	71.7	79.9	79.8	78.8	79.9	78.9	80.9	81.9
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	-	-	0.000016	0.000020	0.000010	< 0.000010	< 0.000010	-	0.000016	0.000011	0.000012	0.000012
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00068	0.00086	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	0.00052	0.00103	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00020	0.00012	< 0.0001	0.00093	0.00088	0.00059	0.00027	0.00027	0.00017	0.00010	< 0.0001	< 0.0001	0.00013
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	0.00159	0.00237	0.00286	0.00136	0.00029	< 0.00020	< 0.00020	< 0.00020	0.00063	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	< 0.010	0.066	0.012	**1.27**	**1.01**	**3.84**	**4.17**	**4.27**	**4.54**	**3.82**	**3.81**	**3.70**	**3.67**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	< 0.0010	< 0.001	< 0.001	0.0124	0.0119	0.0118	0.0127	0.0125	0.0094	0.0093	0.0094	0.0088	0.0086
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	14.7	12.6	15.7	17.4	17.0	17.0	18.3	18.0	18.7	20.1	20.4	19.8	19.6
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.0853**	0.00270	0.00068	**0.171**	**0.162**	**0.242**	**0.388**	**0.383**	**0.306**	**0.185**	**0.180**	**0.161**	**0.173**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	-	0.000026	0.000062	0.000040	< 0.000020	0.000048	-	< 0.000020	-	0.000028	0.000026	-	0.000026
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.00519	0.000768	0.00123	0.00442	0.00413	0.00531	0.00375	0.00384	0.000994	0.000666	0.000690	0.000622	0.000691
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00182	0.00063	0.00060	0.00139	0.00128	0.00314	0.00055	0.00055	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	0.105	0.110	0.103	0.122	0.142	0.120	0.147	0.147
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	1.48	1.13	1.45	3.64	3.52	3.34	3.22	3.14	3.40	3.25	3.16	3.48	3.46
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00106	0.00061	0.00063	0.00314	0.00313	0.00265	0.00234	0.00240	0.00254	0.00246	0.00240	0.00238	0.00234
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000108	0.000108	0.000178	< 0.000050	< 0.000050	< 0.000050	0.000061	0.000066	0.000122	0.000153	0.000068	0.000066	-
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	3.75	3.60	4.70	8.47	8.22	9.26	9.55	9.43	9.02	9.21	9.15	9.24	9.36
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	2.47	1.44	1.63	39.5	38.4	34.4	38.0	39.5	18.4	18.4	18.7	18.2	19.0
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.0730	0.0568	0.0670	0.314	0.303	0.322	0.427	0.440	0.457	0.439	0.430	0.469	0.514
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	< 0.50	< 0.5	< 0.5	8.72	7.91	5.76	2.73	2.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00041	0.00037	0.00036	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	0.00132	< 0.0003	< 0.00030	< 0.00030	0.00052	< 0.00030	< 0.00030	< 0.0003	0.00153	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00013	< 0.0001	< 0.0001	0.0282	0.0279	0.0178	0.00804	0.00804	0.00307	0.00136	0.00139	0.00123	0.00140
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000241	0.000207	0.000224	0.00299	0.00301	0.00211	0.00124	0.00125	0.000447	0.000312	0.000287	0.000396	0.000434
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0049	0.0047	0.0026	0.0038	0.0025	0.0322	< 0.0010	< 0.0010	0.0035	0.0015	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	0.00037	0.00040	0.00035	0.00072	0.00075	0.00175	0.00192	0.00194	0.00153	0.00191	0.00189	0.00184	0.00182
Physical Tests																		
Conductivity	uS/cm	-	-	-	2	466	-	473	592	587	619	655	656	570	574	576	540	543
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	279	-	294	326	333	333	357	354	319	339	345	336	326
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	257	224	262	259	255	249	275	273	274	282	281	284	285
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	315	-	282	365	366	369	381	381	312	310	336	332	310
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	274	-	142	78.1	74.5	62.9	16.4	7.4	18.9	11.1	10.1	6.5	10.6
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	8.3	-	8.01	8.15	8.14	8.01	7.9	8.21	8.19	7.68	7.66	8.13	8.08
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	-	-	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	-	-	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	-	-	0.052	0.192	0.142	< 0.015	< 0.015	< 0.015	< 0.015	0.019	0.018	< 0.015	0.037
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	-	-	0.017	0.059	0.044	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	0.013
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	-	-	0.035	0.133	0.098	< 0.010	0.013	0.012	< 0.01	0.019	0.018	0.014	0.024
Naphthalene	ug/L	-	-	-	0.050	-	-	0.109	0.510	0.362	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	-	-	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	-	-	-	0.1	-	-	-	< 0.1	< 0.1	0.17	< 0.1	< 0.1	-	-	-	-	-
Gross beta	Bq/l	-	-	-	0.1	-	-	-	0.13	0.11	0.23	0.31	< 0.1	-	-	-	-	-
Total Metals																		
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	4.76	-	5.95	1.71	1.29	0.418	0.357	0.354	0.220	< 0.003	0.0555	0.0519	0.0265
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	0.00023	-	< 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00014	0.00017	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00222	-	0.00251	0.00201	0.00339	0.00120	0.00058	0.00062	0.00048	0.00022	0.00024	0.00022	0.00021
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.0426	-	0.0480	0.0441	0.0404	0.0373	0.0470	0.0488	0.0511	0.0418	0.0429	0.0405	0.0392
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000216	-	0.000256	0.000107	0.000098	0.000034	< 0.000020	0.000022	0.000020	-	-	-	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	0.000110	-	< 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	0.143	-	< 0.05	0.046	0.046	0.042	0.038	0.038	0.038	0.036	0.035	0.043	0.045
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.000123	-	0.0000829	0.0000621	0.0000488	0.0000130	0.0000115	0.0000136	0.0000212	-	-	-	-
Calcium, total	mg/L	-	-	-	0.05 - 1	114	-	154	81.2	79.4	87.6	72.8	73.0	80.3	86.7	88.6	84.8	85.0
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000472	-	0.000570	0.000295	0.000232	0.000081	0.000061	0.000068	0.000045	0.000012	0.000020	0.000018	0.000014
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.00993	-	0.0141	0.00596	0.00410	0.00186	0.00182	0.00195	0.00132	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	-	0.00090	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.00377	-	0.00481	0.00216	0.00170	0.00087	0.00064	0.00072	0.00034	< 0.0001	0.00013	0.00012	< 0.0001
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.0115	-	0.0151	0.0109	0.00668	0.00171	0.00159	0.00160	0.00118	0.00114	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**6.09**	-	**8.45**	**4.63**	**4.32**	**4.40**	**4.59**	**4.56**	**5.07**	**4.07**	**4.17**	**4.23**	**3.87**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.00324	-	0.00459	0.00119	0.000945	0.000330	0.000261	0.000275	0.000172	-	-	-	-
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0077	-	0.0075	0.0157	0.0145	0.0113	0.0137	0.0133	0.0088	0.0090	0.0096	0.0099	0.0097
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	24.8	-	33.3	19.8	20.2	18.3	15.5	15.4	20.2	20.6	20.9	20.6	20.7
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.241**	-	**0.252**	**0.212**	**0.203**	**0.258**	**0.531**	**0.508**	**0.326**	**0.180**	**0.186**	**0.179**	**0.166**
Mercury, total	mg/L	-	-	-	0.0000050	-	-	0.0000249	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	-	-	< 0.0004	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000022	-	0.000020	0.000024	-
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.00685	-	0.00176	0.00450	0.00387	0.00580	0.00564	0.00556	0.00112	0.000709	0.000629	0.000829	0.000594
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.00937	-	0.0103	0.00577	0.00440	0.00455	0.00201	0.00246	0.00189	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.210	-	0.832|0.275	0.174|0.127	0.110|0.131	0.131|0.128	0.134|0.129	0.137|0.128	0.126|0.169	0.118|0.129	0.116|0.146	0.128|0.159	0.129|0.148
Potassium, total	mg/L	-	-	-	0.05 - 1	2.74	-	2.83	4.26	4.09	3.53	3.33	3.27	3.46	3.18	3.27	3.53	3.52
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.00830	-	0.00925	0.00718	0.00624	0.00357	0.00303	0.00319	0.00308	0.00256	0.00249	0.00284	0.00271
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	0.000172	-	< 0.00025	0.000054	0.000052	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Silicon, total	mg/L	-	-	-	0.1 - 2	13.4	-	16.0	12.4	11.8	10.3	9.91	10.2	9.78	9.13	9.51	9.10	9.08
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.000021	-	-	0.000462	0.000244	0.000077	0.000071	0.000081	0.000049	-	-	0.000011	-
Sodium, total	mg/L	200	200	-	0.05 - 1	3.44	-	2.09	41.3	36.8	35.6	47.6	44.3	19.0	21.3	21.3	17.2	17.1
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.102	-	0.122	0.311	0.304	0.328	0.464	0.492	0.477	0.453	0.467	0.406	0.410
Sulfur, total	mg/L	-	-	-	0.5 - 10	< 1.00	-	< 2.5	9.45	7.63	5.75	4.21	3.98	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00040	-	< 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000066	-	0.000102	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00134	-	0.00216	0.00086	0.00075	0.00031	0.00018	0.00018	0.00014	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	0.00158	-	0.00170	0.00041	0.00038	0.00014	0.00027	0.00036	0.00068	0.00014	< 0.0001	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.279	-	0.371	0.0923	0.0648	0.0214	0.0210	0.0228	0.0132	< 0.0003	0.00418	0.00313	0.00153
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00020	-	< 0.0005	0.0331	0.0244	0.0225	0.0147	0.0146	0.00370	0.00142	0.00144	0.00121	0.00134
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000442	-	0.000573	0.00358	0.00315	0.00242	0.00250	0.00253	0.000573	0.000313	0.000338	0.000346	0.000356
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.0104	-	0.0133	0.00408	0.00324	0.00104	0.00100	0.00101	0.00061	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0245	-	0.0326	0.0170	0.0131	0.0436	0.0083	0.0104	0.0093	< 0.003	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00316	-	0.00307	0.00119	0.00118	0.00107	0.00192	0.00176	0.00145	0.00199	0.00205	0.00194	0.00182
Volatile Organic Compounds																		
Acetone	ug/L	-	-	-	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	-	-	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	-	-	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	-	-	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	-	-	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	-	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	-	-	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	-	-	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	-	-	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	-	-	< 0.5	0.64	0.57	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	-	-	< 0.4	1.54	1.42	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	-	-	< 0.3	0.69	0.62	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	-	-	< 0.5	2.23	2.04	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	-	-	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	-	-	-	1.0	-	-	< 1	2.9	2.6	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1

CDWQG - AO/OG

Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)

Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)

< Indicates parameter was below laboratory equipment detection limit

> Indicates parameter detected above equipment analytical range

- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020, Aesthetic Objectives/Operational Guidelines	ODWQS-AO	ODWQS-OG	REPORT RESULT LIMIT	7/03/23	8/10/23	9/21/23	6/04/24	8/15/24	10/02/24
						MW22-20-2	MW22-20-2	MW22-20-2	MW22-20-2	MW22-20-2	MW22-20-2
Anions and Nutrients											
Ammonia, total (as N)	mg/L	-	-	-	0.005 - 0.05	0.0646	0.0453	0.0553	0.105	1.78	0.0883
Bromide	mg/L	-	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	250	250	-	0.10 - 0.20	1.05	0.39	< 0.10	0.13	0.34	0.43
Fluoride	mg/L	-	-	-	0.020 - 0.040	0.035	< 0.020	0.020	0.037	0.024	0.051
Nitrate (as N)	mg/L	-	-	-	0.020 - 0.040	0.038	0.160	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	-	0.002 - 1	0.160|0.552	0.0726|0.066	0.0603|< 0.100	0.0801|< 0.25	0.0452|< 0.5	0.0724|< 0.05
Sulfate (as SO4)	mg/L	500	500	-	0.30 - 0.60	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	5	-	0.50 - 2.50	**10.1**	**15.0**	**17.6**	**11.0**	**11.7**	**11.7**
Biochemical oxygen demand [BOD]	mg/L	-	-	-	2 - 5	< 3.0	< 2.0	< 2.0	2.2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	-	10	57	67	58	56	34	34
Phosphorus, Dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Metals											
Aluminum, dissolved	mg/L	0.1	-	0.1	0.001 - 0.005	0.0064	0.0123	0.0161	0.0094	0.0042	0.0072
Antimony, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00182	0.00123	0.00103	0.00118	0.00205	0.00148
Barium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.0598	0.0322	0.0271	0.0321	0.0405	0.0350
Beryllium, dissolved	mg/L	-	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	-	-	-	0.01 - 0.05	0.014	< 0.010	< 0.010	< 0.01	0.017	0.012
Cadmium, dissolved	mg/L	-	-	-	0.000005 - 0.000025	< 0.0000050	0.0000051	0.0000054	-	-	-
Calcium, dissolved	mg/L	-	-	-	0.05 - 0.25	122	101	96.5	117	116	112
Cesium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	0.00059	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	-	0.0001 - 0.0005	0.00020	0.00033	0.00022	0.00023	0.00027	0.00024
Copper, dissolved	mg/L	1	1	-	0.0002 - 0.001	< 0.00020	< 0.00020	0.00060	0.00072	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	0.3	-	0.01 - 0.05	**1.02**	**1.88**	**1.87**	**2.56**	**3.28**	**2.79**
Lead, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	-	0.001 - 0.005	0.0036	0.0028	0.0016	0.0028	0.0040	0.0032
Magnesium, dissolved	mg/L	-	-	-	0.005 - 0.025	11.6	10.2	10.3	10.7	12.2	11.4
Manganese, dissolved	mg/L	0.02	0.05	-	0.0001 - 0.0005	**0.140**	**0.121**	**0.110**	**0.129**	**0.155**	**0.123**
Mercury, dissolved	mg/L	-	-	-	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000500	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	-	0.000020 - 0.000080	< 0.000020	0.000040	0.000024	-	0.000027	-
Molybdenum, dissolved	mg/L	-	-	-	0.00005 - 0.00025	0.000682	0.00109	0.000344	0.000331	0.000568	0.000291
Nickel, dissolved	mg/L	-	-	-	0.0005 - 0.0025	0.00051	0.00510	0.00097	0.00085	0.00093	0.00069
Phosphorus, dissolved	mg/L	-	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	-	0.05 - 0.25	0.503	0.289	0.234	0.328	0.533	0.434
Rubidium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.00157	0.00053	0.00046	0.00051	0.00089	0.00064
Selenium, dissolved	mg/L	-	-	-	0.00005 - 0.00025	< 0.000050	0.000072	0.000059	-	0.000072	-
Silicon, dissolved	mg/L	-	-	-	0.05 - 0.25	8.02	7.35	6.30	8.98	11.1	10.2
Silver, dissolved	mg/L	-	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	200	200	-	0.05 - 0.25	5.32	3.66	3.21	4.32	5.40	4.98
Strontium, dissolved	mg/L	-	-	-	0.0002 - 0.001	0.188	0.146	0.132	0.162	0.178	0.167
Sulfur, dissolved	mg/L	-	-	-	0.5 - 2.5	0.66	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	0.00015	0.00015	< 0.0001	0.00012	< 0.0001
Titanium, dissolved	mg/L	-	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	0.00031	0.00032	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	-	-	-	0.00001 - 0.00005	0.000348	0.000079	0.000045	0.000045	0.000042	0.000035
Vanadium, dissolved	mg/L	-	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	5	5	-	0.001 - 0.005	0.0028	0.0194	0.0084	0.0020	0.0026	< 0.001
Zirconium, dissolved	mg/L	-	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests											
Conductivity	uS/cm	-	-	-	2	627	591	521	567	594	564
Alkalinity, total (as CaCO3)	mg/L	-	-	30 - 500	2	375	330	314	334	342	354
Hardness (as CaCO3), dissolved	mg/L	-	-	30 - 100	0.5	352	294	283	336	340	327
Solids, total dissolved [TDS]	mg/L	500	500	-	13 - 40	**505**	356	305	358	359	379
Solids, total suspended [TSS]	mg/L	-	-	-	3 - 15	1360	46.9	60	75.3	36.5	9.3
pH	pH units	7.00 - 10.5	-	6.5 - 8.5	0.1	7.74	7.59	8.13	7.89	7.2	7.78
Polycyclic Aromatic Hydrocarbon											
Acenaphthene	ug/L	-	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	-	0.015	0.169	< 0.015	0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	-	0.010	0.054	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	-	0.010	0.115	0.014	0.015	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	-	0.050	0.417	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters											
Gross alpha	Bq/l	-	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals											
Aluminum, total	mg/L	0.1	-	0.1	0.003 - 0.06	19.9	0.944	1.17	1.85	8.50	0.287
Antimony, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00050	0.00029	< 0.00020	< 0.0005	< 0.001	0.00013
Arsenic, total	mg/L	-	-	-	0.0001 - 0.002	0.00655	0.00168	0.00132	0.00138	0.00377	0.00160
Barium, total	mg/L	-	-	-	0.0001 - 0.002	0.205	0.0436	0.0401	0.0457	0.106	0.0387
Beryllium, total	mg/L	-	-	-	0.00002 - 0.0004	0.000896	0.000035	0.000043	< 0.0001	0.000277	-
Bismuth, total	mg/L	-	-	-	0.00005 - 0.001	< 0.000250	< 0.000050	< 0.000100	< 0.00025	< 0.0005	-
Boron, total	mg/L	-	-	-	0.01 - 0.2	0.067	< 0.010	< 0.020	< 0.05	< 0.1	0.015
Cadmium, total	mg/L	-	-	-	0.000005 - 0.0001	0.000205	0.0000571	0.0000439	0.0000300	0.000142	-
Calcium, total	mg/L	-	-	-	0.05 - 1	207	119	101	119	164	119
Cesium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00210	0.000120	0.000155	0.000215	0.00102	0.000035
Chromium, total	mg/L	-	-	-	0.0005 - 0.01	0.0512	0.00329	0.00312	0.00446	0.0204	0.00095
Chromium, hexavalent [Cr VI], total	mg/L	-	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	-	0.0001 - 0.002	0.0134	0.00094	0.00086	0.00119	0.00505	0.00040
Copper, total	mg/L	1	1	-	0.0005 - 0.01	0.0354	0.00181	0.00194	0.00340	0.0128	< 0.0005
Iron, total	mg/L	0.3	0.3	-	0.01 - 0.2	**30.6**	**3.17**	**3.39**	**4.76**	**14.7**	**3.20**
Lead, total	mg/L	-	-	-	0.00005 - 0.001	0.0135	0.000564	0.000623	0.00104	0.00483	0.000148
Lithium, total	mg/L	-	-	-	0.001 - 0.02	0.0384	0.0034	0.0036	0.0056	0.0113	0.0042
Magnesium, total	mg/L	-	-	-	0.005 - 0.1	36.1	12.1	11.2	13.8	22.7	12.0
Manganese, total	mg/L	0.02	0.05	-	0.0001 - 0.002	**0.720**	**0.150**	**0.141**	**0.166**	**0.346**	**0.134**
Mercury, total	mg/L	-	-	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	-	0.00002 - 0.0002	0.000021	< 0.000020	< 0.000020	-	0.000108	0.000029
Molybdenum, total	mg/L	-	-	-	0.00005 - 0.001	0.000719	0.00169	0.000350	0.000384	0.000596	0.000339
Nickel, total	mg/L	-	-	-	0.0005 - 0.01	0.0349	0.0104	0.00317	0.00370	0.0147	0.00143
Phosphorus, total	mg/L	-	-	-	0.002 - 1	0.160|0.552	0.0726|0.066	0.0603|< 0.100	0.0801|< 0.25	0.0452|< 0.5	0.0724|< 0.05
Potassium, total	mg/L	-	-	-	0.05 - 1	5.04	0.612	0.516	0.792	2.59	0.550
Rubidium, total	mg/L	-	-	-	0.0002 - 0.004	0.0378	0.00220	0.00242	0.00368	0.0152	0.00116
Selenium, total	mg/L	-	-	-	0.00005 - 0.001	0.000252	0.000081	< 0.000100	< 0.00025	< 0.0005	-
Silicon, total	mg/L	-	-	-	0.1 - 2	41.8	9.68	8.49	11.9	27.2	10.2
Silver, total	mg/L	-	-	-	0.00001 - 0.0002	0.000093	0.000033	< 0.000020	-	< 0.0001	0.000012
Sodium, total	mg/L	200	200	-	0.05 - 1	7.48	4.49	2.97	4.24	6.33	5.38
Strontium, total	mg/L	-	-	-	0.0002 - 0.004	0.274	0.157	0.143	0.168	0.218	0.166
Sulfur, total	mg/L	-	-	-	0.5 - 10	< 2.50	< 0.50	< 1.00	< 2.5	< 5	< 0.5
Tellurium, total	mg/L	-	-	-	0.0002 - 0.004	< 0.00100	< 0.00020	< 0.00040	< 0.001	< 0.002	< 0.0002
Thallium, total	mg/L	-	-	-	0.00001 - 0.0002	0.000119	< 0.000010	< 0.000020	-	< 0.0001	-
Thorium, total	mg/L	-	-	-	0.0001 - 0.002	0.00456	0.00017	< 0.00020	< 0.0005	0.00157	< 0.0001
Tin, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00050	0.00051	0.00036	< 0.0005	< 0.001	0.00016
Titanium, total	mg/L	-	-	-	0.0003 - 0.006	0.847	0.0450	0.0528	0.0900	0.392	0.0136
Tungsten, total	mg/L	-	-	-	0.0001 - 0.002	< 0.00050	< 0.00010	< 0.00020	< 0.0005	< 0.001	< 0.0001
Uranium, total	mg/L	-	-	-	0.00001 - 0.0002	0.00251	0.000335	0.000363	0.000410	0.00147	0.000088
Vanadium, total	mg/L	-	-	-	0.0005 - 0.01	0.0491	0.00241	0.00283	0.00469	0.0208	0.00084
Zinc, total	mg/L	5	5	-	0.003 - 0.06	0.0698	0.0383	0.0172	< 0.015	0.0454	< 0.003
Zirconium, total	mg/L	-	-	-	0.0002 - 0.004	0.00290	0.00056	0.00056	< 0.001	0.00205	0.00039
Volatile Organic Compounds											
Acetone	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	30	30	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	3	3	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	1	1	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	-	-	-	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	1.6	1.6	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	15	15	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	24	24	-	0.50	0.73	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	-	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	-	0.40	1.60	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	-	0.30	0.80	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	20	20	-	0.50	2.40	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes											
SUM OF BTEX	ug/L	-	-	-	1.0	3.1	< 1.0	< 1.0	< 1	< 1	< 1

CDWQG - AO/OG
Ontario Drinking Water Quality Standards - Aesthetic Objectives (June 2003, revised July 2017)
Ontario Drinking Water Quality Standards - Operational Guidelines (June 2003, revised June 2006)
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/04/23	8/09/23	8/09/23	9/24/23	9/24/23	6/05/24	8/13/24	10/02/24
					MW22-01-1	MW22-01-1	DUP-02 (MW22-01-1)	MW22-01-1	DUP 4 (MW22-01-1)	MW22-01-1	MW22-01-1	MW22-01-1
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0368	0.0350	0.0337	0.0735	0.0670	0.129	0.0832	0.0757
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.29	0.25	0.28	0.28	0.31	0.29	0.27	0.27
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.086	0.053	0.060	0.090	0.110	0.041	0.051	0.100
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	0.023
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0889|0.346	0.190|0.228	0.216|0.170	0.0398|0.053	0.0450|0.074	0.0483|0.086	0.0229|< 0.05	0.0420|0.052
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	5.38	5.17	5.15	5.45	4.89	4.78	5.30	5.15
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.76	0.97	1.28	1.88	1.49	1.01	3.15	1.24
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	11	10	15	< 10	< 10	< 10	< 10	14
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals												
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	< 0.0010	0.0024	0.0016	0.0012	0.0011	< 0.001	0.0011	0.0112
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00030	0.00025	0.00027	0.00029	0.00028	0.00026	0.00026	0.00025
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0258	0.0202	0.0208	0.0230	0.0232	0.0230	0.0217	0.0202
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.016	0.010	0.010	0.013	0.012	0.013	0.012	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	70.5	73.0	71.3	71.4	70.8	66.6	76.6	71.2
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00025	0.00010	0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	0.709	0.485	0.461	0.637	0.619	0.691	0.510	0.480
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-		
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0044	0.0035	0.0035	0.0039	0.0044	0.0043	0.0038	0.0033
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	17.4	16.5	16.6	17.6	17.8	15.8	17.5	16.9
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0595	0.0406	0.0410	0.0462	0.0453	0.0458	0.0408	0.0395
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000022	< 0.000020	< 0.000020	-	0.000050	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.000442	0.000580	0.000560	0.000471	0.000481	0.000424	0.000528	0.000512
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.11	1.71	1.73	1.90	1.92	1.97	1.94	1.85
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00207	0.00213	0.00200	0.00172	0.00162	0.00161	0.00196	0.00185
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.71	5.46	5.48	5.74	5.88	6.03	5.80	5.52
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	4.46	2.76	2.78	3.54	3.64	3.88	3.25	3.02
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.144	0.0996	0.100	0.114	0.112	0.122	0.104	0.0942
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.44	1.89	2.03	1.51	1.66	1.76	1.75	2.00
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	0.00047
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00021	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00017
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000620	0.00157	0.00166	0.00123	0.00127	0.000955	0.00158	0.00153
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	2.0	435	438	431	470	469	439	447	393
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	288	270	255	254	266	253	258	268
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	248	250	246	251	250	231	263	247
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	240	256	264	251	248	250	254	269
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	178	362	462	37.4	30.4	19.1	4.8	7.5
pH	pH units	-	-	0.10	8.08	8.11	8.07	7.97	8.03	8.20	8.18	8.07
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	0.048	0.036	0.017	0.019	0.020	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	0.015	0.012	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	0.033	0.024	0.017	0.019	0.020	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	0.050	0.168	0.090	0.060	0.086	0.087	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	0.19	0.50	0.25	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	0.80	0.10	< 0.1	0.12	-	-	-
Total Metals												
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	**3.78**	2.26	1.68	0.180	0.386	0.137	0.0293	0.133
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	< 0.00020	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00012	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00126	0.00087	0.00073	0.00028	0.00037	0.00037	0.00027	0.00030
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0534	0.0370	0.0316	0.0229	0.0262	0.0260	0.0211	0.0225
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000156	0.000091	0.000063	< 0.000020	< 0.000020	-	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	0.020	0.013	0.012	0.011	0.012	0.013	0.012	0.012
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.0000487	0.0000275	0.0000194	< 0.0000050	< 0.0000050	0.0000091	-	-
Calcium, total	mg/L	-	-	0.05 - 1	161	117	108	70.5	73.2	71.6	68.6	76.5
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000349	0.000159	0.000120	0.000016	0.000035	0.000013	-	0.000011
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.00801	0.00458	0.00353	< 0.00050	0.00083	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00251	0.00135	0.00099	0.00017	0.00027	0.00011	< 0.0001	0.00012
Copper, total	mg/L	2	-	0.0005 - 0.01	0.00772	0.00372	0.00297	< 0.00050	0.00057	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	5.39	3.31	2.54	0.787	1.07	1.59	0.547	0.659
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.00285	0.00153	0.00111	0.000131	0.000271	0.000135	-	0.000085
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0089	0.0067	0.0054	0.0041	0.0046	0.0039	0.0036	0.0043
Magnesium, total	mg/L	-	-	0.005 - 0.1	34.9	31.6	27.6	16.5	17.4	17.4	16.8	17.2
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.232**	**0.146**	0.117	0.0490	0.0589	0.0522	0.0428	0.0469
Mercury, total	mg/L	0.001	0.001	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.000471	0.000548	0.000528	0.000509	0.000474	0.000504	0.000593	0.000519
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.00525	0.00286	0.00214	< 0.00050	0.00054	0.0180	< 0.0005	< 0.0005
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0889|0.346	0.190|0.228	0.216|0.170	0.0398|0.053	0.0450|0.074	0.0483|0.086	0.0229|< 0.05	0.0420|0.052
Potassium, total	mg/L	-	-	0.05 - 1	2.90	2.56	2.39	1.80	1.90	2.04	1.87	1.94
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00820	0.00512	0.00438	0.00206	0.00230	0.00191	0.00187	0.00213
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	14.2	9.67	8.40	5.93	6.59	6.24	5.52	5.70
Silver, total	mg/L	-	-	0.00001 - 0.0002	0.000023	0.000015	0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	4.68	3.52	3.41	2.82	3.05	3.88	2.93	3.29
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.191	0.134	0.125	0.104	0.115	0.120	0.0947	0.100
Sulfur, total	mg/L	-	-	0.5 - 10	1.81	2.19	2.18	2.02	1.97	1.73	2.09	1.77
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	0.000057	0.000030	0.000024	< 0.000010	< 0.000010	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00221	0.00121	0.00090	0.00011	0.00023	0.00010	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00023	0.00016	0.00013	< 0.00010	0.00012	< 0.0001	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.310	0.229	0.170	0.0160	0.0339	0.0114	0.00257	0.0118
Tungsten, total	mg/L	-	-	0.0001 - 0.002	0.00068	0.00057	0.00073	< 0.00010	0.00021	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.00183	0.00210	0.00193	0.00152	0.00147	0.00120	0.00163	0.00150
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.00904	0.00562	0.00408	< 0.00050	0.00092	< 0.0005	< 0.0005	< 0.0005
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0121	0.0066	0.0051	< 0.0030	< 0.0030	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00185	0.00185	0.00161	0.00022	0.00045	< 0.0002	< 0.0002	< 0.0002
Volatile Organic Compounds												
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	20.9	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	1.62	0.96	0.87	0.41	0.65	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	0.65	0.40	0.35	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	2.27	1.36	1.22	< 0.50	0.65	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	2.3	1.4	1.2	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/25/22	7/04/23	8/09/23	9/24/23	9/24/23	6/05/24	6/05/24	8/13/24	10/02/24
					MW22-01-2	MW22-01-2	MW22-01-2	MW22-01-02	MW22-01-2	MW22-01-2	DUP-01 (MW22-01-2)	MW22-01-2	MW22-01-2
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0275	0.0141	0.0075	0.0080	0.0080	0.554	0.0206	0.151	0.0422
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	1.98	0.44	0.45	0.37	0.37	0.31	0.28	0.28	0.28
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.073	0.064	0.021	0.056	0.056	< 0.02	< 0.02	0.023	0.070
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0321	0.153|0.228	0.0863|0.100	0.0263|< 0.050	0.0263|< 0.050	0.0468|< 0.1	0.0598|< 0.1	0.0140|< 0.05	0.0823|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	3.51	6.00	5.11	5.90	5.90	6.19	6.17	5.59	5.44
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.72	1.40	1.44	1.10	1.10	0.78	1.00	1.91	1.38
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	24	28	13	< 10	< 10	14	< 10	12	14
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Dissolved Metals													
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0016	< 0.0010	< 0.0010	0.0014	0.0014	0.0016	0.0011	0.0014	0.0012
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	0.00012	< 0.00010	0.00011	0.00016	0.00016	0.00010	< 0.0001	< 0.0001	0.00018
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00050	0.00056	0.00024	0.00019	0.00019	< 0.0001	0.00013	0.00025	0.00012
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0280	0.0234	0.0203	0.0179	0.0179	0.0136	0.0135	0.0255	0.0156
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.022	0.019	0.011	0.010	0.010	< 0.01	< 0.01	0.011	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	0.0000053	0.0000240
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	61.4	64.0	70.3	69.9	69.9	64.8	65.1	72.6	68.9
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00063	0.00060	0.00022	0.00018	0.00018	< 0.0001	< 0.0001	0.00038	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00063	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00302	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	0.045	0.170	0.198	0.134	0.134	0.092	0.091	0.092	0.097
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	0.000107	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0040	0.0028	0.0027	0.0035	0.0035	0.0032	0.0033	0.0030	0.0029
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	16.1	18.5	16.6	18.3	18.3	15.1	15.4	17.5	16.5
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.195**	**0.187**	0.0897	0.0757	0.0757	0.0392	0.0394	0.119	0.0325
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	0.0000054	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000047	< 0.000020	< 0.000020	-	-	0.000024	0.000033
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00350	0.00278	0.00113	0.000866	0.000866	0.000751	0.000735	0.00122	0.000726
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	0.00072	0.00138	0.00138	< 0.0005	< 0.0005	< 0.0005	0.00120
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.70	2.69	1.97	2.06	2.06	1.87	1.88	2.35	2.09
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00313	0.00440	0.00338	0.00339	0.00339	0.00387	0.00404	0.00398	0.00379
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.90	5.13	4.59	4.49	4.49	4.24	4.23	4.73	4.50
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	3.49	2.57	2.02	2.14	2.14	1.96	2.09	2.03	2.09
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0680	0.0769	0.0685	0.0648	0.0648	0.0610	0.0570	0.0682	0.0604
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.36	2.11	1.91	1.94	1.94	2.46	2.58	2.03	2.22
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00035	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00013
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00037	< 0.00010	< 0.00010	0.00018	0.00018	< 0.0001	< 0.0001	0.00285	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.00316	0.00372	0.00222	0.00211	0.00211	0.00277	0.00271	0.00298	0.00266
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0030	0.0011	0.0022	0.0017	0.0017	< 0.001	< 0.001	0.0021	0.0018
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests													
Conductivity	uS/cm	-	-	2.0	421	417	431	458	458	420	421	434	396
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	244	244	247	265	265	244	240	247	262
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	220	236	244	250	250	224	226	253	240
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	251	311	244	247	247	234	236	239	255
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	92.4	540	80.4	62.0	62.0	73.9	67.9	6.2	10.5
pH	pH units	-	-	0.10	8.08	8.07	8.12	7.98	7.98	8.10	8.11	8.14	8.00
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.071	< 0.019	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	0.24	0.12	0.12	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	0.28	0.15	0.15	-	-	-	-
Total Metals													
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	**5.37**	1.49	0.737	0.737	0.821	0.800	0.659	0.114
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	< 0.00020	0.00052	0.00029	0.00029	< 0.0002	0.00024	< 0.0001	0.00017
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00162	0.00054	0.00053	0.00053	0.00037	0.00042	0.00036	0.00024
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0682	0.0309	0.0241	0.0241	0.0209	0.0213	0.0245	0.0170
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000205	0.000058	0.000030	0.000030	-	-	0.000030	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	-	0.029	0.013	0.014	0.014	< 0.02	< 0.02	0.013	0.010
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.0000629	0.0000378	0.0000201	0.0000201	0.0000183	0.0000183	0.0000078	0.0000176
Calcium, total	mg/L	-	-	0.05 - 1	-	132	79.6	73.0	73.0	72.7	77.4	70.1	73.2
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000553	0.000162	0.000093	0.000093	0.000096	0.000094	0.000074	0.000015
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.0112	0.00342	0.00170	0.00170	0.00188	0.00197	0.00153	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00393	0.00114	0.00073	0.00073	0.00065	0.00064	0.00079	0.00022
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.00858	0.00269	0.00137	0.00137	0.00146	0.00202	0.00099	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	-	6.44	2.11	1.15	1.15	1.28	1.29	1.12	0.360
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	0.00359	0.000980	0.000495	0.000495	0.000546	0.000586	0.000376	0.000092
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0103	0.0054	0.0042	0.0042	0.0036	0.0036	0.0038	0.0032
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	31.2	20.4	17.6	17.6	17.8	18.5	18.1	16.9
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	**0.381**	**0.131**	**0.124**	**0.124**	0.0903	0.0971	**0.158**	0.0678
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000096	0.000030	0.000046	0.000046	0.000024	-	0.000025	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.00238	0.00108	0.00129	0.00129	0.000779	0.000826	0.00123	0.000762
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.00813	0.00380	0.00266	0.00266	0.00182	0.00188	0.00122	0.00089
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0321	0.153|0.228	0.0863|0.100	0.0263|< 0.050	0.0263|< 0.050	0.0468|< 0.1	0.0598|< 0.1	0.0140|< 0.05	0.0823|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	-	4.33	2.61	2.34	2.34	2.13	2.22	2.47	2.19
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.0153	0.00644	0.00491	0.00491	0.00531	0.00542	0.00511	0.00437
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	< 0.000100	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Silicon, total	mg/L	-	-	0.1 - 2	-	17.7	7.44	6.18	6.18	5.57	5.67	5.94	4.47
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	0.000020	0.000011	< 0.000010	< 0.000010	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	3.24	2.39	1.96	1.96	1.92	2.03	1.97	2.12
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.121	0.0754	0.0726	0.0726	0.0674	0.0706	0.0708	0.0637
Sulfur, total	mg/L	-	-	0.5 - 10	-	2.30	2.12	2.19	2.19	1.83	2.27	2.33	2.10
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00040	< 0.00020	< 0.00020	< 0.00020	< 0.0004	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000089	0.000023	0.000011	0.000011	-	-	0.000020	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00182	0.00055	0.00029	0.00029	0.00028	0.00026	0.00027	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00074	0.00078	0.00042	0.00042	0.00035	0.00094	0.00011	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.323	0.0980	0.0483	0.0483	0.0559	0.0557	0.0458	0.00742
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00020	0.00012	0.00011	0.00011	< 0.0002	< 0.0002	0.00013	< 0.0001
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.00456	0.00255	0.00278	0.00278	0.00264	0.00271	0.00290	0.00280
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.0127	0.00359	0.00168	0.00168	0.00200	0.00190	0.00168	< 0.0005
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0215	0.0113	0.0045	0.0045	< 0.006	0.0091	0.0031	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00314	0.00100	0.00043	0.00043	< 0.0004	< 0.0004	0.00040	< 0.0002
Volatile Organic Compounds													
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/26/22	6/28/23	8/12/23	9/24/23	9/24/23	6/04/24	8/11/24	10/01/24
					MW22-02-01	MW22-2-1	MW22-02-1	MW22-02-01	MW22-02-1	MW22-02-1	MW22-02-1	MW22-02-1
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.112	0.0635	0.0203	0.0269	0.0269	0.115	0.0875	0.205
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	0.11	0.11	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	1.38	1.22	1.13	0.68	0.68	0.61	0.36	0.41
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.253	0.217	0.186	0.181	0.181	0.102	0.064	0.307
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	0.023	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0613	0.0588|< 0.050	0.0300|0.054	0.0839|0.071	0.0839|0.071	0.0464|0.088	0.0454|1.55	0.0886|0.094
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	0.96	0.70	0.75	0.47	0.47	< 0.3	0.84	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.48	1.91	1.79	2.06	2.06	1.96	2.05	2.61
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	26	19	10	< 10	< 10	< 10	< 10	10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	0.054	< 0.05
Dissolved Metals												
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0011	< 0.0010	0.0011	0.0017	0.0017	0.0014	0.0016	< 0.001
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	0.00080	0.00160	0.00065	0.00090	0.00090	0.00047	0.00010	0.00029
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00021	0.00015	0.00051	0.00040	0.00040	0.00026	0.00020	0.00019
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0459	0.0409	0.0403	0.0374	0.0374	0.0371	0.0405	0.0362
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.015	0.022	0.018	0.017	0.017	0.017	0.014	0.016
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	0.0000178	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	68.1	65.2	64.0	66.3	66.3	61.8	78.2	69.1
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00012	< 0.00010	0.00016	0.00018	0.00018	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	< 0.00035	0.00042	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	0.869	< 0.010	1.36	1.24	1.24	1.64	1.29	1.31
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0100	0.0109	0.0100	0.0092	0.0092	0.0100	0.0078	0.0082
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	20.5	22.0	21.1	23.2	23.2	20.0	22.8	21.7
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0396	0.0145	0.0698	0.0628	0.0628	0.0435	0.0380	0.0405
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000044	< 0.000080	< 0.000080	-	0.000035	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00172	0.00344	0.00263	0.00260	0.00260	0.00305	0.00118	0.00231
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	0.054	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	3.12	3.83	3.17	3.07	3.07	3.16	2.83	3.06
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00082	0.00101	0.00080	0.00078	0.00078	0.00087	0.00072	0.00077
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	0.000277	0.000214	0.000130
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	9.60	8.86	9.08	9.12	9.12	9.41	9.73	9.61
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	7.47	8.58	7.39	8.28	8.28	7.72	6.98	7.62
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.115	0.120	0.119	0.119	0.119	0.117	0.123	0.118
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.65	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	0.66
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00024	0.00037	0.00029	0.00041	0.00041	0.00021	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00012	0.00016	0.00014	0.00014	0.00014	0.00019	0.00062	0.00014
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000048	0.000191	0.000103	0.000107	0.000107	0.000056	0.000019	0.000052
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	0.0032	0.0011	< 0.0010	< 0.0010	< 0.001	0.0017	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	2.0	474	436	493	506	506	469	488	374
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	283	251	278	296	296	281	291	285
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	254	253	247	261	261	237	289	262
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	292	290	300	272	272	298	280	278
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	74.6	97.9	14.5	52.9	52.9	23.5	500	131
pH	pH units	-	-	0.10	8.04	8.02	8.30	7.98	7.98	8.29	8.02	8.07
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.049	< 0.028	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	0.12	0.10	0.10	-	-	-
Total Metals												
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	0.272	0.179	0.352	0.352	0.122	**14.3**	0.166
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	0.00475	0.00080	0.00092	0.00092	0.00066	0.00070	0.00038
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00033	0.00041	0.00055	0.00055	0.00031	0.00506	0.00029
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0442	0.0425	0.0414	0.0414	0.0398	0.162	0.0393
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	0.000685	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	< 0.00025	-
Boron, total	mg/L	5	5	0.01 - 0.2	-	0.023	0.019	0.018	0.018	0.020	< 0.05	0.017
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.0000263	0.0000074	0.0000148	0.0000148	0.0000050	0.000234	0.0000114
Calcium, total	mg/L	-	-	0.05 - 1	-	67.1	73.3	70.5	70.5	68.8	566	76.8
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000030	0.000021	0.000035	0.000035	0.000014	0.00118	0.000016
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.00088	0.00063	0.00092	0.00092	< 0.0005	0.0407	0.00059
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00026	0.00031	0.00031	0.00031	0.00012	0.0102	0.00015
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.00105	< 0.00050	0.00057	0.00057	< 0.0005	0.0244	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	-	0.555	1.18	2.01	2.01	1.90	23.7	1.87
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	0.000134	0.000170	0.000243	0.000243	0.000106	**0.00994**	0.000128
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0117	0.0100	0.0103	0.0103	0.0098	0.0294	0.0094
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	22.0	23.1	22.0	22.0	21.8	138	23.5
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	0.0400	0.0835	0.0702	0.0702	0.0493	**0.955**	0.0580
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000063	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000105	0.000033	0.000049	0.000049	0.000032	0.000087	0.000239
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.00341	0.00280	0.00277	0.00277	0.00328	0.00189	0.00220
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.00080	0.00084	0.00085	0.00085	< 0.0005	0.0245	0.00061
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0613	0.0588|< 0.050	0.0300|0.054	0.0839|0.071	0.0839|0.071	0.0464|0.088	0.0454|1.55	0.0886|0.094
Potassium, total	mg/L	-	-	0.05 - 1	-	3.67	3.19	3.04	3.04	3.12	6.65	3.07
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00150	0.00111	0.00140	0.00140	0.00102	0.0232	0.00104
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	< 0.00025	-
Silicon, total	mg/L	-	-	0.1 - 2	-	9.83	9.73	10.2	10.2	10.0	35.6	9.45
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	0.000098	-
Sodium, total	mg/L	-	-	0.05 - 1	-	8.89	8.12	6.92	6.92	7.77	8.60	7.77
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.116	0.120	0.118	0.118	0.122	0.450	0.118
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 2.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.001	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	0.000200	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00010	< 0.00010	0.00014	0.00014	< 0.0001	0.00679	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00165	0.00076	0.00116	0.00116	0.00052	0.00292	0.00032
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.0191	0.0149	0.0238	0.0238	0.00877	1.22	0.0129
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	0.00021	0.00016	0.00018	0.00018	0.00020	0.00111	0.00016
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.000226	0.000138	0.000140	0.000140	0.000073	0.00172	0.000073
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.00090	0.00062	0.00094	0.00094	< 0.0005	0.0373	0.00058
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0061	0.0035	0.0031	0.0031	< 0.003	0.0693	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00057	0.00033	0.00042	0.00042	0.00023	0.00797	0.00027
Volatile Organic Compounds												
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/26/22	6/28/23	8/12/23	9/24/23	6/04/24	8/13/24	10/01/24	11/24/22	6/28/23	8/10/23	9/24/23	6/04/24	10/03/24
					MW22-02-02	MW22-2-2	MW22-02-2	MW22-02-02	MW22-02-2	MW22-02-2	MW22-02-2	MW22-03-1	MW22-3-1	MW22-03-1	MW22-03-01	MW22-03-1	MW22-03-1
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0128	0.0100	< 0.0050	0.0070	0.283	0.0167	0.0862	0.0581	0.115	0.0746	0.0819	0.268	0.124
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.20	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	1.24	0.73	0.46	0.36	0.33	0.36	0.30	0.37	0.32	0.39	0.26	0.29	0.35
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.122	0.090	0.077	0.063	0.036	0.098	0.124	0.094	0.054	0.028	< 0.040	0.084	0.118
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	0.175	0.210	0.213	0.174	0.170	0.025	0.192	< 0.020	< 0.020	0.036	< 0.040	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.020	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0800	0.0296|< 0.050	0.0466|0.051	0.0211|< 0.050	0.0195|< 0.05	0.150|0.418	0.0161|< 0.05	0.423	0.166|0.321	0.0767|0.098	0.0591|0.065	11.2|22.2	11.8|22.0
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	9.21	16.6	12.8	8.37	7.94	12.1	8.99	2.39	2.21	2.05	1.88	2.35	3.02
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.03	1.50	1.12	1.14	0.96	1.94	1.31	2.97	4.01	4.35	3.85	3.79	5.55
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 20	< 5
Chemical oxygen demand [COD]	mg/L	-	-	10	26	17	< 10	< 10	< 10	29	< 10	53	26	15	11	18	72
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Dissolved Metals																	
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0036	0.0022	0.0028	0.0040	0.0017	0.0035	0.0025	0.0042	< 0.0010	0.0018	0.0017	0.0036	0.0025
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	0.00026	< 0.0001	0.00015	0.00017	0.00028	0.00010	< 0.00010	< 0.00010	< 0.0001	0.00046
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00023	0.00033	0.00030	0.00027	0.00027	0.00053	0.00028	0.00184	0.00210	0.00211	0.00195	0.00168	0.00098
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0404	0.0396	0.0305	0.0318	0.0274	0.0484	0.0258	0.0563	0.0527	0.0471	0.0479	0.0419	0.105
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.015	0.016	0.014	0.014	< 0.01	0.013	0.011	0.012	0.012	0.015	0.013	0.010	0.016
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	0.0000132	0.0000107	0.0000121	0.0000074	-	0.0000075	0.0000121	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	70.6	66.1	62.1	69.8	65.5	75.4	68.3	85.1	84.4	89.8	102	88.4	105
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	0.00053	0.00066	0.00087	0.00099	0.00083	< 0.0005	0.00126	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	0.00062	0.00085	0.00080	0.00082	< 0.0005	0.00112	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00018	< 0.0001	0.00013	0.00018	0.00015	0.00014	0.00013	0.00017
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00053	0.00022	0.00091	0.00031	< 0.0002	0.00294	< 0.0002	0.00111	< 0.00020	0.00275	0.00069	0.00056	0.00070
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	0.013	0.015	< 0.01	0.365	0.426	0.908	0.985	0.814	< 0.01
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	0.000177	-	< 0.000050	< 0.000050	0.000093	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0094	0.0082	0.0105	0.0099	0.0080	0.0077	0.0078	0.0054	0.0039	0.0052	0.0049	0.0050	0.0059
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	21.9	23.8	21.2	22.4	19.7	23.1	20.5	15.7	16.8	17.5	20.4	16.5	20.2
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0395	0.0249	0.0136	0.00943	0.00642	0.0680	0.00100	**0.186**	**0.233**	**0.214**	**0.208**	**0.200**	**0.196**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000059
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000038	< 0.000020	0.000042	< 0.000080	-	-	-	0.000025	< 0.000020	0.000023	< 0.000020	-	< 0.0004
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00487	0.00572	0.00492	0.00398	0.00214	0.00409	0.00211	0.00117	0.000634	0.000500	0.000441	0.000390	0.00146
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00051	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	3.75	5.12	5.10	5.25	3.88	3.78	4.31	1.83	1.82	1.72	1.83	1.81	3.27
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00108	0.00137	0.00150	0.00147	0.00092	0.00106	0.00155	0.00151	0.00126	0.00120	0.00127	0.00150	0.00336
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000570	0.00118	0.000671	0.000520	0.000466	0.000493	0.000508	< 0.000050	< 0.000050	0.000080	< 0.000050	-	0.000146
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.65	6.37	6.69	6.75	6.33	6.88	7.12	7.28	7.30	8.46	8.60	7.48	6.30
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	8.85	12.1	8.96	7.79	6.32	6.39	9.11	7.09	5.59	5.91	6.74	5.72	9.82
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0965	0.100	0.0966	0.0973	0.0940	0.105	0.0880	0.128	0.117	0.127	0.137	0.120	0.148
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	3.18	5.61	3.52	3.18	2.98	3.84	3.03	0.92	0.66	0.56	0.61	1.12	1.31
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	0.000010	< 0.000010	0.000013	0.000013	-	0.000013	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00034	0.00033	< 0.00010	0.00011	< 0.0001	0.00027	< 0.0001	0.00012	< 0.00010	0.00010	< 0.00010	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00012	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.00300	0.00336	0.00263	0.00238	0.00208	0.00436	0.00211	0.000942	0.000584	0.000279	0.000228	0.000324	0.0110
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00086	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00279
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0017	0.0026	0.0013	0.0016	< 0.001	0.0041	0.0019	0.0026	< 0.0010	0.0020	0.0010	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests																	
Conductivity	uS/cm	-	-	2.0	491	487	491	508	465	510	390	518	485	582	635	510	575
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	290	262	261	277	260	293	267	323	292	332	359	892	602
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	266	263	242	266	245	283	255	277	280	296	339	289	345
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	303	307	282	267	291	298	264	380	426	341	346	438	1320
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	158	31.1	55.7	55.7	16.9	371	8.4	1300	407	118	35.1	74500	47500
pH	pH units	-	-	0.10	7.88	8.07	8.05	7.95	8.09	8.12	8.03	7.98	8.07	8.05	7.68	7.93	7.82
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.013	< 0.031	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	< 0.015	< 0.015	0.113	0.077
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.045	0.028
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.068	0.049
Naphthalene	ug/L	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	-	< 0.050	< 0.050	< 0.050	0.144	0.088
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.024	0.027
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.010	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	0.1	-	0.12	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1	0.20	-	-
Gross beta	Bq/l	-	-	0.1	-	0.19	0.62	0.21	-	-	-	-	< 0.1	0.14	< 0.1	-	-
Total Metals																	
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	0.419	0.412	0.276	0.100	**4.35**	0.0514	-	**9.33**	1.22	0.355	**535**	**461**
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	0.00022	0.00020	0.00090	0.00024	< 0.0005	0.00037	-	< 0.00020	< 0.00010	< 0.00010	*< 0.01*	< 0.002
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00049	0.00045	0.00042	0.00030	0.00227	0.00033	-	0.00377	0.00237	0.00216	**0.120**	**0.109**
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0432	0.0367	0.0337	0.0285	0.0818	0.0275	-	0.119	0.0561	0.0530	**4.30**	**3.16**
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	-	0.000178	-	-	0.000355	0.000049	< 0.000020	0.0195	0.0201
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	-	< 0.00025	-	-	< 0.000100	< 0.000050	< 0.000050	< 0.005	0.00478
Boron, total	mg/L	5	5	0.01 - 0.2	-	0.018	0.015	0.015	< 0.01	< 0.05	0.016	-	0.021	0.016	0.015	< 1	0.547
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.0000241	0.0000734	0.0000316	0.0000160	0.0000928	0.0000177	-	0.0000746	0.0000108	0.0000063	0.00340	0.00406
Calcium, total	mg/L	-	-	0.05 - 1	-	71.5	77.8	70.8	70.8	186	73.4	-	139	112	96.5	5560	5430
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000044	0.000049	0.000031	0.000011	0.000378	0.000011	-	0.00103	0.000148	0.000047	0.0638	0.0497
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.00173	0.00193	0.00170	0.00138	0.0102	0.00141	-	0.0217	0.00287	0.00085	**1.10**	**1.12**
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	0.00055	0.00081	0.00088	0.00105	< 0.0005	0.00112	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00034	0.00036	0.00021	0.00010	0.00339	< 0.0001	-	0.00574	0.00088	0.00037	0.311	0.307
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.00107	0.00106	0.00083	0.00050	0.00764	< 0.0005	-	0.0129	0.00167	0.00050	0.666	0.660
Iron, total	mg/L	-	-	0.01 - 0.2	-	0.506	0.563	0.345	0.136	5.99	0.060	-	11.5	2.31	1.46	616	595
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	0.000195	0.000361	0.000268	0.000094	0.00327	-	-	0.00491	0.000730	0.000245	**0.297**	**0.273**
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0090	0.0097	0.0097	0.0074	0.0146	0.0085	-	0.0162	0.0058	0.0056	0.683	0.849
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	23.9	23.1	22.2	21.5	50.2	20.9	-	31.6	21.1	19.4	1420	1290
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	0.0502	0.0383	0.0224	0.0109	**0.320**	0.00529	-	**0.514**	**0.252**	**0.225**	**15.5**	**17.4**
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	0.0000067	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000023	0.000022	< 0.000020	-	0.000114	-	-	< 0.000020	0.000022	0.000022	-	0.00298
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.00524	0.00461	0.00384	0.00242	0.00328	0.00220	-	0.000534	0.000482	0.000479	0.00821	0.00504
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.00099	0.00134	0.00120	0.00103	0.00742	0.00053	-	0.0146	0.00206	0.00078	0.748	0.767
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0800	0.0296|< 0.050	0.0466|0.051	0.0211|< 0.050	0.0195|< 0.05	0.150|0.418	0.0161|< 0.05	0.423	0.166|0.321	0.0767|0.098	0.0591|0.065	11.2|22.2	11.8|22.0
Potassium, total	mg/L	-	-	0.05 - 1	-	5.05	5.16	4.56	4.19	4.84	4.34	-	4.44	2.28	1.85	182	107
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00206	0.00231	0.00181	0.00124	0.00688	0.00173	-	0.0190	0.00372	0.00200	1.04	0.795
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	0.00106	0.000727	0.000543	0.000421	0.000342	0.000430	-	< 0.000100	< 0.000050	< 0.000050	0.00508	0.00331
Silicon, total	mg/L	-	-	0.1 - 2	-	7.36	7.54	7.59	6.77	14.4	6.53	-	23.9	11.0	9.23	1100	658
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	0.000028	< 0.000010	< 0.000010	0.00227	0.00189
Sodium, total	mg/L	-	-	0.05 - 1	-	12.5	10.0	6.43	6.73	6.88	9.40	-	7.12	6.53	6.52	72.3	39.4
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.0977	0.0980	0.0958	0.0947	0.178	0.0875	-	0.166	0.142	0.136	4.63	3.82
Sulfur, total	mg/L	-	-	0.5 - 10	-	5.83	4.44	3.24	3.19	4.36	3.04	-	< 1.00	0.90	0.90	< 50	13.7
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.001	< 0.0002	-	< 0.00040	< 0.00020	< 0.00020	< 0.02	< 0.004
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000013	0.000020	0.000023	0.000011	0.000087	0.000015	-	0.000084	0.000016	< 0.000010	0.00737	0.00547
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00016	0.00016	0.00011	< 0.0001	0.00212	< 0.0001	-	0.00397	0.00055	0.00018	0.254	0.254
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00126	0.00071	0.00039	0.00020	0.00066	0.00015	-	0.00037	0.00060	< 0.00010	0.0191	0.00910
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.0329	0.0293	0.0208	0.00864	0.354	0.00315	-	0.585	0.0880	0.0260	39.0	27.1
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0005	< 0.0001	-	< 0.00020	< 0.00010	< 0.00010	< 0.01	< 0.002
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.00348	0.00297	0.00248	0.00218	0.00472	0.00218	-	0.00160	0.000526	0.000377	**0.0698**	**0.0660**
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.00123	0.00126	0.00092	0.00058	0.0119	0.00056	-	0.0217	0.00302	0.00097	1.25	1.10
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0051	0.0058	0.0036	< 0.003	0.0190	< 0.003	-	0.0328	0.0042	< 0.0030	1.33	1.44
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00044	0.00034	0.00029	< 0.0002	0.00181	< 0.0002	-	0.00225	0.00100	0.00050	0.309	0.0880
Volatile Organic Compounds																	
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 23.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/24/22	6/28/23	8/10/23	9/24/23	6/04/24	10/03/24	11/24/22	7/02/23	8/11/23	9/23/23	6/03/24	8/15/24	9/30/24
					MW22-03-2	MW22-3-2	MW22-03-2	MW22-03-02	MW22-03-2	MW22-03-2	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.134	0.0580	0.0491	0.0089	0.131	0.0613	< 0.0500	0.0053	0.0053	0.0233	0.0289	0.0913	0.0289
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.20	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.48	0.54	0.49	0.32	0.39	0.63	0.53	0.60	0.42	0.28	0.50	1.60	0.52
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.120	0.055	0.046	0.049	0.077	0.111	0.049	< 0.020	< 0.020	0.040	< 0.02	0.025	0.059
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	0.020	0.067	0.088	0.036	0.042	0.702	0.671	0.523	0.274	0.816	0.825	0.772
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.020	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.153	0.0745|< 1.00	0.0656|< 0.100	0.0166|< 0.050	0.0410|< 0.05	0.0212|< 0.05	0.965	0.312|1.37	0.0353|< 0.050	3.26|22.7	2.13|10.8	0.511|0.371	0.274|1.23
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	2.13	1.77	2.44	2.07	2.07	1.75	3.26	3.47	2.97	2.18	3.59	3.10	3.05
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	3.96	3.85	3.38	3.60	4.48	3.68	2.02	2.59	2.13	2.84	2.57	3.99	2.84
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	-	2.1	< 2.0	< 5.0	< 3.3	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	40	37	24	< 10	16	16	77	< 10	11	74	49	40	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																	
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0018	0.0017	0.0028	0.0020	0.0023	0.0027	0.0018	0.158	< 0.0010	0.0024	0.0021	0.0107	0.0012
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	0.00016	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00012	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00035	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00095	0.00097	0.00054	0.00041	0.00062	0.00070	< 0.00010	0.00034	< 0.00010	< 0.00010	< 0.0001	0.00016	< 0.0001
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0817	0.0662	0.0617	0.0539	0.0480	0.0456	0.0148	0.0176	0.0156	0.0151	0.0154	0.0166	0.0147
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.021	0.022	0.023	0.023	0.021	0.025	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	0.011
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	0.0000131	0.0000166	0.0000082	0.0000063	0.0000172	0.0000268	< 0.0000050	0.0000162	< 0.0000050	< 0.0000050	-	0.0000098	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	90.5	91.7	89.4	102	108	108	72.8	80.7	67.6	72.6	72.8	71.6	73.6
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	0.000013	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.00116	0.00165	0.00133	0.00117	0.00145	0.00144	0.00134
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	0.00136	0.00120	0.00101	0.00144	0.00141	0.00121
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00032	0.00019	< 0.00010	0.00018	0.00019	< 0.00010	0.00060	< 0.00010	< 0.00010	< 0.0001	0.00023	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00072	0.00137	0.00032	0.00055	< 0.0002	0.00039	0.00063	0.00132	0.00027	0.00030	0.00028	0.00412	0.00053
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	0.010	0.011	< 0.010	0.030	0.024	< 0.010	0.420	< 0.010	< 0.010	< 0.01	0.025	< 0.01
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	0.000641	< 0.000050	< 0.000050	-	0.000071	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0077	0.0068	0.0084	0.0081	0.0080	0.0072	0.0044	0.0040	0.0041	0.0038	0.0036	0.0034	0.0032
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	17.2	20.0	18.7	20.2	20.2	20.9	17.8	18.8	17.5	18.5	17.2	18.3	17.5
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0662	**0.307**	**0.223**	0.0321	**0.306**	**0.399**	0.00956	0.0295	0.00038	0.00114	0.00026	0.00348	0.00013
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000052	0.000021	< 0.000020	< 0.000020	-	0.000025	0.000031	0.000021	0.000058	0.000023	-	0.000029	0.000025
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00138	0.000987	0.000937	0.000723	0.000700	0.000726	0.000479	0.000192	0.000318	0.000288	0.000288	0.000345	0.000267
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	0.00061	0.00062	0.00053	0.00077	0.00069	< 0.00050	0.00074	< 0.00050	< 0.00050	< 0.0005	0.00698	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.70	1.62	1.58	1.57	1.51	1.65	1.05	1.12	1.09	1.08	1.03	1.09	0.927
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00088	0.00079	0.00080	0.00067	0.00080	0.00084	0.00055	0.00106	0.00067	0.00072	0.00079	0.00083	0.00062
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000053	< 0.000050	< 0.000050	< 0.000050	-	-	0.000070	0.000057	0.000054	0.000058	0.000069	0.000066	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	8.26	7.86	8.25	8.08	8.08	8.82	5.56	5.60	5.75	5.44	5.53	5.64	5.47
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	15.5	12.6	12.0	13.2	11.6	13.3	1.79	1.65	1.67	1.63	1.85	1.68	1.60
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.183	0.174	0.160	0.176	0.179	0.178	0.0610	0.0706	0.0615	0.0624	0.0595	0.0602	0.0576
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.05	0.64	0.65	0.72	0.99	0.82	1.33	1.23	0.97	0.54	1.65	1.35	1.05
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00017	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00019	0.00018	< 0.00010	< 0.00010	< 0.0001	0.00330	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	0.00764	< 0.00030	< 0.00030	< 0.0003	0.00059	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.00168	0.00128	0.00152	0.00173	0.00134	0.00141	0.00145	0.00146	0.00136	0.00132	0.00141	0.00144	0.00145
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	0.00056	< 0.00050	0.00063	< 0.0005	< 0.0005	< 0.00050	0.00081	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0013	0.0022	< 0.0010	< 0.0010	0.0011	0.0016	0.0019	0.0021	< 0.0010	< 0.0010	< 0.001	0.0036	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	0.00057	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																	
Conductivity	uS/cm	-	-	2.0	581	541	632	645	627	578	455	439	448	428	450	470	437
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	348	314	361	361	368	353	270	263	248	289	263	313	349
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	297	311	300	338	353	356	255	279	241	257	253	254	256
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	374	358	382	351	358	318	326	333	254	317	501	302	289
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	398	64.5	150	14.3	10.7	< 3	5570	3390	60.5	9010	21600	1160	3840
pH	pH units	-	-	0.10	8.07	8.05	7.74	7.61	7.98	7.90	7.95	7.96	8.06	7.96	7.96	7.71	7.73
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.015	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	< 0.015	0.196	0.084	0.032	0.171
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	0.078	0.033	0.013	0.070
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	0.010	< 0.010	0.118	0.051	0.019	0.101
Naphthalene	ug/L	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	-	< 0.050	< 0.050	0.161	0.089	< 0.05	0.114
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	0.018	0.013	< 0.01	0.023
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals																	
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	**61.5**	1.94	0.230	0.331	0.182	-	**4.96**	0.418	**146**	**64.1**	**9.51**	**9.33**
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	< 0.00200	< 0.00020	0.00020	0.00050	0.00066	-	0.00032	0.00016	0.00201	< 0.002	0.00082	0.00025
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	**0.0168**	0.00096	0.00052	0.00073	0.00093	-	0.00472	0.00046	**0.0793**	**0.0457**	0.00852	0.00943
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.590	0.0712	0.0582	0.0541	0.0476	-	0.0595	0.0187	0.764	0.552	0.0856	0.120
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.00401	0.000168	< 0.000020	0.000023	-	-	0.000296	< 0.000020	0.00568	0.00277	0.000460	0.000531
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	0.00102	< 0.000100	< 0.000050	-	-	-	< 0.000100	< 0.000050	0.00132	0.00107	< 0.00025	0.000177
Boron, total	mg/L	5	5	0.01 - 0.2	-	< 0.200	0.029	0.024	0.022	0.027	-	0.022	< 0.010	0.335	< 0.2	< 0.05	0.041
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.000614	0.0000301	0.0000169	0.0000521	0.0000896	-	0.000170	0.0000161	0.00212	0.00124	0.000173	0.000398
Calcium, total	mg/L	-	-	0.05 - 1	-	261	109	93.3	102	103	-	383	85.6	4780	2360	184	954
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.00662	0.000240	0.000035	0.000049	0.000029	-	0.000435	0.000043	0.0108	0.00551	0.000943	0.000803
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	**0.103**	0.00283	0.00050	0.00092	< 0.0005	-	0.0131	0.00233	**0.431**	**0.157**	0.0247	0.0247
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	0.00131	0.00131	0.00104	0.00138	0.00128	0.00126
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.0294	0.00119	0.00014	0.00036	0.00029	-	0.00919	0.00066	0.158	0.0703	0.0135	0.0144
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.0787	0.00249	0.00072	0.00095	0.00079	-	0.0204	0.00199	0.366	0.199	0.0419	0.0402
Iron, total	mg/L	-	-	0.01 - 0.2	-	55.6	1.73	0.207	0.377	0.184	-	10.4	0.906	304	124	20.9	21.8
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	**0.0375**	0.00159	0.000204	0.000278	0.000259	-	**0.00785**	0.000682	**0.109**	**0.0700**	**0.0138**	**0.0130**
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0721	0.0092	0.0081	0.0075	0.0082	-	0.0127	0.0038	0.272	0.0869	0.0165	0.0215
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	67.8	21.5	18.7	22.5	21.7	-	70.6	20.4	763	458	43.2	110
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	**1.78**	**0.284**	0.0298	**0.280**	**0.354**	-	**0.542**	0.0296	**7.71**	**3.90**	**0.565**	**1.08**
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	0.0000197	-	0.0000499	0.0000458
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000069	0.000024	< 0.000020	0.000030	0.000034	-	< 0.000020	< 0.000020	0.000027	0.000098	0.000774	0.00221
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.00196	0.000881	0.000736	0.000709	0.000698	-	0.000416	0.000316	0.00510	0.00272	0.000676	0.000554
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.0733	0.00261	0.00168	0.00158	0.00109	-	0.0121	0.00114	0.317	0.129	0.0284	0.0214
Phosphorus, total	mg/L	-	-	0.002 - 1	0.153	0.0745|< 1.00	0.0656|< 0.100	0.0166|< 0.050	0.0410|< 0.05	0.0212|< 0.05	0.965	0.312|1.37	0.0353|< 0.050	3.26|22.7	2.13|10.8	0.511|0.371	0.274|1.23
Potassium, total	mg/L	-	-	0.05 - 1	-	15.8	2.05	1.50	1.76	1.90	-	2.37	1.26	24.4	17.1	3.30	3.26
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.0997	0.00363	0.00098	0.00141	0.00115	-	0.00772	0.00128	0.150	0.0897	0.0150	0.0143
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	< 0.00100	< 0.000100	< 0.000050	-	-	-	< 0.000100	0.000057	0.00111	< 0.001	0.000313	0.000192
Silicon, total	mg/L	-	-	0.1 - 2	-	124	11.9	8.71	9.04	8.76	-	15.2	6.62	239	125	25.3	23.8
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	0.000238	0.000025	< 0.000010	-	-	-	0.000027	< 0.000010	0.000737	0.000451	-	0.000048
Sodium, total	mg/L	-	-	0.05 - 1	-	18.0	14.1	11.1	12.3	13.4	-	2.22	1.76	11.0	8.10	2.64	2.64
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.405	0.180	0.166	0.182	0.168	-	0.262	0.0669	3.28	1.54	0.141	0.601
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 10.0	< 1.00	0.92	0.79	0.92	-	1.29	1.05	< 10.0	< 10	< 2.5	1.59
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00400	< 0.00040	< 0.00020	< 0.0002	< 0.0002	-	< 0.00040	< 0.00020	< 0.00400	< 0.004	< 0.001	< 0.0004
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000462	< 0.000020	< 0.000010	-	-	-	0.000088	0.000016	0.00228	0.00132	0.000279	0.000224
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.0279	0.00093	0.00012	0.00014	< 0.0001	-	0.00460	0.00028	0.0798	0.0555	0.00552	0.00799
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00456	0.00021	0.00012	0.00075	0.00038	-	0.00141	0.00055	0.00676	0.00431	0.00663	0.00099
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	1.72	0.0535	0.00759	0.0135	0.00577	-	0.307	0.0331	15.0	7.70	0.563	0.650
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00200	< 0.00020	< 0.00010	< 0.0001	< 0.0001	-	< 0.00020	< 0.00010	< 0.00200	< 0.002	< 0.0005	< 0.0002
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.0107	0.00206	0.00188	0.00157	0.00133	-	0.00244	0.00146	0.0196	0.0116	0.00222	0.00390
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.103	0.00346	0.00097	0.00085	0.00065	-	0.0165	0.00153	0.507	0.218	0.0278	0.0315
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.227	0.0069	< 0.0030	0.0062	0.0048	-	0.0258	0.0033	0.617	0.240	0.0529	0.0450
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00854	< 0.00040	0.00033	0.00026	0.00038	-	0.00250	0.00060	0.0821	0.0378	0.00359	0.00426
Volatile Organic Compounds																	
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 14.5	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/02/23	8/08/23	9/20/23	8/14/24	9/29/24	7/02/23	8/08/23	9/20/23	8/14/24	9/29/24
					MW22-05-1	MW22-05-1	MW22-05-1	MW22-05-1	MW22-05-1	MW22-05-2	MW22-05-2	MW22-05-2	MW22-05-02	MW22-05-02
Anions and Nutrients														
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0132	0.0217	0.0483	0.996	0.0264	0.0304	< 0.0050	0.0269	2.20	0.0259
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.10	0.12	< 0.10	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.38	0.44	1.61	0.46	0.33	0.88	0.29	0.34	0.29	0.26
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.032	0.032	0.048	< 0.02	0.072	0.025	< 0.020	0.034	< 0.04	0.060
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	0.078	0.256	< 0.020	< 0.02	< 0.02	< 0.020	0.082	0.074	0.036	0.037
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.850|1.82	< 0.050|0.364	0.0214|< 0.050	0.0108|0.103	0.0050|< 0.05	0.210|0.124	0.612|0.553	0.198|0.234	0.530|0.421	0.0578|< 0.1
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	2.82	4.57	5.75	4.63	5.58	5.10	2.45	2.91	2.67	2.75
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.60	2.22	3.34	4.76	2.64	2.07	2.85	2.36	2.05	1.79
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 3.8	< 2.0	< 2.0	< 2	< 2	< 3.0	< 2.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	< 10	24	12	< 10	< 10	< 10	32	22	< 10	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Dissolved Metals														
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0016	0.0022	0.0020	0.0026	0.0100	0.0038	0.0011	0.0020	0.0023	0.0015
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	0.00019	< 0.0001	0.00032	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	< 0.00010	0.00385	0.00440	0.00436	0.00150	0.00248	< 0.00010	< 0.00010	0.00013	< 0.0001
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0132	0.0170	0.0179	0.0181	0.0152	0.0176	0.0146	0.0130	0.0146	0.0128
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	< 0.010	< 0.010	0.012	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	0.0000065	-	0.0000159	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000060
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	69.0	74.8	73.1	72.5	75.2	71.4	67.9	66.6	68.4	71.2
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	0.00093	< 0.00050	< 0.00050	0.00055	< 0.0005	< 0.00050	0.00109	0.00090	0.00102	0.00082
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	0.00093	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00082	0.00083	0.00089	0.00075
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00044	0.00048	0.00042	0.00014	0.00043	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00024	0.00094	< 0.00020	< 0.0002	0.00020	0.00067	0.00023	0.00027	0.00158	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	0.406	0.714	0.598	0.205	0.058	< 0.010	< 0.010	< 0.01	< 0.01
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	0.000067	< 0.000050	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0030	0.0029	0.0028	0.0025	0.0024	0.0032	0.0026	0.0027	0.0025	0.0028
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	13.5	16.5	16.2	15.6	15.1	15.5	14.6	14.8	14.6	13.9
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.00067	**0.420**	**0.429**	**0.329**	**0.248**	**0.396**	0.00048	0.00145	0.00086	0.00299
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	0.000153	0.000031	0.000258	0.000133	0.000046	0.000065	0.000076	0.000039	0.000090
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.000360	0.00252	0.00184	0.00255	0.00160	0.00247	0.000362	0.000348	0.000426	0.000319
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	0.00074	0.00378	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.863	1.40	1.57	1.17	1.19	1.45	0.858	0.935	0.867	0.868
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00057	0.00060	0.00074	0.00054	0.00061	0.00064	0.00028	0.00030	0.00031	0.00025
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000400	< 0.000050	< 0.000050	0.000055	-	< 0.000050	0.000467	0.000398	0.000382	0.000411
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.54	6.82	6.09	6.55	6.14	6.29	5.06	4.97	4.95	5.01
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	1.53	1.80	2.18	1.69	1.82	1.92	1.43	1.74	1.51	1.56
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0614	0.0759	0.0715	0.0698	0.0641	0.0776	0.0596	0.0590	0.0589	0.0572
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.11	1.75	1.93	1.74	1.98	1.78	1.00	0.87	1.08	0.90
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00010	0.00015	0.00020	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.0003	0.00031	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00022	< 0.00010	< 0.00010	0.00043	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000964	0.00216	0.00226	0.00183	0.00174	0.00260	0.00102	0.000995	0.00104	0.00103
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.0010	0.0022	0.0016	0.0017	0.0013	< 0.0010	< 0.0010	0.0012	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests														
Conductivity	uS/cm	-	-	2.0	390	428	459	440	406	438	-	428	428	393
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	237	260	254	265	283	293	-	255	267	257
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	228	255	249	245	250	242	230	227	231	235
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	281	249	262	248	252	280	-	245	243	254
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	3840	< 3.0	14.6	8.9	6.3	295	-	455	652	190
pH	pH units	-	-	0.10	7.97	8.37	8.07	7.99	8.09	8.06	-	7.99	7.87	7.99
Polycyclic Aromatic Hydrocarbon														
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	0.189	0.083	0.068	0.151	0.040	0.208	0.073	0.029	0.131	0.051
Methylnaphthalene, 1-	ug/L	-	-	0.010	0.070	0.027	0.022	0.052	0.015	0.063	0.027	0.010	0.049	0.018
Methylnaphthalene, 2-	ug/L	-	-	0.010	0.119	0.056	0.046	0.099	0.025	0.145	0.046	0.019	0.082	0.033
Naphthalene	ug/L	-	-	0.050	0.245	0.242	0.105	0.157	< 0.05	0.425	0.093	< 0.050	0.107	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	0.015	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters														
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	0.14	< 0.1	< 0.1	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	0.17	< 0.1	-	-	0.20	0.29	< 0.1	-	-
Total Metals														
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	**8.74**	0.271	0.0696	1.61	0.0282	2.04	**8.21**	**3.42**	**6.65**	1.30
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	< 0.00020	< 0.00010	0.00036	< 0.0002	0.00023	< 0.00020	0.00010	< 0.00020	< 0.0002	< 0.0002
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00479	0.00395	0.00466	0.00533	0.00166	0.00378	0.00380	0.00170	0.00283	0.00074
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0844	0.0191	0.0198	0.0309	0.0169	0.0311	0.0703	0.0389	0.0623	0.0237
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000476	< 0.000020	< 0.000020	0.000060	-	0.000083	0.000340	0.000149	0.000279	0.000051
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000050	< 0.0001	-	< 0.000100	0.000079	< 0.000100	< 0.0001	< 0.0001
Boron, total	mg/L	5	5	0.01 - 0.2	0.030	< 0.010	< 0.010	< 0.02	< 0.01	< 0.020	0.018	< 0.020	< 0.02	< 0.02
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.000239	0.0000081	0.0000541	0.0000346	0.0000169	0.0000315	0.000108	0.0000662	0.0000815	0.0000298
Calcium, total	mg/L	-	-	0.05 - 1	517	76.0	70.9	119	73.4	104	280	135	250	95.0
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000819	0.000029	< 0.000010	0.000163	-	0.000203	0.000774	0.000400	0.000712	0.000136
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.0200	0.00072	< 0.00050	0.00393	< 0.0005	0.00439	0.0183	0.00802	0.0149	0.00335
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	0.00099	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00091	0.00082	0.00111	0.00072
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00986	0.00067	0.00060	0.00171	0.00017	0.00192	0.00687	0.00316	0.00486	0.00114
Copper, total	mg/L	2	-	0.0005 - 0.01	0.0230	0.00063	0.00057	0.00347	< 0.0005	0.00381	0.0159	0.00783	0.0116	0.00287
Iron, total	mg/L	-	-	0.01 - 0.2	13.5	0.981	1.05	3.40	0.303	3.08	12.6	5.32	9.59	1.94
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	**0.00875**	0.000238	0.000122	0.00136	-	0.00134	**0.00588**	0.00268	0.00456	0.000956
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0188	0.0034	0.0031	0.0046	0.0029	0.0065	0.0152	0.0079	0.0130	0.0049
Magnesium, total	mg/L	-	-	0.005 - 0.1	98.9	18.0	15.4	24.2	15.3	24.0	59.9	28.3	49.8	19.2
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.752**	**0.457**	**0.439**	**0.425**	**0.278**	**0.471**	**0.475**	**0.179**	**0.325**	0.0656
Mercury, total	mg/L	0.001	0.001	0.0000050	0.0000064	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	0.0000065	0.0000064	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000087	0.000345	0.000212	0.000368	0.000157	0.000160	0.000062	0.000048	< 0.0008	0.000106
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.000376	0.00219	0.00175	0.00220	0.00163	0.00223	0.000364	0.000359	0.000421	0.000326
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.0168	0.00092	0.00104	0.00330	0.00054	0.00350	0.0143	0.00626	0.0110	0.00228
Phosphorus, total	mg/L	-	-	0.002 - 1	0.850|1.82	< 0.050|0.364	0.0214|< 0.050	0.0108|0.103	0.0050|< 0.05	0.210|0.124	0.612|0.553	0.198|0.234	0.530|0.421	0.0578|< 0.1
Potassium, total	mg/L	-	-	0.05 - 1	2.93	1.63	1.50	1.68	1.22	2.12	3.01	1.78	2.73	1.29
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.0131	0.00111	0.00085	0.00309	0.00068	0.00394	0.0121	0.00566	0.0101	0.00228
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	0.000451	< 0.000050	< 0.000050	< 0.0001	-	< 0.000100	0.000352	0.000459	0.000508	0.000365
Silicon, total	mg/L	-	-	0.1 - 2	20.4	7.61	6.27	9.82	6.21	10.7	19.7	11.2	18.4	7.61
Silver, total	mg/L	-	-	0.00001 - 0.0002	0.000049	< 0.000010	< 0.000010	-	-	0.000020	0.000042	< 0.000020	0.000038	-
Sodium, total	mg/L	-	-	0.05 - 1	2.47	2.19	1.81	2.02	1.72	2.26	2.55	1.98	2.44	1.70
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.341	0.0774	0.0696	0.0956	0.0688	0.0966	0.204	0.106	0.179	0.0749
Sulfur, total	mg/L	-	-	0.5 - 10	1.19	2.05	2.09	1.54	2.03	1.76	1.31	1.02	< 1	< 1
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.00020	< 0.0004	< 0.0002	< 0.00040	< 0.00020	< 0.00040	< 0.0004	< 0.0004
Thallium, total	mg/L	-	-	0.00001 - 0.0002	0.000096	< 0.000010	< 0.000010	0.000022	-	< 0.000020	0.000126	0.000057	0.000095	0.000039
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00407	0.00010	< 0.00010	0.00057	< 0.0001	0.00081	0.00405	0.00148	0.00363	0.00058
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00098	0.00017	0.00059	0.00049	0.00034	0.00042	0.00044	0.00032	0.00027	< 0.0002
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.510	0.0187	0.00421	0.107	0.00152	0.135	0.549	0.223	0.520	0.0831
Tungsten, total	mg/L	-	-	0.0001 - 0.002	0.00023	< 0.00010	< 0.00010	< 0.0002	< 0.0001	< 0.00020	< 0.00010	< 0.00020	< 0.0002	< 0.0002
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.00207	0.00236	0.00254	0.00223	0.00182	0.00288	0.00166	0.00132	0.00165	0.00116
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.0236	0.00081	< 0.00050	0.00426	< 0.0005	0.00483	0.0207	0.00824	0.0171	0.00313
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0362	0.0045	0.0040	0.0076	< 0.003	0.0081	0.0276	0.0139	0.0208	< 0.006
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00212	0.00022	< 0.00020	0.00050	< 0.0002	0.00058	0.00293	0.00090	0.00250	0.00051
Volatile Organic Compounds														
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	0.53	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	1.34	< 0.50	< 0.50	< 0.5	< 0.5	0.97	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	1.64	1.82	0.69	< 0.4	< 0.4	2.60	0.82	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	0.68	0.74	0.30	< 0.3	< 0.3	1.02	0.40	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	2.32	2.56	0.99	< 0.5	< 0.5	3.62	1.22	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes														
SUM OF BTEX	ug/L	-	-	1.0	3.7	2.6	< 1.0	< 1	< 1	5.1	1.2	< 1.0	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/25/22	6/28/23	8/08/23	8/08/23	9/20/23	8/14/24	9/29/24
					MW22-06-1	MW22-06-1	MW22-06-1	DUP-01 (MW22-06-1)	MW22-06-1	MW22-06-1	MW22-06-1
Anions and Nutrients											
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0326	< 0.0050	< 0.0050	0.0114	0.0066	0.101	0.0300
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.44	0.30	0.44	0.32	0.34	0.39	0.24
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.034	< 0.020	< 0.020	< 0.020	0.026	< 0.02	0.045
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	0.027	0.034	0.039	0.158	0.039	0.022	0.021
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.808	0.0026|< 0.050	0.0072|< 0.050	0.0039|< 0.050	0.0032|< 0.050	< 0.002|< 0.05	0.0045|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	1.41	1.59	1.48	1.36	1.73	1.24	1.19
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.54	1.34	1.29	2.35	1.99	1.43	1.79
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	24	< 10	< 10	< 10	< 10	13	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Dissolved Metals											
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0018	0.0010	0.0010	0.0015	0.0016	0.0017	< 0.001
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00022	0.00017	0.00017	0.00017	0.00017	0.00022	0.00016
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0126	0.0112	0.0106	0.0111	0.0108	0.0106	0.00994
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	0.0000192	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	59.0	57.5	66.0	62.8	61.1	60.0	63.6
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00052	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00067	0.00022	0.00028	0.00027	0.00030	0.00294	0.00028
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0024	0.0014	0.0014	0.0015	0.0016	0.0016	0.0017
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	10.5	11.0	11.3	11.0	11.7	11.4	10.5
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0174	0.00061	0.00140	0.00150	0.00264	0.00074	0.00091
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000029	< 0.000020	< 0.000020	< 0.000020	0.000044	0.000035	0.000066
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.000290	0.000202	0.000216	0.000198	0.000202	0.000288	0.000181
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.793	0.729	0.642	0.648	0.688	0.639	0.626
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00119	0.00118	0.00111	0.00107	0.00115	0.00096	0.00100
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000059	0.000066	0.000055	0.000076	0.000060	0.000060	0.000058
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.24	4.31	4.48	4.38	4.38	4.35	4.29
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	1.20	1.18	1.09	1.09	1.19	1.08	1.10
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0478	0.0509	0.0525	0.0532	0.0502	0.0500	0.0480
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.61	< 0.50	0.54	0.78	< 0.50	0.50	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00025	< 0.00010	< 0.00010	0.00027	< 0.00010	0.00020	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000339	0.000215	0.000228	0.000235	0.000236	0.000227	0.000238
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0021	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0018	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests											
Conductivity	uS/cm	-	-	2.0	363	351	362	361	382	362	346
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	213	198	208	203	221	244	244
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	190	189	211	202	201	197	202
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	228	202	222	210	196	184	207
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	2300	< 3.0	< 3.0	< 3.0	< 3.0	< 3	3.3
pH	pH units	-	-	0.10	8.07	8.15	8.23	8.25	8.11	7.94	8.13
Polycyclic Aromatic Hydrocarbon											
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	0.043	0.035	< 0.015	0.057	0.036
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	0.013	0.010	< 0.010	0.018	0.012
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	0.030	0.025	0.010	0.039	0.024
Naphthalene	ug/L	-	-	0.050	-	< 0.050	0.088	0.074	< 0.050	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters											
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	0.26	< 0.1	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-
Total Metals											
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	0.0090	0.0247	0.0218	0.0072	0.0045	0.0130
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00020	0.00018	0.00018	0.00019	0.00019	0.00019
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0116	0.0112	0.0108	0.0113	0.0106	0.0107
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	< 0.0000050	0.0000122	0.0000071	< 0.0000050	-	-
Calcium, total	mg/L	-	-	0.05 - 1	-	54.6	58.2	59.4	60.5	66.3	62.9
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Copper, total	mg/L	2	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	-	< 0.010	0.040	0.032	< 0.010	< 0.01	0.020
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0015	0.0016	0.0019	0.0018	0.0014	0.0018
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	11.4	11.1	11.2	11.1	11.2	10.6
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	0.00205	0.00601	0.00587	0.00346	0.00126	0.00321
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000021	0.000041
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.000199	0.000178	0.000181	0.000212	0.000194	0.000183
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00132	< 0.0005
Phosphorus, total	mg/L	-	-	0.002 - 1	0.808	0.0026|< 0.050	0.0072|< 0.050	0.0039|< 0.050	0.0032|< 0.050	< 0.002|< 0.05	0.0045|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	-	0.757	0.729	0.721	0.659	0.657	0.656
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00115	0.00123	0.00116	0.00119	0.00106	0.00097
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	0.000078	0.000060	0.000067	0.000082	0.000077	0.000084
Silicon, total	mg/L	-	-	0.1 - 2	-	4.40	4.37	4.44	4.46	4.33	4.25
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	1.20	1.30	1.28	1.22	1.12	1.08
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.0489	0.0510	0.0510	0.0497	0.0490	0.0489
Sulfur, total	mg/L	-	-	0.5 - 10	-	0.56	0.74	0.62	0.60	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	0.00018	0.00013	< 0.00010	< 0.0001	0.00013
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.00054	0.00144	0.00159	0.00037	< 0.0003	0.00079
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.000225	0.000236	0.000236	0.000251	0.000226	0.000236
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Zinc, total	mg/L	-	-	0.003 - 0.06	-	< 0.0030	0.0042	< 0.0030	< 0.0030	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Volatile Organic Compounds											
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	5.9	< 1.0	< 1.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes											
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/25/22	6/28/23	6/28/23	8/08/23	9/20/23	8/14/24	9/29/24	11/25/22	6/28/23	9/23/23	6/10/24	8/15/24	9/30/24
					MW22-06-2	MW22-06-2	DUP (MW22-06-2)	MW22-06-2	MW22-06-2	MW22-06-2	MW22-06-2	MW22-06-3	MW22-07-01	MW22-07-1	MW22-07-1	MW22-07-1	MW22-07-1
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0135	< 0.0050	< 0.0050	< 0.0050	0.0090	4.35	0.0523	< 0.0500	0.194	0.610	0.875	-	0.112
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	0.10	< 0.10	< 0.1	< 0.1	< 0.10	0.12	< 0.10	< 0.1	-	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.26	0.24	0.30	0.26	0.28	0.42	0.27	0.30	7.57	4.86	0.48	-	3.09
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.024	< 0.020	0.024	< 0.020	0.020	< 0.02	0.030	0.046	0.134	0.171	0.134	-	0.343
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	0.031	0.030	0.027	0.051	0.129	0.028	0.028	< 0.020	< 0.020	0.052	< 0.02	-	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	0.020	-	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.411	0.0043|< 0.050	0.0038|< 0.050	0.0068|< 0.050	< 0.0020|< 0.050	0.0021|< 0.05	0.0042|< 0.05	0.364	0.0275|< 0.050	0.0545|0.052	0.0389|< 0.05	< 0.05	0.130|0.086
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	1.40	1.50	1.56	1.52	1.92	1.73	1.62	1.36	< 0.30	< 0.30	5.74	-	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.32	1.66	1.27	1.52	1.43	1.97	2.20	2.43	12.9	10.6	1.99	-	10.6
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	-	8.1	6.1	< 3	-	3.0
Chemical oxygen demand [COD]	mg/L	-	-	10	53	10	10	< 10	< 10	10	< 10	49	55	41	12	-	43
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																	
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0214	0.0017	0.0012	0.0018	0.0019	0.0028	0.0030	0.0073	0.0053	0.0104	0.0054	0.0082	0.0104
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00024	0.00059	< 0.0001	0.00028	0.00098
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00020	0.00017	0.00018	0.00019	0.00017	0.00020	0.00021	0.00019	0.00360	0.00359	0.00273	0.00394	0.00469
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0141	0.0128	0.0115	0.0118	0.0117	0.0110	0.0112	0.0140	0.0351	0.0309	0.0255	0.0289	0.0324
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	0.104	0.091	0.026	0.118	0.103
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000089	< 0.0000050	< 0.0000050	0.0000214	0.0000138	0.0000108	0.0000318
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	61.3	60.0	59.5	62.2	60.9	60.9	65.7	60.1	54.9	53.3	60.3	48.1	48.0
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	0.00065	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00050	0.00056	0.00060	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	-	0.00054
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00015	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00011	0.00082	0.00082	0.00030	0.00058	0.00047
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00092	0.00036	0.00023	0.00038	0.00042	0.00042	0.00471	0.00084	0.00052	0.00121	0.00079	0.00052	0.00081
Iron, dissolved	mg/L		-	0.01 - 0.05	0.026	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	0.457	0.123	0.021	0.300	0.326
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	0.000059	< 0.000050	< 0.000050	-	-	0.000079
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0023	0.0012	0.0014	0.0012	0.0016	0.0013	0.0063	0.0022	0.0039	0.0071	0.0033	0.0032	0.0030
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	11.0	12.2	11.4	11.4	11.6	11.6	11.5	10.7	20.8	21.1	15.3	19.7	18.6
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0434	0.00106	0.00056	0.00078	0.00067	0.00084	0.00022	0.0407	**0.204**	**0.203**	**0.228**	**0.209**	**0.187**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000135	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000035	< 0.000020	< 0.000020	0.000103	< 0.000020	0.000046	-	0.000054	0.000024	< 0.000020	-	0.000056	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.000293	0.000083	0.000203	0.000083	0.000102	0.000087	0.000070	0.000315	0.00901	0.0105	0.00156	0.0105	0.00895
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00057	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00183	0.0146	0.00139	0.00878	0.00628
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.22	0.582	0.729	0.538	0.562	0.493	0.491	1.23	5.05	4.08	1.52	3.26	3.41
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00190	0.00132	0.00116	0.00132	0.00123	0.00124	0.00130	0.00186	0.00166	0.00152	0.00099	0.00138	0.00136
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000077	0.000070	0.000062	0.000103	0.000085	0.000130	0.000297	0.000086	0.000068	0.000081	-	0.000072	0.000073
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	3.86	3.85	4.26	3.91	3.59	3.86	3.64	3.86	8.22	8.66	6.80	9.02	8.53
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	1.11	1.08	1.15	0.955	0.979	1.04	1.52	1.15	22.5	23.6	5.94	22.4	22.5
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0531	0.0492	0.0514	0.0509	0.0488	0.0494	0.0488	0.0527	0.253	0.243	0.187	0.262	0.247
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.54	< 0.50	< 0.50	0.57	< 0.50	0.60	< 0.5	0.58	< 0.50	< 0.50	2.16	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	0.000011	< 0.000010	< 0.000010	0.000011	< 0.000010	-	-	0.000011	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00013	0.00010	0.00178	0.00214	0.00019	0.00193	0.00195
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00109	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00015	0.00016	< 0.0001	0.00010	0.00012
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000420	0.000229	0.000206	0.000236	0.000237	0.000228	0.000240	0.000414	0.000658	0.000516	0.000658	0.000466	0.000823
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.00068
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	0.0165	< 0.0010	0.0020	0.0269	0.0040	0.0078	0.0052
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																	
Conductivity	uS/cm	-	-	2.0	367	345	346	357	373	368	357	362	482	486	416	-	435
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	226	203	196	205	218	275	259	330	268	276	244	-	287
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	198	200	196	202	200	200	211	194	223	220	214	-	196
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	245	217	216	219	190	212	201	262	293	278	213	-	264
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	1380	10.9	< 3.0	9.2	< 3.0	< 3	< 3	6110	6.5	56.2	20.0	-	598
pH	pH units	-	-	0.10	8.07	8.08	8.20	8.18	8.11	8.04	8.11	8.03	8.33	8.34	8.30	-	8.12
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.094	-	< 0.01	-	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	-	< 0.005	-	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	-	< 0.005	-	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	< 0.015	0.039	< 0.015	0.064	0.018	-	< 0.015	-	< 0.015	-	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	< 0.010	0.012	< 0.010	0.021	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	< 0.010	0.027	0.012	0.043	0.018	-	0.012	-	< 0.01	-	0.013
Naphthalene	ug/L	-	-	0.050	-	< 0.050	< 0.050	0.086	< 0.050	0.060	< 0.05	-	< 0.050	-	< 0.05	-	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	-	< 0.020	-	< 0.02	-	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1			-	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1			-	0.14	-	-	-	-
Total Metals																	
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	0.0619	0.0077	0.0918	0.0086	0.0867	0.0185	-	0.0503	0.306	0.101	0.418	0.524
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	-	0.00027	0.00318	0.00042	0.00048	0.00150
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00025	0.00019	0.00028	0.00018	0.00029	0.00021	-	0.00372	0.00445	0.00257	0.00503	0.00621
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0132	0.0116	0.0128	0.0119	0.0123	0.0126	-	0.0358	0.0385	0.0261	0.0334	0.0341
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	-	-	0.000025
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	0.107	0.102	0.022	0.104	0.118
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	< 0.0000050	< 0.0000050	0.0000051	< 0.0000050	-	-	-	0.0000099	0.000130	0.0000369	0.0000304	0.0000863
Calcium, total	mg/L	-	-	0.05 - 1	-	56.4	57.8	58.0	56.2	67.2	64.8	-	52.6	54.4	64.1	60.5	57.0
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	0.000014	< 0.000010	0.000014	-	-	< 0.000010	0.000028	-	0.000039	0.000043
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.00062	< 0.00050	0.00078	0.00053	0.00099	0.00058	-	< 0.00050	0.00314	0.00050	0.00220	0.00269
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	-	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00025	< 0.00010	0.00032	< 0.00010	0.00025	< 0.0001	-	0.00087	0.00114	0.00039	0.00088	0.00084
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.00091	< 0.00050	0.00110	< 0.00050	0.00089	< 0.0005	-	< 0.00050	0.00291	0.00085	0.00162	0.00243
Iron, total	mg/L	-	-	0.01 - 0.2	-	0.097	< 0.010	0.157	0.011	0.156	0.026	-	0.573	0.807	0.122	0.993	1.12
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	< 0.000050	< 0.000050	0.000163	< 0.000050	0.000107	-	-	< 0.000050	0.000415	0.000124	0.000323	0.000610
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0012	0.0018	0.0016	0.0014	0.0011	0.0014	-	0.0037	0.0057	0.0038	0.0034	0.0038
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	12.4	10.8	11.5	10.9	12.8	11.7	-	20.2	20.5	14.7	22.2	20.5
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	0.0174	0.00200	0.0223	0.00203	0.0175	0.00322	-	**0.210**	**0.221**	**0.215**	**0.228**	**0.209**
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	-	-	0.0000154
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000020	-	-	< 0.000020	0.000034	0.000083	-	0.000516
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.000081	0.000191	0.000086	0.000098	0.000091	0.000077	-	0.00871	0.0117	0.00175	0.00996	0.00885
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00084	< 0.0005	-	0.00208	0.0198	0.00232	0.0106	0.00843
Phosphorus, total	mg/L	-	-	0.002 - 1	0.411	0.0043|< 0.050	0.0038|< 0.050	0.0068|< 0.050	< 0.0020|< 0.050	0.0021|< 0.05	0.0042|< 0.05	0.364	0.0275|< 0.050	0.0545|0.052	0.0389|< 0.05	< 0.05	0.130|0.086
Potassium, total	mg/L	-	-	0.05 - 1	-	0.621	0.728	0.608	0.539	0.514	0.519	-	4.91	3.96	1.47	3.36	3.35
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00149	0.00111	0.00145	0.00118	0.00138	0.00121	-	0.00177	0.00191	0.00115	0.00198	0.00186
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	0.000095	0.000057	0.000073	0.000110	0.000118	0.000112	-	0.000085	0.000098	-	0.000065	0.000084
Silicon, total	mg/L	-	-	0.1 - 2	-	3.96	4.38	3.97	3.88	4.08	3.85	-	8.39	9.16	6.41	9.70	9.24
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	0.000033	0.000010	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	1.20	1.16	1.05	0.983	1.05	1.08	-	23.2	21.0	5.65	25.2	22.0
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.0496	0.0492	0.0486	0.0461	0.0519	0.0486	-	0.234	0.247	0.178	0.281	0.267
Sulfur, total	mg/L	-	-	0.5 - 10	-	0.63	0.55	0.69	0.69	< 0.5	0.54	-	< 0.50	< 0.50	1.91	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	-	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	0.000012	-	-	-	< 0.000010	< 0.000010	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	-	< 0.00010	< 0.00010	< 0.0001	0.00012	0.00013
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00021	0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	-	0.00326	0.00592	0.00090	0.00468	0.00306
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.00370	0.00040	0.00518	0.00062	0.00707	0.00107	-	0.00280	0.0149	0.00504	0.0203	0.0201
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00012	-	0.00012	0.00027	0.00011	0.00012	0.00019
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.000239	0.000242	0.000246	0.000271	0.000231	0.000246	-	0.000700	0.000577	0.000675	0.000529	0.000822
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	0.00054	< 0.00050	0.00062	< 0.0005	-	0.00062	0.00086	< 0.0005	0.00144	0.00149
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0036	0.0031	< 0.0030	< 0.0030	< 0.003	< 0.003	-	< 0.0030	0.0475	0.0086	0.0233	0.0236
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	-	0.00037	0.00053	< 0.0002	0.00064	0.00071
Volatile Organic Compounds																	
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	25	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	-	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	9.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	-	0.54	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	0.51	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	1.05	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	1.0	< 1.0	< 1	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/27/22	6/28/23	9/23/23	6/10/24	8/15/24	9/30/24	11/27/22	11/27/22
					MW22-07-2	MW22-07-02	MW22-07-2	MW22-07-2	MW22-07-2	MW22-07-2	MW22-07-3	MW22-07-4
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.130	0.0891	0.246	1.03	0.162	0.0438	< 0.0500	0.0189
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	0.10	< 0.10
Chloride	mg/L	-	-	0.10 - 0.20	0.92	0.66	0.76	3.24	0.44	0.51	3.40	2.87
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.135	0.139	0.148	0.188	0.073	0.218	0.079	0.087
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	0.020	< 0.02	< 0.02	< 0.02	0.040	< 0.020
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	0.011	0.047	< 0.010	< 0.010
Phosphorus, Total	mg/L	-	-	0.002 - 1	1.45	0.0415|0.104	0.215|1.07	0.0513|< 0.05	0.0345|< 0.05	0.0162|< 0.05	0.827	0.0127
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	2.71	7.22	6.97	0.38	4.46	4.16	3.46	3.23
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	2.74	2.32	3.68	14.0	2.36	2.32	2.34	2.58
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	-	15.4	< 2	< 2	-	-
Chemical oxygen demand [COD]	mg/L	-	-	10	37	17	58	44	< 10	10	37	16
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050
Dissolved Metals												
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0019	0.0024	0.0083	0.0057	0.0024	0.0025	0.0034	0.0038
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	0.00018	0.00014	0.00045	0.00022	0.00010	0.00011	0.00012	0.00018
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00141	0.00278	0.00238	0.00448	0.00238	0.00208	0.00042	0.00082
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0300	0.0275	0.0284	0.0290	0.0228	0.0231	0.0147	0.0189
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.030	0.035	0.033	0.114	0.022	0.023	0.020	0.028
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	0.0000072	< 0.0000050	0.0000139	0.0000074	0.0000264	0.0000119	< 0.0000050	< 0.0000050
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	59.2	60.3	61.5	50.2	59.3	63.8	59.8	54.4
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00095	< 0.0005	< 0.0005	< 0.00050	< 0.00050
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	-
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00040	0.00040	0.00037	0.00068	0.00024	0.00016	< 0.00010	0.00013
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00043	0.00095	0.00122	< 0.0002	0.00080	0.00037	0.00075	0.00057
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	0.049	< 0.010	0.550	< 0.01	< 0.01	< 0.010	< 0.010
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0043	0.0031	0.0065	0.0036	0.0031	0.0031	0.0038	0.0042
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	13.9	15.2	15.8	20.2	14.4	14.1	13.3	13.4
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.181**	**0.244**	**0.193**	**0.209**	**0.204**	**0.177**	0.00205	0.0247
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000022	< 0.000020	-	0.000026	0.000023	0.000048	0.000101	< 0.000020
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00249	0.00232	0.00228	0.0109	0.00103	0.00113	0.00471	0.00523
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	0.00050	0.00315	0.0108	< 0.0005	0.00065	0.00098	0.00078
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.69	2.07	2.13	3.83	1.26	1.32	2.64	3.47
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00156	0.00121	0.00142	0.00126	0.00092	0.00089	0.00120	0.00149
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000074	-	-	0.000246	0.000188
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.86	6.88	6.96	8.96	6.38	6.55	5.02	5.27
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	6.40	6.52	7.72	23.8	4.99	5.94	3.69	5.01
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.177	0.191	0.194	0.280	0.165	0.169	0.0752	0.103
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.07	2.06	2.38	< 0.5	1.52	1.54	1.28	1.10
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	0.000015	0.000018
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00060	0.00070	0.00138	0.00123	0.00014	0.00014	0.00066	0.00059
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0009	< 0.0003	< 0.00030	< 0.00030
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	0.00016	0.00022	< 0.0001	< 0.00010	< 0.00010
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000977	0.000944	0.000838	0.000379	0.000431	0.000491	0.000685	0.000938
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00066	< 0.00050	0.00056	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0015	0.0023	0.0153	0.0015	0.0044	0.0038	0.0014	< 0.0010
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030
Physical Tests												
Conductivity	uS/cm	-	-	2.0	402	400	421	461	406	387	390	382
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	241	235	270	276	274	268	229	231
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	205	213	219	208	207	217	204	191
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	252	406	340	238	234	232	250	246
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	3110	1790	2090	41.4	20.5	5.5	624	906
pH	pH units	-	-	0.10	8.07	8.09	8.21	8.23	7.99	8.15	8.07	8.07
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.059	-	< 0.01	< 0.01	< 0.01	-	-
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Anthracene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	-	< 0.005	< 0.005	< 0.005	-	-
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Chrysene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	-	< 0.005	< 0.005	< 0.005	-	-
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	-	0.032	0.406	0.364	-	-
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	-	0.013	0.134	0.134	-	-
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	-	0.019	0.272	0.230	-	-
Naphthalene	ug/L	-	-	0.050	-	< 0.050	-	< 0.05	0.450	0.251	-	-
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	-	< 0.02	< 0.02	< 0.02	-	-
Pyrene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Fluorene	ug/L	-	-	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	-	-	-	-	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	-	-	-	-	-	-	-
Total Metals												
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	1.30	**3.41**	0.236	0.0189	0.0357	-	-
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	0.00045	0.00116	0.00030	0.00014	0.00026	-	-
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00345	0.00397	0.00481	0.00250	0.00223	-	-
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0375	0.0588	0.0281	0.0242	0.0245	-	-
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000054	0.000154	-	-	-	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000100	-	-	-	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	-	0.040	0.045	0.108	0.022	0.024	-	-
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.0000242	0.000126	0.0000269	0.0000204	0.0000129	-	-
Calcium, total	mg/L	-	-	0.05 - 1	-	86.0	113	53.2	67.3	62.7	-	-
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000139	0.000408	0.000020	-	-	-	-
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.00293	0.00859	0.00201	< 0.0005	< 0.0005	-	-
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	-
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00132	0.00264	0.00076	0.00030	0.00018	-	-
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.00217	0.00684	0.00111	< 0.0005	0.00064	-	-
Iron, total	mg/L	-	-	0.01 - 0.2	-	1.63	4.39	0.939	0.045	0.051	-	-
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	0.000732	0.00212	0.000197	0.000522	-	-	-
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0051	0.0093	0.0037	0.0030	0.0036	-	-
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	21.8	27.7	19.6	15.3	14.2	-	-
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	**0.305**	**0.331**	**0.211**	**0.211**	**0.182**	-	-
Mercury, total	mg/L	0.001	0.001	0.0000050	-	0.0000163	0.0000065	-	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000030	0.000045	0.000084	0.000026	0.000083	-	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.00209	0.00223	0.00997	0.00100	0.00102	-	-
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.00238	0.0101	0.0109	0.00059	0.00094	-	-
Phosphorus, total	mg/L	-	-	0.002 - 1	1.45	0.0415|0.104	0.215|1.07	0.0513|< 0.05	0.0345|< 0.05	0.0162|< 0.05	0.827	0.0127
Potassium, total	mg/L	-	-	0.05 - 1	-	2.50	3.00	3.33	1.29	1.37	-	-
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00375	0.00772	0.00149	0.00101	0.00099	-	-
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	< 0.000050	0.000138	0.000075	-	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	-	9.56	13.7	8.61	6.72	6.60	-	-
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	0.000026	-	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	7.34	7.43	23.4	5.79	5.22	-	-
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.203	0.234	0.259	0.176	0.164	-	-
Sulfur, total	mg/L	-	-	0.5 - 10	-	2.43	2.62	< 0.5	1.62	1.62	-	-
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00040	< 0.0002	< 0.0002	< 0.0002	-	-
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000012	0.000096	-	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00057	0.00148	< 0.0001	< 0.0001	< 0.0001	-	-
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00099	0.00291	0.00202	0.00024	0.00032	-	-
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.0950	0.208	0.00946	0.00112	0.00178	-	-
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00020	0.00014	< 0.0001	< 0.0001	-	-
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.00107	0.00109	0.000399	0.000460	0.000450	-	-
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.00333	0.00795	0.00085	< 0.0005	< 0.0005	-	-
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0060	0.0860	0.0148	0.0048	0.0043	-	-
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00090	0.00150	0.00036	< 0.0002	< 0.0002	-	-
Volatile Organic Compounds												
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	-
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2	< 2	< 2	-	-
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	-
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	-
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	-
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	-
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	-	-
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	-
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/25/22	6/27/23	8/11/23	9/23/23	6/10/24	8/12/24	9/30/24	9/30/24
					MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW DUP 2 (MW22-08-1)
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.491	0.587	0.555	0.379	0.400	0.412	0.413	0.442
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.70	0.31	0.30	0.26	0.23	0.23	0.23	0.20
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.262	0.402	0.351	0.414	0.494	0.269	0.823	0.723
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.296	0.864|0.281	0.948|1.03	0.157|0.203	0.242|0.218	0.223|0.164	0.143|0.199	0.125|0.166
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	0.56	< 0.30	0.33	0.35	0.49	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	6.25	6.13	7.42	6.25	8.62	6.49	6.34	7.43
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 3.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	42	74	84	19	22	18	16	17
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	0.161	0.121	0.198	0.153	0.132	0.150
Dissolved Metals												
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0019	0.0171	0.0014	0.0015	0.0020	0.0012	0.0015	0.0011
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00550	0.00893	**0.0139**	**0.0136**	**0.0212**	**0.0159**	**0.0145**	**0.0155**
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0457	0.0550	0.0406	0.0374	0.0403	0.0408	0.0368	0.0363
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.079	0.099	0.111	0.088	0.079	0.109	0.095	0.091
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	59.1	55.5	53.8	61.5	68.9	65.3	63.9	65.0
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00037	0.00036	0.00026	0.00028	0.00035	0.00022	0.00020	0.00021
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00036	< 0.00020	0.00058	0.00040	< 0.0002	0.00101	< 0.0002	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	0.157	0.276	1.05	1.24	1.76	1.38	1.34	1.47
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0056	0.0044	0.0055	0.0049	0.0045	0.0051	0.0048	0.0048
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	17.5	19.5	19.8	20.4	20.4	20.7	18.9	18.8
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.211**	**0.226**	**0.166**	**0.177**	**0.248**	**0.150**	**0.156**	**0.166**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000032	< 0.000020	0.000050	< 0.000020	0.000021	0.000037	0.000022	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00639	0.00729	0.00644	0.00645	0.00828	0.00684	0.00658	0.00643
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00072	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	0.161	0.121	0.198	0.153	0.132	0.150
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.65	2.38	2.18	1.92	1.70	1.97	1.81	1.84
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00080	0.00082	0.00068	0.00057	0.00052	0.00058	0.00052	0.00052
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000074	-	-	0.000087	0.000139
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	7.83	7.73	7.87	8.24	8.02	8.56	7.96	8.28
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	28.9	28.9	29.6	26.8	17.7	23.8	22.2	21.6
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.314	0.428	0.446	0.434	0.470	0.450	0.426	0.410
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.83	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00010	< 0.00010	0.00023	< 0.00010	< 0.0001	0.00011	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	0.00102	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00011	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.00127	0.000868	0.000200	0.000180	0.000386	0.000088	0.000066	0.000090
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	0.00068	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	0.0020	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	2.0	489	496	517	517	505	496	495	488
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	293	310	317	315	293	298	299	361
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	220	219	216	238	256	248	237	240
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	306	362	458	312	272	301	306	305
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	352	158	2270	196	98.4	15.4	175	39.3
pH	pH units	-	-	0.10	8.14	8.32	8.17	8.36	8.15	8.19	8.08	7.96
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	0.033	0.056	0.107	0.104	0.063	0.030	0.038
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	0.011	0.014	0.029	0.028	0.015	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	0.022	0.042	0.078	0.076	0.048	0.030	0.038
Naphthalene	ug/L	-	-	0.050	-	< 0.050	0.104	0.184	0.142	0.104	0.060	0.078
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	0.55	< 0.1	< 0.1	-	-	-	-
Total Metals												
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	**9.91**	**20.6**	1.47	1.30	0.149	0.925	0.310
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	< 0.00050	< 0.00050	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	**0.0119**	**0.0195**	**0.0155**	**0.0186**	**0.0152**	**0.0168**	**0.0166**
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.129	0.205	0.0501	0.0479	0.0409	0.0461	0.0411
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000356	0.000824	0.000056	0.000060	-	0.000034	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000250	< 0.000250	< 0.000050	< 0.0001	-	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	-	0.118	0.134	0.092	0.081	0.116	0.109	0.105
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.0000554	0.000133	0.0000170	0.0000199	-	0.0000100	-
Calcium, total	mg/L	-	-	0.05 - 1	-	120	286	77.8	77.1	62.1	70.3	66.5
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.00119	0.00260	0.000197	0.000167	0.000018	0.000123	0.000036
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.0213	0.0493	0.00346	0.00301	< 0.0005	0.00200	0.00074
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00619	0.0146	0.00124	0.00104	0.00030	0.00075	0.00039
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.0113	0.0294	0.00170	0.00173	< 0.0005	0.00107	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	-	11.4	29.0	3.11	3.14	1.66	2.73	1.94
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	0.00436	**0.0128**	0.000792	0.000846	0.000082	0.000473	0.000155
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0187	0.0415	0.0073	0.0066	0.0052	0.0068	0.0057
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	31.8	65.9	22.3	21.3	20.2	20.6	19.8
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	**0.467**	**0.845**	**0.254**	**0.254**	**0.165**	**0.197**	**0.182**
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000028	0.000060	0.000033	0.000066	0.000036	0.000034	0.000039
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.00587	0.00461	0.00659	0.00766	0.00717	0.00704	0.00682
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.0158	0.0365	0.00251	0.00251	< 0.0005	0.00157	0.00064
Phosphorus, total	mg/L	-	-	0.002 - 1	0.296	0.864|0.281	0.948|1.03	0.157|0.203	0.242|0.218	0.223|0.164	0.143|0.199	0.125|0.166
Potassium, total	mg/L	-	-	0.05 - 1	-	5.30	8.06	2.22	2.06	1.95	2.06	1.91
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.0202	0.0432	0.00343	0.00332	0.00077	0.00242	0.00107
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	< 0.000250	< 0.000250	0.000063	< 0.0001	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	-	26.4	48.4	11.3	10.2	8.57	10.1	8.83
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000050	0.000078	< 0.000010	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	30.7	30.5	21.6	18.1	21.5	20.0	20.6
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.470	0.627	0.437	0.464	0.435	0.455	0.432
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 2.50	< 2.50	< 0.50	< 1	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00100	< 0.00100	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000075	0.000264	0.000014	-	-	0.000010	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00360	0.00891	0.00064	0.00055	< 0.0001	0.00042	0.00014
Tin, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00050	< 0.00050	0.00018	0.00025	< 0.0001	0.00013	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.516	1.03	0.0842	0.0736	0.00963	0.0508	0.0171
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00050	< 0.00050	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.00140	0.00186	0.000418	0.000403	0.000099	0.000206	0.000152
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.0220	0.0480	0.00342	0.00297	< 0.0005	0.00212	0.00081
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0306	0.0712	0.0055	0.0062	< 0.003	0.0031	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00218	0.00328	0.00126	0.00107	0.00025	0.00096	0.00038
Volatile Organic Compounds												
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	0.50	0.75	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	0.51	0.94	1.71	2.07	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	0.71	1.27	2.13	3.26	0.82	0.57	0.49
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	0.37	0.78	1.19	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	0.71	1.64	2.91	4.45	0.82	0.57	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	-	1.2	2.6	5.1	7.3	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/25/22	6/27/23	8/11/23	9/23/23	6/10/24	8/12/24	9/30/24	9/30/24
					MW-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW DUP 3 MW22-08-2
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	< 0.0250	0.168	0.0675	0.0819	0.106	0.237	0.0712	0.128
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.40	0.31	0.26	0.27	0.22	0.20	0.17	0.20
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.336	0.445	0.277	0.315	0.362	0.392	0.522	0.628
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	0.794	0.029	< 0.020	0.044	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.441	0.130|2.87	0.107|< 0.100	0.172|< 0.100	0.0769|< 0.1	0.285|< 0.5	0.0628|< 0.1	0.0781|< 0.1
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	1.14	0.38	1.08	1.31	0.87	< 0.3	0.56	0.57
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	6.76	6.94	7.68	7.36	12.1	9.76	7.72	7.72
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 3.0	< 2.0	< 2.0	< 3.8	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	203	386	41	54	32	48	22	23
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	0.077	0.092	0.085	0.185	0.132	0.132
Dissolved Metals												
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0022	0.0035	0.0049	0.0027	0.0049	0.0092	0.0020	0.0026
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00839	0.00590	**0.0123**	**0.0145**	**0.0111**	**0.0276**	**0.0224**	**0.0220**
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0313	0.0358	0.0331	0.0346	0.0297	0.0343	0.0312	0.0315
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.032	0.054	0.040	0.036	0.031	0.038	0.043	0.050
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	0.0000096	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	74.2	70.4	73.8	82.4	69.9	83.1	76.7	75.6
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00023	0.00021	0.00023	0.00021	0.00025	0.00015	0.00014
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00082	< 0.00020	< 0.00020	< 0.00020	0.00021	0.00093	< 0.0002	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	0.110	0.648	0.801	0.693	1.20	1.17	1.26
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0048	0.0039	0.0048	0.0046	0.0037	0.0041	0.0042	0.0047
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	15.7	18.2	18.6	19.8	16.4	19.1	18.6	17.4
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0467	**0.242**	**0.218**	**0.258**	**0.217**	**0.241**	**0.191**	**0.189**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000040	0.000058	0.000038	< 0.000020	0.000045	0.000131	0.000021	0.000022
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00518	0.00586	0.00551	0.00494	0.00434	0.00566	0.00581	0.00603
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00072	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	0.077	0.092	0.085	0.185	0.132	0.132
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.38	1.26	1.19	1.26	1.22	1.40	1.30	1.28
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00044	0.00050	0.00044	0.00043	0.00037	0.00039	0.00038	0.00035
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000065	< 0.000050	0.000132	0.000414	-	0.000155	-	0.000241
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	7.31	6.85	7.03	7.91	6.26	8.81	7.82	7.82
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	10.8	12.6	14.6	12.4	20.5	11.9	12.4	11.7
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.204	0.278	0.328	0.319	0.294	0.342	0.352	0.340
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.57	< 0.50	0.72	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00013	< 0.00010	< 0.00010	< 0.00010	0.00031	0.00024	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	0.00038	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.00117	0.00154	0.000979	0.000852	0.000420	0.000358	0.000430	0.000420
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00099	0.00192	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0014	< 0.0010	< 0.0010	< 0.0010	0.0011	0.0014	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	2.0	490	507	546	555	507	494	518	505
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	293	308	309	337	285	297	304	408
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	250	251	261	287	242	286	268	260
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	349	383	336	311	286	294	305	312
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	1360	250	44.7	49.8	11.2	108	17.3	14.3
pH	pH units	-	-	0.10	7.99	8.25	8.12	8.24	8.25	8.09	7.96	7.81
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.017	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	0.042	0.077	0.095	0.048	0.018	0.017	0.026
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	0.017	0.019	0.025	0.012	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	0.025	0.058	0.070	0.036	0.018	0.017	0.026
Naphthalene	ug/L	-	-	0.050	-	< 0.050	0.174	0.171	0.058	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	0.40	0.15	< 0.1	-	-	-	-
Total Metals												
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	**5.04**	1.23	2.01	0.169	**5.35**	0.953	0.968
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	< 0.00020	0.00025	< 0.00020	< 0.0002	< 0.001	< 0.0002	< 0.0002
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00784	0.00985	0.00829	**0.0121**	**0.0254**	0.00744	0.00781
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0754	0.0455	0.0518	0.0328	0.0817	0.0433	0.0435
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000159	< 0.000040	0.000072	-	< 0.0002	0.000042	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000100	< 0.000100	< 0.0001	< 0.0005	< 0.0001	< 0.0001
Boron, total	mg/L	5	5	0.01 - 0.2	-	0.061	0.045	0.037	0.033	< 0.1	0.054	0.051
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.0000598	0.0000149	0.0000277	0.0000319	0.0000683	0.0000140	0.0000100
Calcium, total	mg/L	-	-	0.05 - 1	-	94.4	89.8	90.0	77.9	128	84.1	87.3
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000581	0.000162	0.000270	0.000020	0.000633	0.000121	0.000123
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.0101	0.00230	0.00380	< 0.001	0.0110	0.00172	0.00175
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00294	0.00084	0.00125	0.00032	0.00343	0.00060	0.00063
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.00664	0.00162	0.00244	< 0.001	0.00771	0.00140	0.00160
Iron, total	mg/L	-	-	0.01 - 0.2	-	5.25	1.65	2.57	1.03	6.97	1.37	1.50
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	0.00208	0.000560	0.000935	0.000457	0.00271	0.000435	0.000459
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0097	0.0055	0.0072	0.0045	0.0111	0.0062	0.0061
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	24.0	20.9	21.9	16.3	29.7	19.1	20.4
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	**0.350**	**0.245**	**0.257**	**0.228**	**0.426**	**0.211**	**0.211**
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000322	0.000196	0.000214	0.000302	0.000626	0.000114	0.000146
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.00565	0.00481	0.00392	0.00456	0.00481	0.00432	0.00421
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.00752	0.00204	0.00323	0.00101	0.00911	0.00197	0.00191
Phosphorus, total	mg/L	-	-	0.002 - 1	0.441	0.130|2.87	0.107|< 0.100	0.172|< 0.100	0.0769|< 0.1	0.285|< 0.5	0.0628|< 0.1	0.0781|< 0.1
Potassium, total	mg/L	-	-	0.05 - 1	-	2.74	1.62	1.66	1.20	2.94	1.48	1.48
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00999	0.00294	0.00415	0.00072	0.0105	0.00226	0.00221
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	0.000165	< 0.000100	< 0.000100	< 0.0001	< 0.0005	< 0.0001	< 0.0001
Silicon, total	mg/L	-	-	0.1 - 2	-	15.9	9.90	10.8	6.66	18.0	8.71	8.91
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	-	< 0.0001	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	13.0	12.9	12.6	20.2	12.5	17.1	17.9
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.304	0.318	0.317	0.297	0.390	0.310	0.319
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 1.00	< 1.00	< 1.00	< 1	< 5	< 1	< 1
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00040	< 0.00040	< 0.00040	< 0.0004	< 0.002	< 0.0004	< 0.0004
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000044	< 0.000020	< 0.000020	-	< 0.0001	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00094	0.00020	0.00043	< 0.0002	< 0.001	0.00030	0.00027
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00021	< 0.00020	< 0.00020	0.00034	< 0.001	< 0.0002	< 0.0002
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.216	0.0533	0.0819	0.00827	0.234	0.0377	0.0400
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.001	< 0.0002	< 0.0002
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.00211	0.00126	0.00136	0.000465	0.00112	0.00108	0.00112
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.0120	0.00266	0.00426	< 0.001	0.0108	0.00219	0.00232
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0157	< 0.0060	0.0073	< 0.006	< 0.03	< 0.006	< 0.006
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00176	0.00041	0.00075	< 0.0004	< 0.002	0.00098	0.00093
Volatile Organic Compounds												
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	0.63	0.91	0.75	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	0.65	2.04	1.92	0.44	< 0.4	0.40	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	0.64	0.63	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	0.65	2.68	2.55	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	-	1.3	3.6	3.3	< 1	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/24/22	6/27/23	8/11/23	9/20/23	6/10/24	8/12/24	9/30/24	11/24/22	6/27/23	8/11/23	9/20/23	6/10/24	8/12/24	9/30/24
					MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-2	MW22-09-2	MW22-09-2	MW22-09-2	MW22-09-2	MW22-09-2	MW22-09-2
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	1.46	1.01	1.14	1.41	1.15	1.14	1.32	0.467	0.361	0.346	0.401	0.430	0.371	0.335
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.20	0.18	< 0.20	< 0.2	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	6.86	6.01	6.39	5.82	5.46	5.64	5.45	0.26	0.21	0.27	0.34	0.29	0.24	0.28
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.263	0.288	0.230	0.271	0.275	0.146	0.529	< 0.020	0.031	< 0.020	0.028	0.038	< 0.02	0.033
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.040	< 0.020	< 0.040	< 0.04	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.020	< 0.010	< 0.020	< 0.02	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	1.03	0.308|6.41	1.03|1.31	0.156|0.201	0.332|0.271	0.151|0.196	0.188|2.36	1.02	0.130|0.099	0.213|< 0.250	0.0967|< 0.100	0.227|0.428	0.0769|< 0.1	0.150|< 0.5
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.60	< 0.30	< 0.60	< 0.6	< 0.3	< 0.3	0.94	< 0.30	< 0.30	< 0.30	0.36	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	7.34	8.50	8.12	8.32	8.31	8.12	7.50	19.4	25.4	29.1	30.8	25.2	31.4	36.7
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	7.6	< 3.0	8.4	< 3.8	< 2	2.3	-	< 2.0	< 2.0	< 2.0	< 3.8	< 2	< 3
Chemical oxygen demand [COD]	mg/L	-	-	10	24	67	73	20	35	28	23	57	92	139	93	93	80	86
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	0.094	0.142	0.156	0.170	0.164	0.142	< 0.050	< 0.100	< 0.100	< 0.100	< 0.05	0.053	< 0.5
Dissolved Metals																		
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0018	0.0030	0.0013	0.0012	0.0028	0.0027	0.0022	0.0110	0.0260	0.0282	0.0300	0.0228	0.0314	0.0737
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0001	< 0.0001	< 0.001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00632	**0.0249**	**0.0152**	**0.0130**	**0.0173**	**0.0146**	**0.0124**	0.00215	0.00135	0.00193	0.00202	0.00193	0.00212	0.00123
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0920	0.0923	0.0753	0.0688	0.0680	0.0683	0.0655	0.0175	0.0101	0.00931	0.00841	0.0107	0.00887	0.00778
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000040	< 0.000040	< 0.000040	-	-	< 0.0002
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000100	< 0.000100	< 0.000100	-	-	< 0.0005
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.063	0.068	0.074	0.073	0.075	0.082	0.078	< 0.010	< 0.020	< 0.020	< 0.020	< 0.01	< 0.01	< 0.1
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	0.0000051	< 0.0000050	-	-	-	< 0.0000050	< 0.0000100	< 0.0000100	< 0.0000100	0.0000053	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	78.9	72.1	70.7	75.7	78.0	81.7	76.9	43.6	25.4	23.1	22.6	33.3	23.9	21.0
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.0001
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.0005	< 0.0005	< 0.005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00031	0.00033	0.00018	< 0.00010	0.00015	0.00011	< 0.0001	0.00013	< 0.00020	< 0.00020	< 0.00020	0.00023	0.00022	< 0.001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00045	< 0.00020	< 0.00020	< 0.00020	< 0.0002	0.00147	< 0.0002	< 0.00035	< 0.00040	< 0.00040	< 0.00040	< 0.0002	0.00246	0.00212
Iron, dissolved	mg/L		-	0.01 - 0.05	0.550	2.77	2.53	2.35	3.06	2.50	2.48	0.875	0.704	0.974	0.948	1.40	1.22	1.13
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000100	< 0.000100	< 0.000100	-	0.000218	< 0.0005
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0105	0.0068	0.0088	0.0086	0.0081	0.0083	0.0084	0.0018	< 0.0020	< 0.0020	< 0.0020	< 0.001	< 0.001	< 0.01
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	31.1	32.5	31.8	35.8	32.5	34.7	31.6	4.88	4.22	3.78	3.58	6.18	3.97	3.38
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0609	0.0721	0.0409	0.0312	0.0443	0.0321	0.0299	0.0744	0.0603	0.0591	0.0536	0.0779	0.0556	0.0553
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	< 5e-005	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000024	< 0.000020	0.000040	< 0.000020	-	0.000040	0.000037	0.000041	< 0.000020	< 0.000020	< 0.000020	-	0.000027	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00178	0.00335	0.00257	0.00219	0.00315	0.00252	0.00228	< 0.000050	< 0.000100	< 0.000100	< 0.000100	-	0.000094	< 0.0005
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.0005	< 0.0005	< 0.005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	0.094	0.142	0.156	0.170	0.164	0.142	< 0.050	< 0.100	< 0.100	< 0.100	< 0.05	0.053	< 0.5
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	3.23	2.93	2.70	2.80	2.82	2.87	2.73	0.231	0.121	0.129	0.147	0.155	0.147	< 0.5
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00187	0.00152	0.00112	0.00088	0.00109	0.00091	0.00091	0.00059	< 0.00040	< 0.00040	< 0.00040	0.00042	0.00039	< 0.002
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000059	-	-	-	< 0.000050	< 0.000100	0.000123	0.000260	0.000051	0.000114	< 0.0005
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	9.68	9.09	9.68	9.50	9.67	10.4	9.61	2.19	1.58	1.87	2.00	2.40	2.33	1.88
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.0001
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	18.3	18.3	17.9	19.3	18.4	18.8	17.7	1.02	0.775	0.782	0.883	1.08	0.945	0.816
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.429	0.445	0.471	0.473	0.495	0.486	0.448	0.0968	0.0466	0.0462	0.0412	0.0644	0.0463	0.0352
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 1.00	< 1.00	< 1.00	< 0.5	< 0.5	< 5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.00040	< 0.00040	< 0.0002	< 0.0002	< 0.002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.0001
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0001	< 0.0001	< 0.001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00011	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00015	< 0.0001	0.00016	< 0.00020	< 0.00020	< 0.00020	< 0.0001	0.00031	< 0.001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	0.00047	0.00061	0.00063	0.00073	0.00044	0.00066	< 0.003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0001	< 0.0001	< 0.001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000081	0.000048	< 0.000010	< 0.000010	-	-	-	0.000070	< 0.000020	< 0.000020	< 0.000020	0.000015	-	< 0.0001
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.0005	< 0.0005	< 0.005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0012	< 0.0010	< 0.0010	< 0.0010	< 0.001	0.0016	< 0.001	< 0.0010	< 0.0020	< 0.0020	< 0.0020	< 0.001	0.0049	< 0.01
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00060	< 0.00060	< 0.00060	< 0.0003	< 0.0003	< 0.003
Physical Tests																		
Conductivity	uS/cm	-	-	2.0	642	605	640	660	647	620	593	236	174	181	158	242	146	181
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	393	354	372	367	371	361	471	136	96.4	95.8	83.1	134	78.4	104
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	325	314	307	336	329	347	322	129	80.8	73.2	71.2	108	76.0	66.4
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	491	392	555	352	354	348	356	339	170	208	134	206	130	192
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	826	216	7490	24.2	169	137	387	2350	67.7	288	79.6	857	41.6	370
pH	pH units	-	-	0.10	8.03	8.16	7.80	7.90	8.15	8.10	8.00	7.66	7.82	7.74	7.27	7.68	7.17	7.01
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	0.035	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	0.016	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	0.019	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	0.13	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	0.42	0.13	-	-	-
Total Metals																		
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	**153**	**15.5**	0.725	1.57	0.712	**24.1**	-	2.85	**4.93**	1.03	**4.51**	1.07	**4.30**
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	< 0.00200	< 0.00050	0.00013	< 0.0002	< 0.0001	< 0.0005	-	< 0.00010	< 0.00050	0.00024	< 0.0002	< 0.0002	< 0.001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	**0.0604**	**0.0227**	**0.0156**	**0.0168**	**0.0123**	**0.0243**	-	0.00233	0.00284	0.00227	0.00322	0.00267	0.00225
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	**1.20**	0.181	0.0710	0.0791	0.0730	0.247	-	0.0318	0.0455	0.0170	0.0470	0.0162	0.0409
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.00576	0.000682	0.000023	0.000066	0.000026	0.00114	-	0.000094	0.000159	< 0.000040	0.000191	-	< 0.0002
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	0.00131	< 0.000250	< 0.000050	< 0.0001	-	< 0.00025	-	< 0.000050	< 0.000250	< 0.000100	< 0.0001	< 0.0001	< 0.0005
Boron, total	mg/L	5	5	0.01 - 0.2	-	0.315	0.107	0.072	0.078	0.093	0.142	-	< 0.010	< 0.050	< 0.020	< 0.02	< 0.02	< 0.1
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.00111	0.000165	0.0000190	0.0000339	0.0000088	0.000282	-	0.0000344	0.0000426	0.0000253	0.0000578	-	0.0000799
Calcium, total	mg/L	-	-	0.05 - 1	-	1670	403	81.2	107	83.7	710	-	31.7	43.8	30.0	89.8	33.0	44.0
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.0174	0.00175	0.000084	0.000184	0.000078	0.00252	-	0.000298	0.000578	0.000119	0.000516	0.000113	0.000496
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	**0.386**	0.0399	0.00179	0.00391	0.00178	**0.0711**	-	0.00622	0.00981	0.00208	0.0101	0.00212	0.00934
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.0969	0.0108	0.00055	0.00115	0.00054	0.0181	-	0.00184	0.00270	0.00068	0.00305	0.00076	0.00264
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.201	0.0224	0.00098	0.00260	0.00100	0.0368	-	0.00383	0.00583	0.00120	0.00627	0.00122	0.00560
Iron, total	mg/L	-	-	0.01 - 0.2	-	192	24.7	3.59	4.98	3.45	39.4	-	4.01	6.29	2.18	7.01	2.38	6.54
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	**0.0859**	**0.0106**	0.000428	0.00112	0.000464	**0.0177**	-	0.00142	0.00260	0.000492	0.00310	0.000553	0.00251
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.229	0.0354	0.0090	0.0102	0.0089	0.0523	-	0.0038	0.0060	< 0.0020	0.0069	< 0.002	< 0.01
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	389	109	33.6	38.7	35.8	182	-	7.05	10.2	5.70	21.3	6.98	11.2
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	**4.93**	**0.714**	0.0585	0.104	0.0582	**1.25**	-	0.109	**0.137**	0.0740	**0.215**	0.0869	**0.133**
Mercury, total	mg/L	0.001	0.001	0.0000050	-	0.0000110	< 0.0000050	< 0.0000050	-	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	0.000028	-	-	-	< 0.000020	< 0.000020	< 0.000200	0.000050	0.000022	0.000066
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.00564	0.00245	0.00249	0.00264	0.00242	0.00252	-	0.000069	< 0.000250	< 0.000100	0.000149	< 0.0001	< 0.0005
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.240	0.0267	0.00126	0.00269	0.00116	0.0430	-	0.00433	0.00726	0.00161	0.00709	0.00161	0.00749
Phosphorus, total	mg/L	-	-	0.002 - 1	1.03	0.308|6.41	1.03|1.31	0.156|0.201	0.332|0.271	0.151|0.196	0.188|2.36	1.02	0.130|0.099	0.213|< 0.250	0.0967|< 0.100	0.227|0.428	0.0769|< 0.1	0.150|< 0.5
Potassium, total	mg/L	-	-	0.05 - 1	-	47.7	6.84	2.76	3.17	3.02	8.64	-	0.894	1.49	0.430	1.49	0.445	1.26
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.292	0.0278	0.00216	0.00375	0.00200	0.0396	-	0.00565	0.00920	0.00211	0.00875	0.00210	0.00815
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	0.00115	< 0.000250	< 0.000050	< 0.0001	-	< 0.00025	-	0.000082	< 0.000250	< 0.000100	0.000105	< 0.0001	< 0.0005
Silicon, total	mg/L	-	-	0.1 - 2	-	271	39.3	11.0	12.4	11.2	51.3	-	6.77	11.7	4.22	10.6	4.13	9.53
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	0.000573	0.000073	< 0.000010	-	-	0.000160	-	0.000014	< 0.000050	< 0.000020	0.000022	-	< 0.0001
Sodium, total	mg/L	-	-	0.05 - 1	-	36.0	20.1	16.0	18.4	17.3	20.5	-	1.36	1.49	1.05	1.84	1.11	1.35
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	1.80	0.678	0.451	0.502	0.482	0.884	-	0.0580	0.0636	0.0510	0.116	0.0536	0.0576
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 10.0	< 2.50	< 0.50	< 1	< 0.5	< 2.5	-	< 0.50	< 2.50	< 1.00	< 1	< 1	< 5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00400	< 0.00100	< 0.00020	< 0.0004	< 0.0002	< 0.001	-	< 0.00020	< 0.00100	< 0.00040	< 0.0004	< 0.0004	< 0.002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	0.00163	0.000188	< 0.000010	0.000023	-	0.000309	-	0.000026	< 0.000050	< 0.000020	0.000061	-	< 0.0001
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.0768	0.00766	0.00035	0.00079	0.00037	0.0133	-	0.00066	0.00116	0.00032	0.00149	0.00033	< 0.001
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00570	0.00069	0.00018	0.00023	< 0.0001	0.00085	-	0.00025	< 0.00050	< 0.00020	0.00035	< 0.0002	< 0.001
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	10.4	1.02	0.0492	0.115	0.0515	1.48	-	0.127	0.243	0.0489	0.241	0.0540	0.196
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	0.00225	< 0.00050	< 0.00010	< 0.0002	< 0.0001	< 0.0005	-	< 0.00010	< 0.00050	< 0.00020	< 0.0002	< 0.0002	< 0.001
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.0106	0.00140	0.000060	0.000168	0.000061	0.00258	-	0.000151	0.000286	0.000062	0.000548	0.000082	0.000342
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.376	0.0399	0.00176	0.00400	0.00183	0.0638	-	0.00603	0.0100	0.00207	0.0106	0.00230	0.00929
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.444	0.0530	0.0042	< 0.006	< 0.003	0.0816	-	0.0118	0.0159	< 0.0060	0.0184	< 0.006	< 0.03
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.0449	0.00376	0.00092	0.00130	0.00089	0.00576	-	0.00145	0.00214	0.00081	0.00220	0.00075	0.00225
Volatile Organic Compounds																		
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/24/22	6/27/23	8/11/23	9/20/23	8/14/24	9/29/24	11/24/22	9/29/24	11/24/22	11/27/22	6/27/23	8/11/23	9/20/23	8/14/24
					MW22-10-01	MW22-10-1	MW22-10-1	MW22-10-1	MW22-10-1	MW22-10-1	MW22-10-02	MW22-10-02	MW22-10-03	MW22-10-04	MW22-10-4	MW22-10-4	MW22-10-4	MW22-10-4
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.126	0.0785	0.0656	0.0704	1.93	0.112	< 0.0500	0.0224	0.0667	< 0.0500	0.0325	0.0415	0.0590	0.736
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.20	< 0.10	< 0.10	< 0.1	< 0.1	< 0.10	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.64	0.43	0.31	0.40	0.27	0.26	0.20	0.17	0.22	0.44	0.22	0.13	0.16	0.45
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.085	0.047	< 0.020	0.042	< 0.02	0.060	0.033	< 0.02	< 0.020	0.100	0.085	0.033	0.103	< 0.02
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.040	< 0.020	0.040	< 0.02	< 0.02	< 0.020	< 0.02	< 0.020	< 0.020	< 0.020	0.028	< 0.020	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.431	0.119|0.088	1.19|2.42	1.14|1.00	0.0471|0.135	0.647|0.915	1.43	0.0233|< 0.25	0.139	0.565	0.139|< 0.100	0.256|0.242	0.119|0.118	0.221|< 0.5
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	2.55	0.95	2.35	2.54	2.06	1.46	0.62	0.54	2.97	0.42	0.31	0.82	< 0.30	0.73
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	5.10	6.80	4.98	6.18	5.15	6.28	33.9	48.1	56.8	8.05	19.7	20.2	10.9	25.8
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 3.0	< 3.0	< 2.0	< 2	< 2	-	< 2	-	-	< 3.8	< 2.0	< 2.0	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	59	33	58	70	20	38	100	113	151	150	81	114	45	101
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.25	< 0.250	< 0.050	< 0.050	< 0.050	0.087	< 0.1
Dissolved Metals																		
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0027	0.0014	0.0239	0.0019	0.0016	0.0015	0.211	0.972	0.883	0.0153	0.0838	0.0692	0.0176	0.167
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.0005	< 0.00050	< 0.00010	0.00011	0.00012	< 0.00010	< 0.0002
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00251	0.00517	0.00376	0.00553	0.00195	0.00601	0.00067	0.00073	0.00063	0.00875	0.00404	0.00605	**0.0155**	0.00328
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0708	0.0718	0.0504	0.0403	0.0328	0.0395	0.0196	0.00613	0.0194	0.0474	0.0222	0.0263	0.0383	0.0171
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	0.000020	< 0.0001	< 0.000100	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.00025	< 0.000250	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.0001
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.020	0.017	0.012	0.014	0.012	0.013	< 0.010	< 0.05	< 0.050	0.026	0.018	0.022	0.034	< 0.02
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	0.0000101	0.0000058	0.0000051	0.0000055	-	-	0.0000212	-	0.0000404	< 0.0000050	0.0000081	< 0.0000050	< 0.0000050	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	105	102	92.9	95.9	96.6	103	62.4	30.1	46.0	83.9	44.9	58.0	89.7	43.8
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	-	< 0.000050	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.00068	< 0.0025	< 0.00250	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.001
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	< 0.0005	-	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00036	0.00046	0.00037	0.00038	0.00027	0.00025	0.00039	0.00061	0.00112	0.00034	0.00017	0.00022	0.00036	< 0.0002
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00109	0.00034	0.00031	< 0.00020	0.00320	< 0.0002	0.00364	0.00120	0.00424	0.00041	0.00042	0.00041	0.00057	0.00134
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	0.032	0.451	0.853	0.337	1.05	0.140	0.480	0.514	2.78	1.06	2.01	4.58	1.07
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	0.000053	< 0.000050	0.000201	-	0.000083	< 0.00025	0.00166	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.0001
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0056	0.0045	0.0035	0.0033	0.0026	0.0033	0.0015	< 0.005	< 0.0050	0.0057	0.0027	0.0034	0.0057	0.0024
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	17.5	18.0	17.4	17.4	17.2	16.0	5.19	4.90	4.11	13.7	7.01	9.16	16.2	7.58
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.332**	**0.343**	**0.387**	**0.389**	**0.370**	**0.367**	**0.164**	0.0850	**0.691**	**0.275**	0.0976	**0.124**	**0.202**	0.0555
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	0.0000061	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000500	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000056	0.000044	0.000036	0.000083	0.000051	0.000158	0.000103	0.000110	0.000076	0.000049	< 0.000020	0.000041	0.000064	0.000088
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00256	0.00138	0.000815	0.000843	0.000584	0.000773	0.00194	0.000255	0.000307	0.00183	0.00172	0.00124	0.00138	0.000546
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00098	0.00111	0.00110	0.00105	0.00091	0.00060	0.00165	< 0.0025	< 0.00250	< 0.00050	< 0.00050	0.00083	0.00062	< 0.001
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.25	< 0.250	< 0.050	< 0.050	< 0.050	0.087	< 0.1
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.92	1.38	1.01	0.990	0.871	0.975	0.531	0.305	< 0.250	1.28	0.522	0.618	1.13	0.704
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00130	0.00155	0.00123	0.00105	0.00084	0.00109	0.00072	< 0.001	< 0.00100	0.00053	0.00040	0.00040	0.00050	0.00054
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000126	< 0.000050	< 0.000050	0.000617	-	0.000724	0.000207	< 0.00025	0.000274	< 0.000050	0.000100	0.000150	0.000135	0.000109
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	8.37	8.77	8.18	8.65	7.57	8.76	4.52	5.81	4.39	8.00	3.73	4.63	8.58	3.50
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000100	< 0.000010	< 0.000010	-	-	< 0.000010	-	< 0.000050	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	9.32	5.22	3.93	3.93	3.31	4.20	7.52	2.58	3.25	8.06	11.3	8.06	6.40	5.92
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.131	0.126	0.113	0.115	0.108	0.108	0.0616	0.0246	0.0410	0.124	0.0625	0.0904	0.151	0.0653
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.07	< 0.50	0.57	0.66	0.93	0.84	0.90	< 2.5	< 2.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.001	< 0.00100	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0004
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	-	< 0.000050	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00046	0.00057	0.00052	< 0.00010	0.00011	< 0.00010	< 0.00010	< 0.0002
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00021	< 0.00010	< 0.00010	< 0.00010	0.00042	< 0.0001	0.00024	< 0.0005	0.00058	0.00054	< 0.00010	0.00014	0.00010	< 0.0002
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00207	< 0.00030	< 0.0003	< 0.0003	0.00593	0.0146	0.00764	0.00044	0.00127	0.00082	< 0.00030	0.00239
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.0005	< 0.00050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0002
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.00221	0.00150	0.00123	0.000940	0.00110	0.000969	0.00126	0.000480	0.000264	0.000139	0.000257	0.000260	0.000210	0.000113
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00073	0.00082	0.00054	< 0.00050	< 0.0005	< 0.0005	0.00116	< 0.0025	< 0.00250	< 0.00050	0.00050	< 0.00050	< 0.00050	< 0.001
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.0010	0.0052	0.0028	0.0060	< 0.001	< 0.0010	< 0.005	0.0050	0.0013	< 0.0010	0.0043	0.0020	< 0.002
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	0.00089	< 0.0015	< 0.00150	< 0.00030	0.00044	0.00041	< 0.00030	0.00064
Physical Tests																		
Conductivity	uS/cm	-	-	2.0	617	567	573	573	560	569	317	158	243	503	394	377	512	228
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	400	362	362	369	334	409	197	89.4	136	311	268	218	312	139
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	334	329	304	311	312	323	177	95.3	132	266	141	182	291	140
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	459	420	394	366	312	368	405	172	287	425	406	294	314	190
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	2600	900	2180	1860	129	3530	2640	6.9	302	2340	623	321	324	< 3
pH	pH units	-	-	0.10	7.84	8.02	7.62	7.67	7.96	7.70	7.74	7.29	7.29	7.61	8.12	7.82	7.57	7.58
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.005	-	-	< 0.0050	< 0.0050	< 0.0050	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.005	-	-	< 0.0050	< 0.0050	< 0.0050	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	0.033	0.048	0.087	0.103	-	< 0.015	-	-	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	0.015	0.021	0.030	0.045	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	0.018	0.027	0.057	0.058	-	0.014	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Naphthalene	ug/L	-	-	0.050	-	< 0.050	< 0.050	< 0.050	0.088	0.051	-	< 0.05	-	-	< 0.050	< 0.050	< 0.050	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	-	< 0.02	-	-	< 0.020	< 0.020	< 0.020	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	0.010	< 0.01	0.018	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-	-	-	< 0.1	< 0.1	0.24	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	0.20	< 0.1	-	-	-	-	-	-	< 0.1	< 0.1	< 0.1	-
Total Metals																		
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	1.72	**21.2**	**7.29**	1.01	**12.4**	-	1.25	-	-	2.88	**5.10**	1.18	2.06
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	0.00010	< 0.00050	0.00037	< 0.0002	< 0.0005	-	< 0.0005	-	-	< 0.00020	0.00021	< 0.00010	< 0.001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00616	**0.0113**	0.00632	0.00325	**0.0110**	-	0.00091	-	-	0.00528	0.00878	**0.0137**	0.00460
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0838	0.213	0.0989	0.0428	0.133	-	0.00950	-	-	0.0418	0.0690	0.0450	0.0322
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000061	0.000940	0.000347	-	0.000497	-	< 0.0001	-	-	0.000132	0.000234	0.000054	< 0.0002
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	0.000254	< 0.000100	< 0.0001	< 0.00025	-	< 0.00025	-	-	< 0.000100	< 0.000100	< 0.000050	< 0.0005
Boron, total	mg/L	5	5	0.01 - 0.2	-	0.020	0.059	0.041	< 0.02	< 0.05	-	< 0.05	-	-	0.029	0.032	0.033	< 0.1
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.0000267	0.000332	0.000206	0.0000347	0.000129	-	-	-	-	0.0000422	0.0000641	0.0000195	-
Calcium, total	mg/L	-	-	0.05 - 1	-	123	942	350	136	400	-	32.3	-	-	58.7	105	88.1	53.8
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000199	0.00263	0.000894	0.000121	0.00156	-	-	-	-	0.000342	0.000664	0.000170	0.000216
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.00359	**0.0540**	0.0179	0.00294	0.0264	-	< 0.0025	-	-	0.00575	0.0109	0.00249	< 0.005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	< 0.0005	-	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00150	0.0174	0.00609	0.00097	0.00891	-	0.00076	-	-	0.00174	0.00318	0.00100	0.00107
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.00331	0.0468	0.0142	0.00267	0.0250	-	< 0.0025	-	-	0.00403	0.00738	0.00142	< 0.005
Iron, total	mg/L	-	-	0.01 - 0.2	-	2.13	33.1	11.4	1.86	18.9	-	0.631	-	-	4.42	8.22	5.94	3.77
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	0.000826	**0.0169**	**0.00583**	0.000729	**0.00864**	-	0.000299	-	-	0.00142	0.00294	0.000586	0.000909
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0064	0.0442	0.0159	0.0040	0.0246	-	< 0.005	-	-	0.0059	0.0108	0.0068	< 0.01
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	22.8	191	70.1	23.2	68.7	-	6.45	-	-	10.3	18.0	16.0	9.27
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	**0.391**	**1.71**	**0.796**	**0.422**	**0.946**	-	0.0852	-	-	**0.159**	**0.251**	**0.220**	0.0877
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	0.0000063	< 0.0000050	-	0.0000214	-	0.0000054	-	-	0.0000058	< 0.0000050	< 0.0000050	0.0000072
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000039	0.000111	0.000352	0.000355	0.000395	-	0.000194	-	-	0.000136	0.000063	0.000227	0.000269
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.00138	0.000987	0.000693	0.000495	0.000786	-	< 0.00025	-	-	0.00160	0.00144	0.00135	< 0.0005
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.00352	0.0412	0.0147	0.00266	0.0214	-	< 0.0025	-	-	0.00463	0.00881	0.00232	< 0.005
Phosphorus, total	mg/L	-	-	0.002 - 1	0.431	0.119|0.088	1.19|2.42	1.14|1.00	0.0471|0.135	0.647|0.915	1.43	0.0233|< 0.25	0.139	0.565	0.139|< 0.100	0.256|0.242	0.119|0.118	0.221|< 0.5
Potassium, total	mg/L	-	-	0.05 - 1	-	1.94	6.21	2.78	1.19	4.18	-	0.342	-	-	1.40	2.35	1.37	1.36
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00461	0.0373	0.0127	0.00250	0.0220	-	0.00127	-	-	0.00618	0.0111	0.00307	0.00435
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	0.000077	0.000290	0.000126	< 0.0001	< 0.00025	-	< 0.00025	-	-	0.000111	0.000187	< 0.000050	< 0.0005
Silicon, total	mg/L	-	-	0.1 - 2	-	11.9	44.2	20.8	9.74	31.0	-	6.39	-	-	8.94	15.5	10.7	7.44
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	0.000157	0.000042	-	0.000074	-	-	-	-	< 0.000020	0.000021	< 0.000010	< 0.0001
Sodium, total	mg/L	-	-	0.05 - 1	-	5.84	5.75	3.87	3.90	5.81	-	2.07	-	-	12.2	9.42	5.56	6.67
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.145	0.616	0.282	0.131	0.319	-	0.0244	-	-	0.0757	0.131	0.144	0.0683
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 0.50	< 2.50	1.08	< 1	< 2.5	-	< 2.5	-	-	< 1.00	< 1.00	< 0.50	< 5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00100	< 0.00040	< 0.0004	< 0.001	-	< 0.001	-	-	< 0.00040	< 0.00040	< 0.00020	< 0.002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000021	0.000369	0.000124	-	0.000185	-	-	-	-	0.000028	0.000073	0.000014	< 0.0001
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00090	0.0155	0.00515	0.00057	0.00827	-	< 0.0005	-	-	0.00053	0.00090	0.00034	< 0.001
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00038	0.00078	0.00064	0.00032	< 0.0005	-	< 0.0005	-	-	0.00020	0.00030	< 0.00010	< 0.001
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.130	1.71	0.621	0.0824	0.954	-	0.350	-	-	0.118	0.215	0.0506	0.0741
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00050	< 0.00020	< 0.0002	< 0.0005	-	< 0.0005	-	-	< 0.00020	< 0.00020	< 0.00010	< 0.001
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.00161	0.00336	0.00208	0.00118	0.00194	-	0.000230	-	-	0.000436	0.000793	0.000342	0.000250
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.00488	0.0614	0.0213	0.00282	0.0319	-	< 0.0025	-	-	0.00623	0.0114	0.00255	< 0.005
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0077	0.0986	0.0380	0.0085	0.0436	-	< 0.015	-	-	0.0086	0.0367	0.0076	< 0.03
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00147	0.00505	0.00310	0.00090	0.00468	-	< 0.001	-	-	0.00122	0.00178	0.00074	< 0.002
Volatile Organic Compounds																		
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	-	-	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.2	-	-	< 0.20	< 0.20	< 0.20	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	-	< 2	-	-	< 2.0	< 2.0	< 2.0	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.2	-	-	< 0.20	< 0.20	< 0.20	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	-	-	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.3	-	-	< 0.30	< 0.30	< 0.30	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.3	-	-	< 0.30	< 0.30	< 0.30	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	-	-	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	-	-	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	-	-	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	-	< 0.4	-	-	< 0.40	< 0.40	< 0.40	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.3	-	-	< 0.30	< 0.30	< 0.30	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	6/27/23	6/27/23	8/08/23	9/20/23	9/20/23	8/14/24	8/14/24	9/29/24	9/29/24
					MW22-11-1	MF-A (MW22-11-1)	MW22-11-1	MW22-11-1	DUP 1 (MW22-11-1)	MW22-11-1	MWBD3 (MW22-11-1)	MW22-11-1	MW DUP 1 (MW22-11-1)
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.443	0.437	0.467	0.518	0.484	1.18	3.62	0.563	0.493
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.14	0.11	< 0.10	0.37	< 0.10	0.22	0.11	< 0.1	< 0.1
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	< 0.020	< 0.020	< 0.020	0.026	< 0.020	< 0.02	< 0.02	0.028	0.027
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	0.023	< 0.020	< 0.020	0.664	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0584|< 0.050	0.0648|< 0.050	0.0657|0.085	0.0590|< 0.100	0.0601|0.061	0.0653|0.066	0.0562|0.066	0.0605|0.072	0.0545|< 0.1
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.30	< 0.30	0.52	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	39.7	38.4	36.8	37.6	31.1	37.8	38.1	39.9	38.7
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	9.6	12.3	< 2.0	< 2.0	2.5	2.2	2.3	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	113	116	92	87	92	94	90	94	92
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	0.054	< 0.100	< 0.100	< 0.1	< 0.1	0.056	< 0.1
Dissolved Metals													
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.104	0.0995	0.100	0.105	0.101	0.0997	0.102	0.0978	0.0957
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00138	0.00129	0.00135	0.00119	0.00110	0.00131	0.00125	0.00134	0.00125
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0154	0.0142	0.0130	0.0116	0.0109	0.00952	0.00981	0.0103	0.00992
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	0.000026	< 0.000040	0.000032	< 0.000040	< 0.000040	-	-	0.000044	0.000043
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000100	< 0.000100	< 0.0001	< 0.0001	-	< 0.0001
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	< 0.020	< 0.010	< 0.020	< 0.020	< 0.02	< 0.02	< 0.01	< 0.02
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000050	< 0.0000100	< 0.0000100	-	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	59.2	58.2	64.4	63.7	65.3	60.5	60.9	64.5	64.1
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000020	< 0.000020	-	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	0.00053	< 0.00100	0.00056	< 0.00100	< 0.00100	< 0.001	< 0.001	0.00052	< 0.001
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00059	0.00059	0.00017	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00011	< 0.0002
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00031	< 0.00040	0.00050	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004
Iron, dissolved	mg/L		-	0.01 - 0.05	1.79	1.70	1.91	1.80	1.85	1.70	1.67	1.65	1.71
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000100	< 0.000100	< 0.0001	< 0.0001	-	< 0.0001
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	< 0.002	< 0.002	< 0.001	< 0.002
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	9.53	9.10	9.67	10.1	9.94	9.34	9.22	9.13	9.31
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.162**	**0.150**	**0.150**	**0.138**	**0.135**	**0.131**	**0.133**	**0.132**	**0.132**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 5e-005	< 5e-005	-	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000025	0.000029	0.000038	-	-	-	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.000136	0.000135	0.000121	< 0.000100	< 0.000100	< 0.0001	< 0.0001	0.000053	< 0.0001
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00100	< 0.00100	< 0.001	< 0.001	< 0.0005	< 0.001
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	0.054	< 0.100	< 0.100	< 0.1	< 0.1	0.056	< 0.1
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.127	0.110	0.106	< 0.100	< 0.100	< 0.1	< 0.1	0.088	< 0.1
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00026	< 0.00040	< 0.00020	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000107	0.000142	0.000256	0.000556	0.000461	0.000167	0.000222	0.000438	0.000483
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	3.47	3.17	3.54	3.44	3.40	3.41	3.48	3.73	3.49
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000010	< 0.000020	< 0.000020	-	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	1.65	1.52	1.55	1.64	1.64	1.29	1.32	1.41	1.29
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0542	0.0504	0.0542	0.0514	0.0503	0.0492	0.0504	0.0505	0.0499
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 1.00	< 0.50	< 1.00	< 1.00	< 1	< 1	< 0.5	< 1
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000020	< 0.000020	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00020	0.00020	0.00021	0.00022	< 0.00020	0.00022	0.00024	0.00027	0.00026
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00028	0.00026	0.00012	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00338	0.00347	0.00343	0.00406	0.00356	0.00334	0.00370	0.00394	0.00362
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00114	0.00105	0.00057	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000067	0.000066	0.000071	0.000071	0.000072	0.000071	0.000071	0.000076	0.000079
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00154	0.00148	0.00153	0.00162	0.00153	0.00150	0.00158	0.00167	0.00169
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0016	< 0.0020	0.0017	< 0.0020	< 0.0020	< 0.002	< 0.002	0.0017	< 0.002
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	0.00100	0.00095	0.00110	0.00117	0.00104	0.00115	0.00117	0.00130	0.00124
Physical Tests													
Conductivity	uS/cm	-	-	2.0	336	337	342	329	355	337	339	328	323
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	217	216	198	201	214	248	213	264	211
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	187	183	201	201	204	190	190	199	198
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	256	256	257	238	253	253	266	248	254
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	16.1	17.3	44.8	20.6	18.4	5.3	5.3	10.3	10.1
pH	pH units	-	-	0.10	8.15	8.18	7.99	8.23	7.82	7.68	7.87	7.92	7.97
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	0.044	0.040	0.090	0.058	0.063	0.020	0.022	0.033	0.018
Methylnaphthalene, 1-	ug/L	-	-	0.010	0.013	0.012	0.025	0.015	0.015	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	0.031	0.028	0.065	0.043	0.048	0.020	0.022	0.033	0.018
Naphthalene	ug/L	-	-	0.050	0.084	0.086	0.228	0.092	0.101	< 0.05	< 0.05	0.064	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	0.1	0.36	0.56	0.40	0.59	0.56	-	-	-	-
Gross beta	Bq/l	-	-	0.1	0.13	0.13	0.16	0.13	0.15	-	-	-	-
Total Metals													
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	0.431	0.369	0.570	0.272	0.265	0.234	0.227	0.176	0.172
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00152	0.00150	0.00137	0.00133	0.00132	0.00140	0.00139	0.00139	0.00137
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0174	0.0169	0.0147	0.0139	0.0131	0.0116	0.0113	0.0113	0.0112
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000042	0.000047	0.000051	< 0.000040	0.000044	0.000035	0.000038	0.000041	0.000044
Bismuth, total	mg/L	-	-	0.00005 - 0.001	0.000066	< 0.000050	< 0.000050	< 0.000100	< 0.000050	-	-	-	< 0.0001
Boron, total	mg/L	5	5	0.01 - 0.2	0.011	0.010	< 0.010	< 0.020	< 0.010	< 0.01	< 0.01	< 0.01	< 0.02
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.0000078	0.0000055	0.0000092	0.0000168	0.0000073	0.0000051	-	-	-
Calcium, total	mg/L	-	-	0.05 - 1	67.2	63.3	65.6	66.3	62.8	71.5	70.7	66.1	67.9
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000033	0.000027	0.000045	< 0.000020	0.000018	0.000013	0.000012	-	-
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.00124	0.00114	0.00208	< 0.00100	0.00091	0.00080	0.00077	0.00069	< 0.001
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00083	0.00081	0.00052	0.00026	0.00026	0.00022	0.00023	0.00018	< 0.0002
Copper, total	mg/L	2	-	0.0005 - 0.01	0.00185	0.00161	0.00245	0.00106	0.00081	0.00096	0.00102	< 0.0005	0.00100
Iron, total	mg/L	-	-	0.01 - 0.2	2.29	2.27	2.66	2.26	2.18	1.92	1.93	1.79	1.89
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.000220	0.000174	0.000321	0.000162	0.000150	0.000108	0.000112	0.000066	< 0.0001
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0016	0.0012	0.0016	< 0.0020	0.0012	< 0.001	< 0.001	0.0011	< 0.002
Magnesium, total	mg/L	-	-	0.005 - 0.1	10.4	10.4	10.8	9.78	9.68	10.7	10.5	9.64	9.74
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.178**	**0.176**	**0.171**	**0.150**	**0.146**	**0.144**	**0.141**	**0.137**	**0.140**
Mercury, total	mg/L	0.001	0.001	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 5e-005
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000200	< 0.000020	-	0.000030	-	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.000169	0.000130	0.000118	0.000122	0.000111	0.000084	0.000074	0.000056	< 0.0001
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.00071	0.00066	0.00105	< 0.00100	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.001
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0584|< 0.050	0.0648|< 0.050	0.0657|0.085	0.0590|< 0.100	0.0601|0.061	0.0653|0.066	0.0562|0.066	0.0605|0.072	0.0545|< 0.1
Potassium, total	mg/L	-	-	0.05 - 1	0.234	0.214	0.252	0.166	0.155	0.127	0.125	0.107	0.100
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00078	0.00065	0.00096	0.00047	0.00048	0.00039	0.00038	0.00028	< 0.0004
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	0.000070	0.000052	0.000072	< 0.000100	0.000088	0.000087	0.000110	0.000086	< 0.0001
Silicon, total	mg/L	-	-	0.1 - 2	4.21	4.03	4.51	3.97	3.99	4.03	3.97	3.76	3.73
Silver, total	mg/L	-	-	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	< 0.000020	< 0.000010	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	1.74	1.76	1.92	1.74	1.63	1.47	1.44	1.37	1.42
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.0553	0.0539	0.0576	0.0533	0.0539	0.0569	0.0578	0.0522	0.0532
Sulfur, total	mg/L	-	-	0.5 - 10	< 0.50	< 0.50	< 0.50	< 1.00	< 0.50	< 0.5	< 0.5	< 0.5	< 1
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0004
Thallium, total	mg/L	-	-	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	< 0.000020	< 0.000010	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00032	0.00031	0.00037	0.00030	0.00030	0.00032	0.00030	0.00028	0.00026
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00036	0.00033	< 0.00010	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.0214	0.0181	0.0290	0.0142	0.0134	0.0125	0.0120	0.00846	0.00819
Tungsten, total	mg/L	-	-	0.0001 - 0.002	0.00202	0.00183	0.00150	0.00090	0.00069	0.00079	0.00079	0.00080	0.00038
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.000093	0.000091	0.000102	0.000088	0.000089	0.000090	0.000085	0.000089	0.000085
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.00235	0.00224	0.00284	0.00210	0.00212	0.00226	0.00222	0.00200	0.00199
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0032	< 0.0030	< 0.0030	< 0.0060	< 0.0030	< 0.003	< 0.003	< 0.003	< 0.006
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00141	0.00122	0.00146	0.00117	0.00123	0.00142	0.00135	0.00130	0.00117
Volatile Organic Compounds													
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	0.61	0.57	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	0.51	0.50	1.45	0.65	0.54	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	0.73	0.72	2.37	1.41	1.02	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	< 0.30	< 0.30	0.98	0.56	0.36	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	0.73	0.72	3.35	1.97	1.38	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	1.0	1.2	1.2	4.8	2.6	1.9	< 1	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/02/23	8/11/23	9/23/23	6/10/24	6/10/24	8/12/24	9/29/24
					MW22-12-1	MW2-12-1	MW22-12-1	MW22-12-1	DUP 03 (MW22-12-1)	MW22-12-1	MW22-12-1
Anions and Nutrients											
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.451	0.445	0.484	0.688	0.851	0.420	0.470
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	1.16	1.13	0.96	0.68	0.67	0.50	0.47
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.047	0.036	0.082	0.082	0.081	< 0.02	0.111
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0636|0.074	0.0532|0.055	0.0570|0.069	0.0592|< 0.1	0.0538|< 0.1	0.120|0.099	0.0738|0.058
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	0.41	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	6.50	5.81	6.27	7.16	6.80	7.89	6.03
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	17	23	17	24	22	24	17
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	0.069	< 0.05
Dissolved Metals											
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0022	0.0109	0.0049	0.0042	0.0043	0.0029	0.0027
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	0.00013	0.00049	0.00020	0.00016	0.00017	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00075	0.00048	0.00117	0.00103	0.00100	0.00115	0.00077
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0322	0.0337	0.0349	0.0363	0.0365	0.0362	0.0310
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.012	0.012	0.011	0.013	0.012	0.012	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	0.0000287	< 0.0000050	-	0.0000054	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	86.1	79.8	84.6	86.1	85.8	90.2	86.3
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	0.00095	0.00212	0.00214	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00039	0.00030	0.00030	0.00031	< 0.0001	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00045	0.00167	< 0.00020	< 0.0002	< 0.0002	< 0.0002	0.00077
Iron, dissolved	mg/L		-	0.01 - 0.05	1.12	0.828	3.06	2.90	2.93	2.59	2.29
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	0.000073	0.000091	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0060	0.0062	0.0053	0.0044	0.0045	0.0046	0.0039
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	15.3	15.6	16.3	17.0	16.7	16.0	15.0
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.150**	**0.150**	**0.155**	**0.170**	**0.172**	**0.160**	**0.155**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	0.000024	< 0.000020	-	-	0.000035	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00350	0.00578	0.00456	0.00466	0.00473	0.00353	0.00278
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	0.0120	0.0103	0.00945	0.00957	0.00103	0.00273
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	0.069	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.20	1.22	1.17	1.16	1.18	1.16	1.06
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00112	0.00112	0.00108	0.00112	0.00107	0.00105	0.00092
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	7.89	8.34	8.31	8.34	8.61	8.73	7.96
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	3.58	3.60	3.46	3.47	3.46	3.26	3.02
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.103	0.0990	0.105	0.107	0.107	0.103	0.0984
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00024	0.00040	0.00059	0.00061	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	0.00047	0.00046	0.00067	0.00070	0.00045	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000026	0.000047	0.000030	0.000014	0.000012	0.000013	0.000013
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	0.00051	0.00059	0.00059	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0012	0.194	0.0622	0.0045	0.0044	0.0011	0.0033
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	0.00058	0.00049	0.00091	0.00102	0.00100	0.00078	0.00074
Physical Tests											
Conductivity	uS/cm	-	-	2.0	507	523	512	512	510	507	479
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	324	297	303	286	296	332	310
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	278	264	278	285	283	291	277
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	316	294	310	290	297	326	305
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	14.1	30.9	52.8	40.8	33.8	104	7.1
pH	pH units	-	-	0.10	8.32	8.09	8.29	8.26	8.27	7.76	8.06
Polycyclic Aromatic Hydrocarbon											
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	0.131	< 0.015	0.038	0.015	0.016	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	0.044	< 0.010	0.014	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	0.087	0.011	0.024	0.015	0.016	< 0.01	0.011
Naphthalene	ug/L	-	-	0.050	0.281	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters											
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	-
Total Metals											
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	0.254	0.511	0.674	0.542	0.633	1.19	0.159
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	0.00014	0.00143	0.00095	0.00053	0.00042	< 0.0001	0.00023
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00112	0.00082	0.00125	0.00116	0.00122	0.00121	0.00103
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0368	0.0396	0.0414	0.0402	0.0404	0.0423	0.0359
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	< 0.000020	< 0.000020	0.000038	-	-	0.000057	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	0.014	0.013	0.014	< 0.02	< 0.02	0.015	0.011
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.0000079	0.0000429	0.0000298	0.0000319	0.0000299	0.0000137	0.0000109
Calcium, total	mg/L	-	-	0.05 - 1	85.4	95.5	89.3	95.9	97.0	94.3	88.5
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000032	0.000068	0.000079	0.000064	0.000076	0.000138	0.000019
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.00078	0.00283	0.00281	0.00410	0.00459	0.00346	0.00113
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00021	0.00079	0.00073	0.00059	0.00067	0.00082	0.00020
Copper, total	mg/L	2	-	0.0005 - 0.01	< 0.00050	0.00132	0.00125	0.00217	0.00151	0.00196	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	2.46	1.76	3.70	3.64	3.84	4.42	3.08
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.000118	0.000416	0.000468	0.000506	0.000509	0.000800	0.000125
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0065	0.0056	0.0061	0.0054	0.0057	0.0064	0.0049
Magnesium, total	mg/L	-	-	0.005 - 0.1	16.1	17.9	17.9	17.6	17.9	18.8	15.7
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.158**	**0.178**	**0.174**	**0.189**	**0.195**	**0.206**	**0.166**
Mercury, total	mg/L	0.001	0.001	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	0.000025	0.000026	-	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.00357	0.00631	0.00457	0.00462	0.00442	0.00282	0.00294
Nickel, total	mg/L	-	-	0.0005 - 0.01	< 0.00050	0.0164	0.0128	0.00935	0.00936	0.00289	0.00344
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0636|0.074	0.0532|0.055	0.0570|0.069	0.0592|< 0.1	0.0538|< 0.1	0.120|0.099	0.0738|0.058
Potassium, total	mg/L	-	-	0.05 - 1	1.38	1.47	1.37	1.27	1.32	1.52	1.16
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00153	0.00197	0.00225	0.00207	0.00236	0.00307	0.00124
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Silicon, total	mg/L	-	-	0.1 - 2	8.87	9.25	9.40	9.18	9.55	10.5	8.58
Silver, total	mg/L	-	-	0.00001 - 0.0002	< 0.000010	0.000021	0.000012	-	-	0.000026	-
Sodium, total	mg/L	-	-	0.05 - 1	3.73	4.02	3.15	3.51	3.53	3.17	2.99
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.103	0.104	0.106	0.108	0.116	0.112	0.106
Sulfur, total	mg/L	-	-	0.5 - 10	< 0.50	< 0.50	< 0.50	< 1	< 1	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.0004	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	-	-	0.000013	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00013	0.00022	0.00029	< 0.0002	0.00026	0.00057	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00022	0.00059	0.00059	0.00078	0.00078	0.00016	0.00021
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.0168	0.0324	0.0455	0.0352	0.0408	0.0875	0.00978
Tungsten, total	mg/L	-	-	0.0001 - 0.002	< 0.00010	0.00012	< 0.00010	< 0.0002	< 0.0002	< 0.0001	0.00014
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.000042	0.000096	0.000088	0.000057	0.000061	0.000097	0.000026
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.00099	0.00150	0.00212	0.00190	0.00212	0.00347	0.00097
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0031	0.253	0.0717	0.0224	0.0241	0.0080	0.0056
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00092	0.00103	0.00139	0.00116	0.00132	0.00179	0.00115
Volatile Organic Compounds											
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	1.32	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	2.10	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	0.96	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	3.06	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes											
SUM OF BTEX	ug/L	-	-	1.0	4.4	< 1.0	< 1.0	< 1	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/02/23	7/02/23	8/11/23	9/23/23	6/10/24	6/10/24	8/12/24	8/12/24	9/29/24
					MW22-12-4	MF-B (MW22-12-4)	MW22-12-4	MW22-12-4	MW22-12-4	DUP 04 (MW22-12-4)	MW22-12-4	MWBD2 (MW22-12-4)	MW22-12-4
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0404	0.0268	0.0355	0.0369	0.0391	0.169	0.0246	0.0384	0.0568
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.34	0.33	0.38	0.33	0.29	0.28	0.36	0.33	0.28
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.090	0.080	0.080	0.150	0.156	0.151	0.097	0.087	0.230
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0326|0.127	0.0471|0.090	0.160|0.255	0.0458|0.063	0.0246|< 0.1	0.0233|0.068	0.0181|< 0.05	0.0144|< 0.05	0.158|0.274
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	1.43	1.52	1.56	1.43	1.37	1.50	1.28	1.09	1.04
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	4.99	4.44	4.67	4.86	6.31	6.14	5.52	5.86	6.15
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	15	12	20	12	14	15	19	15	20
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dissolved Metals													
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0018	< 0.0020	0.0012	0.0020	0.0022	0.0036	0.0018	0.0027	0.0018
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00067	0.00058	0.00068	0.00067	0.00064	0.00064	0.00075	0.00074	0.00066
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0171	0.0166	0.0167	0.0169	0.0176	0.0175	0.0182	0.0180	0.0166
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000040	< 0.000020	< 0.000020	-	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	< 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000050	< 0.0000050	-	-	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	88.3	88.8	82.1	93.2	68.0	89.9	98.8	97.7	96.0
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00070	< 0.0002	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	1.35	1.30	1.44	1.37	1.42	1.46	1.41	1.40	1.40
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	0.000241	< 0.000050	< 0.000050	-	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0010	< 0.0020	0.0011	< 0.0010	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	12.3	12.1	12.5	13.8	13.1	13.4	13.1	13.3	12.2
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.284**	**0.271**	**0.295**	**0.268**	**0.298**	**0.308**	**0.291**	**0.289**	**0.287**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000026	< 0.000020	0.000036	-	0.000028	0.000021	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.000229	0.000221	0.000260	0.000282	0.000211	0.000284	0.000306	0.000270	0.000260
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.345	0.336	0.353	0.361	0.395	0.405	0.385	0.383	0.358
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00064	0.00058	0.00059	0.00064	0.00066	0.00067	0.00069	0.00065	0.00055
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	< 0.000100	0.000350	0.000281	-	-	0.000081	0.000139	0.000230
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.83	4.51	4.91	4.96	5.17	5.22	5.39	5.36	5.11
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	1.18	1.16	1.28	1.18	1.33	1.32	1.24	1.26	1.16
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0725	0.0719	0.0715	0.0729	0.0573	0.0762	0.0718	0.0730	0.0683
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 1.00	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00017	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00060	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000010	< 0.000020	0.000010	< 0.000010	-	0.000011	-	0.000011	-
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.0020	< 0.0010	< 0.0010	< 0.001	< 0.001	0.0011	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	0.00039	< 0.00060	0.00035	0.00033	0.00031	0.00039	0.00039	0.00039	0.00037
Physical Tests													
Conductivity	uS/cm	-	-	2.0	488	493	495	504	472	496	510	506	487
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	307	303	298	299	271	290	342	307	311
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	271	272	256	290	224	280	301	299	290
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	282	298	315	295	291	276	273	304	294
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	371	389	2000	75.8	119	38.6	6.4	6.0	186
pH	pH units	-	-	0.10	8.21	8.22	8.15	8.23	8.26	8.21	7.82	7.83	8.05
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	0.053	0.031	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	0.018	0.011	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	0.035	0.020	< 0.010	0.014	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	0.050	0.103	0.057	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-
Total Metals													
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	1.69	1.16	2.22	0.680	0.487	0.443	0.163	0.148	1.20
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00138	0.00118	0.00171	0.00094	0.00086	0.00086	0.00074	0.00075	0.00144
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0279	0.0257	0.0318	0.0217	0.0220	0.0198	0.0183	0.0180	0.0278
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000075	0.000053	0.000081	0.000033	-	-	-	-	0.000086
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.0001	-	-	-	< 0.0001
Boron, total	mg/L	5	5	0.01 - 0.2	< 0.010	< 0.010	< 0.020	0.012	< 0.02	< 0.01	< 0.01	< 0.01	< 0.02
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.0000227	0.0000208	0.0000343	0.0000128	-	0.0000080	-	-	0.0000238
Calcium, total	mg/L	-	-	0.05 - 1	120	111	160	99.2	103	94.2	92.2	87.8	159
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000188	0.000138	0.000240	0.000089	0.000056	0.000047	0.000017	0.000015	0.000118
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.00355	0.00248	0.00523	0.00179	0.00130	0.00115	< 0.0005	< 0.0005	0.00324
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00119	0.00080	0.00170	0.00046	0.00038	0.00034	0.00011	0.00011	0.00105
Copper, total	mg/L	2	-	0.0005 - 0.01	0.00267	0.00210	0.00368	0.00114	0.00148	0.00074	< 0.0005	< 0.0005	0.00161
Iron, total	mg/L	-	-	0.01 - 0.2	3.49	2.89	4.67	2.38	2.20	1.98	1.64	1.58	3.50
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.00125	0.000914	0.00200	0.000528	0.000494	0.000389	0.000129	0.000128	0.00112
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0035	0.0030	0.0035	0.0021	< 0.002	0.0016	0.0011	0.0011	0.0031
Magnesium, total	mg/L	-	-	0.005 - 0.1	21.4	19.2	31.2	16.2	16.2	14.7	14.1	13.4	26.2
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.358**	**0.344**	**0.410**	**0.294**	**0.328**	**0.307**	**0.315**	**0.305**	**0.421**
Mercury, total	mg/L	0.001	0.001	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	0.0000073
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000028	0.000021	-	-	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.000280	0.000252	0.000328	0.000292	0.000283	0.000259	0.000256	0.000247	0.000256
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.00249	0.00173	0.00411	0.00136	0.00105	0.00099	< 0.0005	< 0.0005	0.00230
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0326|0.127	0.0471|0.090	0.160|0.255	0.0458|0.063	0.0246|< 0.1	0.0233|0.068	0.0181|< 0.05	0.0144|< 0.05	0.158|0.274
Potassium, total	mg/L	-	-	0.05 - 1	0.921	0.758	1.09	0.577	0.549	0.504	0.424	0.415	0.774
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00363	0.00279	0.00434	0.00191	0.00154	0.00146	0.00092	0.00081	0.00238
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.0001	-	-	-	< 0.0001
Silicon, total	mg/L	-	-	0.1 - 2	8.56	7.52	9.17	6.26	6.02	5.78	5.43	5.38	7.67
Silver, total	mg/L	-	-	0.00001 - 0.0002	0.000018	0.000013	0.000027	0.000011	-	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	1.44	1.39	1.51	1.27	1.37	1.27	1.24	1.23	1.42
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.0901	0.0854	0.111	0.0801	0.0825	0.0724	0.0701	0.0704	0.114
Sulfur, total	mg/L	-	-	0.5 - 10	0.56	0.59	< 1.00	0.65	< 1	< 0.5	0.53	< 0.5	< 1
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.0002	< 0.0004
Thallium, total	mg/L	-	-	0.00001 - 0.0002	< 0.000010	< 0.000010	0.000036	< 0.000010	-	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00081	0.00054	0.00118	0.00030	0.00024	0.00026	< 0.0001	0.00013	0.00074
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00015	0.00011	0.00025	0.00023	< 0.0002	0.00016	< 0.0001	< 0.0001	< 0.0002
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.132	0.0908	0.207	0.0534	0.0426	0.0402	0.0159	0.0149	0.111
Tungsten, total	mg/L	-	-	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.000142	0.000110	0.000250	0.000068	0.000061	0.000055	0.000026	0.000022	0.000186
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.00460	0.00327	0.00653	0.00197	0.00151	0.00142	0.00073	0.00064	0.00392
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0050	0.0040	0.0246	0.0058	< 0.006	0.0050	< 0.003	< 0.003	< 0.006
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00145	0.00093	0.00140	0.00095	0.00087	0.00083	0.00059	0.00055	0.00139
Volatile Organic Compounds													
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	0.73	0.59	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	1.03	0.59	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	1.0	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/27/22	6/28/23	8/10/23	8/10/23	9/23/23	9/23/23	6/03/24	8/11/24	10/01/24
					MW22-13-1	MW22-13-1	MW22-13-1	DUP-04 (MW22-13-1)	MW22-13-01	DUP-03 (MW22-13-1)	MW22-13-1	MW22-13-1	MW22-13-1
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.149	0.188	0.103	1.15	0.146	0.131	0.547	0.530	0.559
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.58	0.25	0.24	0.33	0.24	0.23	0.34	0.23	0.24
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.125	0.096	0.092	0.026	0.111	0.112	< 0.02	< 0.02	0.068
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.191	0.129|0.115	0.101|0.138	0.173|0.177	0.0747|0.097	0.0766|0.096	0.138|0.194	0.153|0.160	0.126|0.168
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	7.61	7.41	6.94	5.58	6.38	6.39	1.73	0.97	0.91
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	3.42	3.94	2.09	6.44	2.62	3.10	18.2	21.8	16.9
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	47	20	16	39	< 10	< 10	53	51	50
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	0.056	0.067	0.120	0.072	0.059	0.165	0.170	0.157
Dissolved Metals													
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0043	0.0028	0.0013	0.0450	0.0028	0.0029	0.0204	0.0174	0.0148
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00154	0.00206	0.00160	0.00389	0.00176	0.00186	0.00678	0.00576	0.00558
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0362	0.0268	0.0230	0.0320	0.0238	0.0237	0.0311	0.0334	0.0290
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000026	0.000035	0.000021
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	0.013	< 0.010	< 0.010	< 0.010	< 0.010	0.017	0.018	0.015
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	73.2	70.8	69.8	76.0	76.0	77.5	92.7	100	91.8
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	0.000013	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00070	< 0.00050	< 0.00050	0.00152	0.00148	0.00127
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00016	0.00014	0.00011
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00032	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	1.01	2.96	2.20	5.78	2.35	2.45	5.90	6.26	6.12
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000051	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0040	0.0025	0.0038	0.0035	0.0033	0.0031	0.0053	0.0046	0.0037
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	15.6	15.0	16.3	11.8	17.2	17.5	11.8	13.1	12.2
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.126**	**0.164**	0.111	**0.274**	**0.122**	**0.123**	**0.379**	**0.411**	**0.385**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000032	0.000050	< 0.000020	< 0.000020	0.000024	0.000054	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.000816	0.00111	0.000659	0.000549	0.000706	0.000708	0.000436	0.000418	0.000383
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	0.056	0.067	0.120	0.072	0.059	0.165	0.170	0.157
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.967	0.775	0.551	0.848	0.611	0.628	1.11	1.15	1.07
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00098	0.00097	0.00069	0.00126	0.00082	0.00084	0.00103	0.00108	0.00103
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	0.000328	0.000361	0.000988	< 0.000050	0.000202	0.000599	0.000252	0.000175
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.46	6.86	6.64	7.78	6.68	6.47	8.45	8.93	8.61
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	2.53	13.4	2.39	4.75	3.99	3.92	12.3	12.2	10.6
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0784	0.0817	0.0760	0.0846	0.0808	0.0787	0.124	0.129	0.121
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	2.80	2.72	2.52	2.19	2.04	2.00	0.60	< 0.5	0.62
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00011	0.00011	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00024	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	0.00049	< 0.00030	0.00359	< 0.00030	< 0.00030	0.00418	0.00405	0.00369
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000246	0.000048	0.000037	0.000054	0.000034	0.000033	0.000029	0.000028	0.000025
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	0.00063	< 0.00050	0.00134	< 0.00050	< 0.00050	0.00393	0.00426	0.00345
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0013	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	0.00031	0.00074	< 0.00030	0.00137	0.00038	0.00038	0.00390	0.00435	0.00377
Physical Tests													
Conductivity	uS/cm	-	-	2.0	461	485	477	487	485	482	502	553	483
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	271	284	268	266	282	284	296	331	324
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	247	238	241	238	261	266	280	304	279
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	314	339	282	285	266	261	332	381	335
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	138	132	131	70.1	13.0	12.4	6.8	4.0	5.4
pH	pH units	-	-	0.10	8.09	8.28	7.97	7.93	8.30	8.31	7.84	7.61	8.30
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	< 0.015	< 0.015	0.018	0.015	< 0.015	0.032	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	0.011	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	< 0.010	0.011	0.018	0.015	< 0.01	0.021	0.011
Naphthalene	ug/L	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	0.16	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals													
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	1.72	1.91	2.08	0.150	0.175	0.206	0.0613	0.0899
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00239	0.00218	0.00461	0.00206	0.00205	0.00644	0.00539	0.00552
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0374	0.0358	0.0468	0.0253	0.0256	0.0325	0.0315	0.0309
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000060	0.000078	0.000073	< 0.000020	< 0.000020	0.000036	0.000023	0.000027
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	-	0.014	0.010	< 0.020	0.010	0.010	0.016	0.018	0.018
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.0000110	0.0000131	0.0000411	< 0.0000050	0.0000064	0.0000081	-	-
Calcium, total	mg/L	-	-	0.05 - 1	-	73.9	95.4	101	72.1	72.3	92.1	95.1	95.3
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000185	0.000232	0.000259	0.000023	0.000025	0.000026	0.000013	0.000013
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.00421	0.00459	0.00564	0.00055	0.00063	0.00221	0.00180	0.00168
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00103	0.00115	0.00145	0.00012	0.00012	0.00030	0.00018	0.00019
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.00255	0.00303	0.00461	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	-	5.03	4.64	8.72	2.83	2.92	6.46	6.30	6.21
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	0.000783	0.00114	0.00168	0.000102	0.000112	0.000128	-	-
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0045	0.0058	0.0051	0.0034	0.0033	0.0048	0.0044	0.0042
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	16.7	21.2	14.8	16.2	16.0	12.9	13.4	12.6
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	**0.205**	**0.161**	**0.318**	**0.135**	**0.135**	**0.410**	**0.424**	**0.416**
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000022	< 0.000020	0.000095	0.000026	0.000030	0.000064	0.000068	0.000088
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.000998	0.000696	0.000554	0.000753	0.000771	0.000450	0.000469	0.000425
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.00253	0.00296	0.00358	< 0.00050	< 0.00050	0.00067	< 0.0005	< 0.0005
Phosphorus, total	mg/L	-	-	0.002 - 1	0.191	0.129|0.115	0.101|0.138	0.173|0.177	0.0747|0.097	0.0766|0.096	0.138|0.194	0.153|0.160	0.126|0.168
Potassium, total	mg/L	-	-	0.05 - 1	-	1.31	1.17	1.47	0.646	0.655	1.17	1.14	1.13
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00406	0.00443	0.00505	0.00115	0.00120	0.00144	0.00119	0.00123
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.000050	0.000061	0.000090	0.000077
Silicon, total	mg/L	-	-	0.1 - 2	-	10.1	10.7	11.9	7.01	7.21	9.19	8.63	8.50
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	0.000013	0.000036	< 0.000010	< 0.000010	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	13.6	2.84	5.40	4.44	4.30	12.4	11.7	11.3
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.0821	0.0885	0.0955	0.0781	0.0806	0.124	0.128	0.119
Sulfur, total	mg/L	-	-	0.5 - 10	-	2.52	2.49	1.79	2.17	2.35	< 0.5	< 0.5	0.58
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000010	0.000025	0.000030	< 0.000010	< 0.000010	-	0.000019	0.000012
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00058	0.00062	0.00072	< 0.00010	< 0.00010	0.00019	0.00016	0.00019
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00018	0.00028	< 0.00020	0.00016	0.00014	0.00014	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.103	0.114	0.120	0.00936	0.0106	0.0171	0.00758	0.00876
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.000132	0.000156	0.000194	0.000048	0.000048	0.000044	0.000031	0.000034
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.00473	0.00476	0.00660	0.00079	0.00084	0.00465	0.00456	0.00412
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0051	0.0064	0.0082	< 0.0030	< 0.0030	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00146	0.00112	0.00134	0.00059	0.00068	0.00381	0.00436	0.00384
Volatile Organic Compounds													
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	11/27/22	6/28/23	8/10/23	9/23/23	6/03/24	8/11/24	8/11/24	10/01/24	11/27/22	7/02/23	9/21/23	6/03/24	8/11/24	10/01/24
					MW22-13-2	MW22-13-2	MW22-13-2	MW22-13-2	MW22-13-2	MW22-13-2	MWBD1 (MW22-13-2)	MW22-13-2	MW22-13-3	MW22-14-1	MW22-14-1	MW22-14-1	MW22-14-1	MW22-14-1
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.278	0.785	0.547	0.809	1.82	1.53	1.50	1.84	0.112	0.0905	< 0.0050	0.123	< 0.005	0.505
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	1.04	0.33	0.35	0.33	0.28	0.28	0.24	0.26	0.55	0.93	0.68	0.72	0.46	0.48
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.057	0.028	0.033	0.043	< 0.02	< 0.02	< 0.02	0.034	0.136	0.082	0.111	0.039	0.026	0.182
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	0.102	< 0.020	< 0.02	< 0.02	< 0.02	0.051	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.243	0.160|0.400	0.231|0.192	0.141|0.136	0.226|0.243	0.217|0.207	0.204|0.235	0.217|0.280	0.310	0.0207|0.176	0.0462|0.059	0.0584|0.151	0.0319|0.110	0.0787|0.124
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	5.38	1.66	5.30	3.54	0.87	1.22	1.06	0.65	7.73	6.35	6.63	6.66	7.05	6.91
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	6.39	16.4	6.12	11.9	25.4	26.7	25.9	27.7	2.68	1.60	3.11	1.73	1.76	1.46
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	4.3	< 2	< 2	< 2	-	< 2.0	3.4	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	57	60	42	33	73	68	74	73	38	< 10	14	12	< 10	18
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	0.125	0.159	0.225	0.220	0.234	0.258	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																		
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0059	0.0282	0.0502	0.0213	0.0664	0.0609	0.0646	0.0725	0.0036	0.0164	0.0018	< 0.001	0.0340	< 0.001
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	0.00080	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00010	0.00024	0.00049	0.00013	0.00090	0.00014
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00335	0.00289	0.00393	0.00338	0.00577	0.00622	0.00621	0.00658	0.00140	0.00020	0.00022	0.00015	0.00051	0.00014
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0420	0.0441	0.0317	0.0374	0.0298	0.0293	0.0288	0.0270	0.0341	0.0264	0.0256	0.0259	0.0220	0.0250
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000040	< 0.000020	< 0.000020	0.000030	0.000046	0.000042	0.000027	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	< 0.020	< 0.010	0.012	0.011	0.013	0.012	0.012	< 0.010	< 0.010	< 0.010	< 0.01	0.011	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000050	< 0.0000050	-	-	-	-	< 0.0000050	< 0.0000050	0.0000119	-	< 0.0001	0.0000071
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	80.4	97.6	75.9	88.5	93.3	103	105	97.2	72.8	80.6	80.4	77.5	50.7	80.4
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	0.000014	< 0.000010	0.000012	0.000013	0.000012	0.000012	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	0.00189	0.00082	0.00131	0.00352	0.00360	0.00370	0.00406	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00025	< 0.00020	< 0.00010	< 0.00010	0.00023	0.00021	0.00024	0.00022	< 0.00010	0.00036	0.00028	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00068	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00025	0.00030	0.00026	< 0.0002	0.00090	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	2.30	8.38	5.68	7.25	14.4	13.8	14.1	14.6	1.32	0.016	0.012	0.025	< 0.01	< 0.01
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000100	0.000056	< 0.000050	-	-	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0049	0.0024	0.0034	0.0034	0.0018	0.0017	0.0017	0.0013	0.0044	0.0080	0.0089	0.0092	0.0044	0.0085
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	14.0	13.8	11.6	12.6	9.62	10.6	10.5	10.0	15.2	21.6	24.7	22.0	12.9	23.6
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.172**	**0.367**	**0.266**	**0.284**	**0.255**	**0.271**	**0.272**	**0.241**	**0.123**	**0.132**	0.0673	0.0279	0.0110	0.0214
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	< 5e-005	< 5e-005	< 5e-005	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000022	< 0.000020	0.000029	< 0.000020	0.000049	0.000083	0.000159	0.000106	0.000042	< 0.000020	< 0.000020	-	0.000058	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00204	0.000456	0.000569	0.000341	0.000322	0.000222	0.000224	0.000226	0.000783	0.00172	0.00118	0.00106	0.0844	0.00114
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.00050	0.00085	0.00060	< 0.0005	0.00057	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	0.125	0.159	0.225	0.220	0.234	0.258	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.36	0.998	0.837	0.979	0.629	0.686	0.699	0.680	0.938	1.21	1.23	1.13	1.07	1.20
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00163	0.00144	0.00124	0.00149	0.00088	0.00090	0.00093	0.00093	0.00092	< 0.00020	0.00032	0.00025	0.00036	0.00033
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	< 0.000100	0.00144	0.000570	0.00114	0.000347	0.000227	0.000327	< 0.000050	0.000348	0.000379	0.000461	0.000526	0.000486
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.99	8.27	7.83	8.16	7.72	8.64	8.68	8.49	6.53	5.90	6.56	6.35	3.80	6.67
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	3.40	10.4	4.59	13.6	11.9	12.4	12.9	12.7	2.42	6.88	7.16	6.54	8.16	6.95
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0893	0.111	0.0864	0.0945	0.0871	0.0938	0.0927	0.0894	0.0773	0.136	0.129	0.127	0.0863	0.128
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.91	< 1.00	2.48	1.37	1.06	< 0.5	< 0.5	0.89	2.74	2.15	2.30	2.74	1.47	2.33
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	0.00028	0.00031	0.00030	0.00033	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00016	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00026	0.00011	0.00033	0.00017	0.00157	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00060	0.00418	0.00369	0.00313	0.00937	0.00978	0.00947	0.0108	< 0.00030	0.00077	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00038	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000391	0.000066	0.000053	0.000053	0.000098	0.000078	0.000076	0.000096	0.000203	0.00535	0.00302	0.00277	0.00168	0.00287
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	0.00372	0.00134	0.00260	0.00846	0.00840	0.00851	0.00922	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00077	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0027	< 0.0020	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001	< 0.001	0.0010	< 0.0010	0.0015	< 0.001	0.0046	0.0017
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	0.00075	0.00302	0.00136	0.00226	0.00559	0.00553	0.00551	0.00591	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																		
Conductivity	uS/cm	-	-	2.0	495	579	467	540	549	554	560	504	452	471	504	515	547	400
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	299	343	258	318	323	328	334	322	268	290	299	294	306	278
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	258	300	237	273	272	301	305	284	244	290	302	284	180	298
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	369	400	272	332	381	390	375	360	350	328	311	311	292	306
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	383	148	44.7	8.8	4.2	< 3	< 3	4.8	333	145	120	116	5.6	78.2
pH	pH units	-	-	0.10	7.89	8.13	7.87	8.14	7.65	7.28	7.35	8.09	8.04	7.91	7.85	7.87	7.85	7.89
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.02	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	< 0.015	0.037	< 0.015	0.019	0.019	0.029	-	0.286	0.108	0.016	0.046	0.036
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	< 0.010	0.013	< 0.01	< 0.01	< 0.01	0.010	-	0.079	0.027	< 0.01	0.015	0.012
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	0.014	0.024	< 0.01	0.019	0.019	0.019	-	0.207	0.081	0.016	0.031	0.024
Naphthalene	ug/L	-	-	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	-	0.644	0.160	< 0.05	0.058	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	0.14	-	-	-	-	-	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-	-	< 0.1	< 0.1	-	-	-
Total Metals																		
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	-	1.93	2.84	0.131	0.145	0.0702	0.0713	0.119	-	**4.90**	0.870	1.81	1.77	1.84
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	-	< 0.00020	< 0.00020	0.00015	< 0.0001	< 0.0001	< 0.0001	< 0.0001	-	0.00037	0.00082	0.00041	0.00126	0.00027
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	-	0.00402	0.00477	0.00323	0.00529	0.00560	0.00549	0.00652	-	0.00144	0.00047	0.00064	0.00092	0.00066
Barium, total	mg/L	2.0	1	0.0001 - 0.002	-	0.0593	0.0524	0.0382	0.0302	0.0275	0.0277	0.0286	-	0.0675	0.0340	0.0432	0.0374	0.0401
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000097	0.000120	< 0.000020	0.000038	0.000039	0.000039	0.000040	-	0.000199	0.000036	0.000072	0.000063	0.000078
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000100	< 0.000050	-	-	-	-	-	< 0.000100	< 0.000050	< 0.0001	< 0.0001	-
Boron, total	mg/L	5	5	0.01 - 0.2	-	< 0.020	< 0.020	0.010	0.011	0.013	0.014	0.014	-	< 0.020	< 0.010	< 0.02	< 0.02	< 0.01
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	-	0.0000242	0.0000458	0.0000074	0.0000051	-	-	0.0000073	-	0.0000316	0.0000320	0.000193	0.0000761	0.0000228
Calcium, total	mg/L	-	-	0.05 - 1	-	103	99.4	83.6	93.9	97.8	94.4	102	-	118	88.0	99.3	72.6	106
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000238	0.000342	0.000024	0.000021	0.000014	0.000014	0.000019	-	0.000587	0.000109	0.000220	0.000195	0.000220
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	-	0.00680	0.00778	0.00170	0.00403	0.00374	0.00384	0.00431	-	0.00980	0.00224	0.00401	0.00398	0.00453
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	-	0.00146	0.00190	0.00014	0.00032	0.00024	0.00025	0.00026	-	0.00293	0.00084	0.00127	0.00113	0.00112
Copper, total	mg/L	2	-	0.0005 - 0.01	-	0.00452	0.00626	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	0.00684	0.00193	0.00315	0.00327	0.00292
Iron, total	mg/L	-	-	0.01 - 0.2	-	11.8	9.69	7.37	15.2	14.0	14.2	14.8	-	5.59	1.12	2.19	2.03	2.21
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	-	0.00128	0.00222	0.000087	0.000063	-	-	-	-	0.00232	0.000566	0.00110	0.00100	0.000980
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0061	0.0064	0.0034	0.0016	0.0017	0.0019	0.0017	-	0.0160	0.0102	0.0110	0.0077	0.0123
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	15.5	16.2	12.1	10.2	10.4	10.5	10.2	-	30.7	25.9	29.4	18.9	28.9
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	-	**0.435**	**0.338**	**0.279**	**0.263**	**0.278**	**0.282**	**0.259**	-	**0.257**	0.0925	0.103	0.0709	0.0837
Mercury, total	mg/L	0.001	0.001	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000130	-	0.000178	0.000117	0.000319	0.000322	0.000198	-	< 0.000020	< 0.000020	0.000022	0.000110	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	-	0.000473	0.000623	0.000394	0.000315	0.000246	0.000240	0.000226	-	0.00162	0.000989	0.00109	0.0815	0.00111
Nickel, total	mg/L	-	-	0.0005 - 0.01	-	0.00350	0.00492	0.00058	0.00055	< 0.0005	< 0.0005	< 0.0005	-	0.00731	0.00208	0.00328	0.00312	0.00303
Phosphorus, total	mg/L	-	-	0.002 - 1	0.243	0.160|0.400	0.231|0.192	0.141|0.136	0.226|0.243	0.217|0.207	0.204|0.235	0.217|0.280	0.310	0.0207|0.176	0.0462|0.059	0.0584|0.151	0.0319|0.110	0.0787|0.124
Potassium, total	mg/L	-	-	0.05 - 1	-	1.65	1.72	0.966	0.670	0.665	0.683	0.719	-	2.72	1.43	1.78	1.60	1.72
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00503	0.00667	0.00166	0.00110	0.00093	0.00088	0.00105	-	0.00846	0.00192	0.00360	0.00334	0.00345
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	-	< 0.000100	< 0.000100	0.000054	0.000114	0.000088	0.000074	0.000065	-	0.000268	0.000392	0.000243	0.000281	0.000533
Silicon, total	mg/L	-	-	0.1 - 2	-	12.0	13.6	8.29	7.98	8.42	8.38	8.08	-	16.6	8.23	10.1	7.70	10.1
Silver, total	mg/L	-	-	0.00001 - 0.0002	-	0.000024	0.000051	< 0.000010	0.000010	-	-	-	-	0.000022	< 0.000010	0.000094	-	0.000012
Sodium, total	mg/L	-	-	0.05 - 1	-	10.8	5.68	12.3	12.2	12.3	12.2	12.5	-	7.66	6.46	7.17	8.19	7.42
Strontium, total	mg/L	7	-	0.0002 - 0.004	-	0.112	0.103	0.0940	0.0900	0.0939	0.0902	0.0891	-	0.162	0.136	0.148	0.105	0.143
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 1.00	1.84	1.53	0.52	0.58	0.64	< 0.5	-	2.22	2.43	2.38	1.95	2.60
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00040	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	-	< 0.00040	< 0.00020	< 0.0004	< 0.0004	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000020	0.000065	< 0.000010	-	-	-	-	-	0.000022	0.000011	0.000025	0.000025	0.000026
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00061	0.00097	0.00013	0.00036	0.00032	0.00032	0.00040	-	0.00205	0.00040	0.00085	0.00066	0.00072
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00036	0.00025	0.00024	0.00011	< 0.0001	< 0.0001	< 0.0001	-	0.00090	0.00066	0.00105	0.00305	0.00055
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.107	0.159	0.0104	0.0162	0.0108	0.0113	0.0149	-	0.282	0.0594	0.129	0.109	0.127
Tungsten, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	-	< 0.00020	< 0.00010	< 0.0002	0.00034	< 0.0001
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	-	0.000188	0.000256	0.000068	0.000118	0.000077	0.000078	0.000092	-	0.00639	0.00331	0.00337	0.00197	0.00312
Vanadium, total	mg/L	-	-	0.0005 - 0.01	-	0.00888	0.00836	0.00308	0.00921	0.00840	0.00863	0.0103	-	0.0109	0.00243	0.00452	0.00469	0.00467
Zinc, total	mg/L	-	-	0.003 - 0.06	-	0.0139	0.0106	0.0031	< 0.003	< 0.003	< 0.003	0.0058	-	0.0145	0.0049	0.0104	0.0120	0.0101
Zirconium, total	mg/L	-	-	0.0002 - 0.004	-	0.00296	0.00161	0.00231	0.00531	0.00547	0.00538	0.00614	-	0.00137	0.00075	0.00086	0.00113	0.00214
Volatile Organic Compounds																		
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	1.30	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	4.04	1.14	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4	-	6.32	1.66	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	-	2.66	0.66	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	8.98	2.32	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-	14.3	3.5	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/02/23	8/10/23	9/21/23	6/03/24	8/12/24	10/01/24	7/05/23	9/21/23	6/05/24	8/13/24	10/03/24
					MW22-14-2	MW22-14-2	MW22-14-2	MW22-14-2	MW22-14-2	MW22-14-2	MW22-15-1	MW22-15-1	MW22-15-1	MW22-15-1	MW22-15-1
Anions and Nutrients															
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0059	0.0198	< 0.0050	0.0534	0.0970	0.0390	< 0.0050	0.0518	0.0560	0.0112	0.0326
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	-	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.61	-	0.79	0.83	0.71	0.68	0.72	0.71	0.41	0.47	0.44
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.054	-	0.078	0.028	0.054	0.129	0.076	0.086	0.028	0.039	0.129
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	-	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	-	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0117|0.095	0.066|0.273	0.0147|0.079	0.0181|< 0.05	0.0434|< 0.05	0.0155|< 0.05	0.0554|0.074	0.0403|< 0.100	0.0452|< 0.1	0.0231|0.060	0.0077|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	3.97	-	2.67	4.77	4.60	4.49	3.68	3.85	2.13	4.09	3.98
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	2.70	2.04	2.33	2.45	4.02	4.53	2.72	1.91	1.53	2.42	2.42
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	11	25	< 10	10	13	11	19	12	11	13	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals															
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0020	0.0030	0.0027	0.0030	0.0046	0.0066	0.0040	0.0027	0.0026	0.0030	0.0026
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00014	0.00017	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00012	0.00019	0.00029	0.00016	0.00019	0.00020	0.00046	0.00034	0.00022	0.00039	0.00028
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0207	0.0317	0.0295	0.0200	0.0200	0.0209	0.0256	0.0307	0.0271	0.0320	0.0309
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.015	0.012	< 0.01	0.013	0.013
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	0.0000103	-	0.0000079
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	72.7	71.9	78.0	72.5	75.8	72.1	64.1	75.0	61.2	72.2	70.5
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	0.00092	0.00120	0.00097	0.00090	0.00088	0.00091	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	0.00091	0.00078	0.00079	0.00094	0.00106	0.00086	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	0.00037	0.00020	0.00034	0.00028
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00041	0.00028	0.00085	< 0.0002	0.00038	0.00038	0.00158	< 0.00020	< 0.0002	0.00274	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.011	0.112	0.112	0.241	0.178
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	-	0.000058	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0057	0.0079	0.0054	0.0047	0.0056	0.0050	0.0032	0.0037	0.0034	0.0031	0.0032
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	16.0	18.5	19.3	16.2	17.4	16.2	15.7	17.7	14.3	15.6	15.2
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.00215	0.00875	0.00553	0.00069	0.00044	0.00077	0.00028	**0.194**	**0.127**	**0.217**	**0.194**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	0.000090	0.000026	0.000040	0.000036	-	< 0.000020	0.000030	0.000023	0.000052	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.000257	0.000556	0.000412	0.000157	0.000144	0.000153	0.0137	0.00739	0.00742	0.00934	0.00817
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	0.00179	0.00308	0.00118	0.00069	0.00058
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.341	1.12	0.914	0.181	0.181	0.224	4.95	5.85	5.05	5.88	6.03
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00078	0.00160	0.00146	0.00032	0.00046	0.00046	0.00247	0.00240	0.00163	0.00174	0.00172
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000317	0.000258	0.000159	0.000317	0.000271	0.000169	< 0.000050	< 0.000050	-	-	0.000052
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.35	7.46	7.36	6.15	7.42	7.32	4.58	4.96	4.35	4.78	4.76
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	-	-	0.000013
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	4.63	5.18	5.26	3.89	4.54	5.18	3.84	3.68	4.89	5.34	5.44
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.105	0.114	0.118	0.0931	0.0983	0.0921	0.0717	0.0769	0.0647	0.0685	0.0654
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.32	1.17	0.87	1.88	1.66	1.55	1.52	1.03	0.98	1.22	1.40
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00021	< 0.00010	0.00033	0.00011	< 0.0001	< 0.0001	0.00013	0.00015	< 0.0001	0.00027	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	0.00010	< 0.0001	< 0.0001	< 0.0001	0.0149	0.0176	0.00843	0.0140	0.0136
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000566	0.000799	0.000682	0.000464	0.000479	0.000486	0.000601	0.000467	0.000274	0.000331	0.000344
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001	0.0011	0.0030	0.0010	0.0023	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests															
Conductivity	uS/cm	-	-	2.0	410	-	458	448	442	346	409	454	425	443	422
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	263	-	278	251	263	267	247	270	246	286	273
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	247	256	274	248	261	247	225	260	212	244	239
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	262	-	271	269	275	260	252	258	232	232	238
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	29.5	-	77.2	16.0	88.0	30.4	65.8	95.0	76.1	25.6	18.0
pH	pH units	-	-	0.10	7.93	-	7.88	7.94	7.98	7.95	8.17	8.07	8.17	8.20	8.05
Polycyclic Aromatic Hydrocarbon															
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	0.090	0.048	0.028	< 0.015	< 0.015	< 0.015	< 0.015	0.018	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	0.026	0.014	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	0.064	0.034	0.028	< 0.01	< 0.01	< 0.01	< 0.010	0.018	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	0.050	0.258	0.118	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters															
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	0.18	-	-	-	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	0.15	< 0.1	-	-	-
Total Metals															
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	1.18	1.33	0.941	0.378	0.213	0.545	1.22	0.754	0.712	0.558	0.0301
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	< 0.00010	< 0.00010	0.00034	0.00020	< 0.0001	< 0.0001	0.00017	0.00063	0.00027	0.00019	< 0.0001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00051	0.00066	0.00056	0.00025	0.00023	0.00032	0.00078	0.00071	0.00056	0.00046	0.00034
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0301	0.0428	0.0319	0.0230	0.0210	0.0245	0.0369	0.0390	0.0350	0.0342	0.0325
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000045	0.000042	0.000031	-	-	0.000022	0.000034	0.000048	0.000050	0.000030	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000100	< 0.0001	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	< 0.010	0.014	< 0.010	< 0.01	< 0.01	< 0.01	0.017	< 0.020	< 0.02	0.013	0.014
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.0000178	0.0000207	0.0000905	0.0000233	-	0.0000073	0.0000315	0.0000441	0.0000570	0.0000284	0.0000082
Calcium, total	mg/L	-	-	0.05 - 1	86.7	92.0	92.5	75.8	70.1	77.2	77.5	77.0	75.1	72.6	74.3
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000124	0.000158	0.000109	0.000051	0.000030	0.000066	0.000114	0.000079	0.000068	0.000048	-
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.00310	0.00385	0.00319	0.00179	0.00133	0.00182	0.00280	0.00338	0.00228	0.00189	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	0.00090	0.00089	0.00079	0.00085	0.00100	0.00076	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00071	0.00085	0.00071	0.00022	0.00013	0.00025	0.00116	0.00094	0.00072	0.00061	0.00037
Copper, total	mg/L	2	-	0.0005 - 0.01	0.00221	0.00286	0.00299	0.00098	0.00072	0.00110	0.00311	0.00243	0.00311	0.00192	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	1.30	1.65	1.24	0.461	0.246	0.515	1.39	1.10	1.13	0.828	0.305
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.000588	0.000801	0.000627	0.000223	0.000107	0.000237	0.000598	0.000604	0.000723	0.000452	-
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0076	0.0070	0.0068	0.0047	0.0056	0.0060	0.0050	0.0048	0.0036	0.0037	0.0038
Magnesium, total	mg/L	-	-	0.005 - 0.1	20.1	21.6	21.6	17.5	16.8	16.8	16.8	18.4	17.6	17.7	15.8
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	0.0380	0.0456	0.0393	0.0102	0.00545	0.0108	**0.233**	**0.208**	**0.224**	**0.210**	**0.213**
Mercury, total	mg/L	0.001	0.001	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	0.000030	< 0.000020	-	-	-	0.000030	0.000058	0.000053	-	0.000092
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.000239	0.000507	0.000308	0.000139	0.000158	0.000154	0.0137	0.0113	0.00815	0.00916	0.00820
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.00152	0.00225	0.00301	0.00081	< 0.0005	0.00065	0.00370	0.0109	0.00304	0.00281	0.00065
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0117|0.095	0.066|0.273	0.0147|0.079	0.0181|< 0.05	0.0434|< 0.05	0.0155|< 0.05	0.0554|0.074	0.0403|< 0.100	0.0452|< 0.1	0.0231|0.060	0.0077|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	0.635	1.61	0.987	0.308	0.249	0.347	5.21	5.27	5.03	5.09	6.35
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00257	0.00406	0.00294	0.00113	0.00084	0.00136	0.00441	0.00394	0.00301	0.00269	0.00194
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	0.000312	0.000250	0.000131	0.000279	0.000219	0.000122	0.000056	< 0.000100	< 0.0001	-	-
Silicon, total	mg/L	-	-	0.1 - 2	9.32	10.1	8.82	6.92	7.44	8.02	6.82	6.50	5.82	5.50	4.70
Silver, total	mg/L	-	-	0.00001 - 0.0002	< 0.000010	0.000013	0.000011	-	-	-	0.000671	0.000599	0.00175	0.000576	0.000026
Sodium, total	mg/L	-	-	0.05 - 1	4.76	5.70	4.64	4.01	4.25	5.80	4.07	4.11	5.70	5.39	5.40
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.106	0.125	0.121	0.0997	0.0937	0.0965	0.0797	0.0811	0.0760	0.0706	0.0676
Sulfur, total	mg/L	-	-	0.5 - 10	1.35	1.11	0.99	1.69	1.98	1.73	1.45	1.40	< 1	1.35	1.55
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	< 0.000010	0.000031	0.000019	-	-	0.000010	0.000023	< 0.000020	-	0.000012	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00058	0.00062	0.00046	0.00018	< 0.0001	0.00021	0.00039	0.00038	0.00041	0.00034	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00050	0.00010	0.00040	0.00026	< 0.0001	< 0.0001	0.00055	0.00138	0.00118	0.00070	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.0796	0.0902	0.0692	0.0264	0.0127	0.0311	0.0804	0.0509	0.0491	0.0475	0.00212
Tungsten, total	mg/L	-	-	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.0234	0.0165	0.0151	0.0135	0.0154
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.000599	0.000912	0.000609	0.000510	0.000485	0.000501	0.000718	0.000713	0.000424	0.000392	0.000376
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.00292	0.00324	0.00243	0.00123	0.00096	0.00158	0.00268	0.00151	0.00145	0.00132	< 0.0005
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0066	0.0057	0.0089	< 0.003	< 0.003	< 0.003	0.0050	0.0220	0.0082	0.0054	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00091	0.00104	0.00082	0.00035	0.00025	0.00053	0.00093	0.00057	< 0.0004	0.00040	< 0.0002
Volatile Organic Compounds															
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	1.38	1.31	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	1.91	1.89	0.45	< 0.4	< 0.4	< 0.4	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	0.81	0.88	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	2.72	2.77	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes															
SUM OF BTEX	ug/L	-	-	1.0	4.1	4.1	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/05/23	9/21/23	6/05/24	8/13/24	10/03/24	7/05/23	7/05/23	8/09/23	9/25/23	8/15/24	10/01/24
					MW22-15-3	MW22-15-3	MW22-15-3	MW22-15-3	MW22-15-3	MW22-16-1	DUPLICATE MF-D (MW22-16-1)	MW22-16-1	MW22-16-1	MW22-16-1	MW22-16-1
Anions and Nutrients															
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.100	0.140	0.571	0.101	0.0486	< 0.0050	< 0.0050	< 0.0050	0.175	3.18	0.0597
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	2.73	2.95	1.50	1.27	1.11	0.30	0.31	0.51	0.24	0.13	0.20
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.052	0.067	< 0.02	0.027	0.085	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	0.029
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	< 0.02	0.100	0.053	< 0.020	< 0.020	0.027	< 0.020	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0189|< 0.100	0.0874|0.207	< 0.1|3.38	0.150|< 0.05	0.0195|< 0.05	0.0307|< 0.050	0.0284|0.054	0.0487|< 0.050	0.0141|< 0.050	0.0041|< 0.05	0.0030|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	13.0	17.0	15.4	11.8	11.2	2.68	2.69	3.93	3.10	1.57	1.84
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	3.85	5.34	4.79	5.44	3.73	1.27	1.36	1.33	1.04	1.97	1.43
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	-	< 2	< 2	< 3	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	17	31	470	21	18	10	13	< 10	< 10	10	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Dissolved Metals															
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0017	0.0108	0.0122	0.0090	0.0123	0.0053	0.0049	0.0049	0.0044	0.0070	0.0047
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	0.00021	< 0.0001	0.00024	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00048	0.00055	0.00035	0.00041	0.00036	0.00025	0.00026	0.00024	0.00022	0.00025	0.00022
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0427	0.0431	0.0447	0.0482	0.0410	0.0420	0.0404	0.0411	0.0414	0.0270	0.0282
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	< 0.010	< 0.01	0.010	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	0.0000074	0.0000238	0.0000893	-	0.0000565	0.0000201	0.0000180	0.0000175	0.0000158	0.0000108	0.0000100
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	85.7	89.2	76.4	87.5	85.6	31.8	31.4	35.8	36.9	33.2	35.2
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	-	0.000222	0.000224	0.000241	0.000284	0.000261	0.000316
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00054
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00080	0.00104	0.00081	0.00088	0.00068	0.00043	0.00042	0.00025	0.00015	< 0.0001	< 0.0001
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00122	0.00132	0.00033	< 0.0002	0.00170	0.00174	0.00157	0.00138	0.00124	0.00205	0.00088
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	0.011	< 0.01
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0040	0.0037	0.0043	0.0040	0.0034	0.0099	0.0092	0.0077	0.0071	0.0039	0.0041
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	17.6	18.7	17.0	18.7	18.3	7.60	7.66	8.41	9.82	8.44	8.86
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.466**	**0.636**	**0.561**	**0.889**	**0.732**	0.0140	0.0141	0.00837	0.00742	0.00048	0.00018
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000027	-	-	0.000020	< 0.000020	0.000125	< 0.000020	0.000068	0.000024
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00719	0.00675	0.00712	0.00718	0.00583	0.000634	0.000611	0.000572	0.000429	0.000501	0.000318
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00065	0.00221	0.00456	0.00225	0.00322	0.00354	0.00347	0.00276	0.00197	0.00150	0.00166
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	6.78	7.94	7.02	7.68	8.09	3.77	3.62	3.22	2.86	1.54	1.66
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00093	0.00106	0.00085	0.00086	0.00083	0.0133	0.0131	0.0122	0.0117	0.00647	0.00688
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000050	< 0.000050	-	-	-	0.000087	0.000093	0.000106	0.000105	-	0.000069
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.41	6.99	6.12	6.88	7.10	3.99	3.97	4.19	4.12	4.09	4.19
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	0.000013
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	13.3	12.9	23.4	20.3	13.7	1.67	1.70	2.03	1.65	1.55	1.51
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0784	0.0808	0.0756	0.0809	0.0770	0.0272	0.0274	0.0294	0.0290	0.0266	0.0282
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	4.67	4.51	5.48	4.54	4.24	1.13	1.11	1.53	0.85	0.76	0.53
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	-	0.000040	0.000038	0.000030	0.000028	0.000029	0.000027
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00016	0.00028	0.00039	0.00031	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00050	0.00016
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.0335	0.0351	0.0152	0.00666	0.00211	0.00123
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.00173	0.00139	0.00168	0.00146	0.00110	0.00132	0.00134	0.00160	0.00145	0.000937	0.00124
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	0.00050	< 0.0005	0.00053
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0014	0.0272	0.0092	0.0028	0.0059	0.0014	< 0.0010	< 0.0010	< 0.0010	0.0016	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests															
Conductivity	uS/cm	-	-	2.0	545	583	586	564	540	213	212	238	270	197	224
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	308	334	327	319	322	117	116	127	148	110	156
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	286	300	261	295	289	111	110	124	132	118	124
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	342	360	332	340	308	120	120	134	148	108	124
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	142	178	34.9	15.2	19.6	12.9	17.0	46.0	30.6	< 3	7.4
pH	pH units	-	-	0.10	8.29	8.31	8.25	8.19	8.04	8.10	8.13	8.07	7.84	7.94	7.52
Polycyclic Aromatic Hydrocarbon															
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	-	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	-	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	< 0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.103	0.048
Methylnaphthalene, 1-	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	0.034	0.016
Methylnaphthalene, 2-	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	0.013	< 0.010	0.069	0.032
Naphthalene	ug/L	-	-	0.050	< 0.050	-	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	0.086	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	-	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters															
Gross alpha	Bq/l	-	-	0.1	< 0.1	-	-	-	-	< 0.1	< 0.1	0.46	0.10	-	-
Gross beta	Bq/l	-	-	0.1	0.26	-	-	-	-	0.22	0.27	0.54	0.15	-	-
Total Metals															
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	1.33	2.75	1.54	0.408	0.300	2.09	2.36	1.86	0.770	0.415	0.0660
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	< 0.00020	0.00087	0.00043	0.00010	0.00055	< 0.00010	0.00012	0.00017	0.00012	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00092	0.00184	0.00083	0.00054	0.00046	0.00179	0.00176	0.00136	0.00073	0.00051	0.00027
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0520	0.0685	0.0598	0.0476	0.0466	0.0694	0.0694	0.0665	0.0573	0.0314	0.0302
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000048	0.000126	0.000054	-	-	0.000064	0.000065	0.000046	0.000026	0.000024	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000100	< 0.000100	< 0.0001	-	-	0.000132	0.000147	0.000103	< 0.000050	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	< 0.020	< 0.020	< 0.02	0.012	0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.0000164	0.000204	0.000140	0.0000157	0.0000783	0.0000345	0.0000369	0.0000427	0.0000349	0.0000234	0.0000166
Calcium, total	mg/L	-	-	0.05 - 1	102	104	104	85.1	87.0	32.6	32.2	32.8	35.3	35.0	37.6
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000164	0.000286	0.000139	0.000038	0.000020	0.00110	0.00116	0.000917	0.000626	0.000477	0.000345
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.00290	0.00753	0.00414	0.00112	0.00080	0.0108	0.0123	0.0104	0.00452	0.00261	0.00080
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00167	0.00211	0.00218	0.00127	0.00085	0.00257	0.00302	0.00221	0.00109	0.00073	0.00019
Copper, total	mg/L	2	-	0.0005 - 0.01	0.00248	0.00654	0.00334	0.00074	0.00068	0.0152	0.0164	0.0132	0.00646	0.00422	0.00128
Iron, total	mg/L	-	-	0.01 - 0.2	1.64	3.52	1.79	0.441	0.268	2.42	2.71	2.33	0.958	0.539	0.069
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.000764	0.00226	0.00104	0.000257	0.000185	0.00369	0.00399	0.00276	0.00122	0.000643	0.000066
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0056	0.0085	0.0056	0.0046	0.0043	0.0136	0.0137	0.0126	0.0095	0.0044	0.0045
Magnesium, total	mg/L	-	-	0.005 - 0.1	21.1	23.8	23.5	19.3	18.9	8.39	8.98	9.16	9.38	8.52	8.73
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.520**	**0.446**	**0.757**	**0.944**	**0.786**	0.0478	0.0511	0.0424	0.0219	0.0173	0.00305
Mercury, total	mg/L	0.001	0.001	0.0000050	< 0.0000050	0.0000106	0.0000152	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	0.000029	0.000036	-	0.000048	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.00721	0.0111	0.00681	0.00727	0.00619	0.000676	0.000606	0.000685	0.000502	0.000395	0.000349
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.00260	0.0133	0.00703	0.00316	0.00509	0.0128	0.0134	0.0115	0.00564	0.00356	0.00198
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0189|< 0.100	0.0874|0.207	< 0.1|3.38	0.150|< 0.05	0.0195|< 0.05	0.0307|< 0.050	0.0284|0.054	0.0487|< 0.050	0.0141|< 0.050	0.0041|< 0.05	0.0030|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	6.98	7.95	7.59	7.01	8.23	4.26	4.17	4.57	3.24	1.63	1.76
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00317	0.00520	0.00313	0.00129	0.00120	0.0172	0.0171	0.0166	0.0148	0.00754	0.00745
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	0.000114	< 0.000100	< 0.0001	0.000064	-	0.000104	0.000110	0.000096	0.000090	0.000103	0.000054
Silicon, total	mg/L	-	-	0.1 - 2	9.31	11.8	9.29	7.52	7.03	7.64	8.22	6.97	5.58	4.69	4.06
Silver, total	mg/L	-	-	0.00001 - 0.0002	< 0.000020	0.000048	-	-	-	0.00270	0.00264	0.00211	0.000885	0.000729	0.000135
Sodium, total	mg/L	-	-	0.05 - 1	13.9	24.5	21.5	19.4	19.1	1.90	1.91	3.53	1.53	1.51	1.47
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.0880	0.0957	0.0895	0.0806	0.0782	0.0320	0.0317	0.0318	0.0315	0.0287	0.0273
Sulfur, total	mg/L	-	-	0.5 - 10	4.71	6.32	5.45	5.06	5.00	1.20	1.17	1.94	0.99	0.61	0.55
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00040	< 0.0004	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	0.000035	0.000038	0.000027	0.000022	-	0.000078	0.000080	0.000074	0.000045	0.000040	0.000030
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00036	0.00102	0.00038	0.00013	< 0.0001	0.00052	0.00057	0.00044	0.00019	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00050	0.00293	0.00152	0.00054	0.00056	0.00023	0.00022	0.00058	0.00022	0.00024	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.0758	0.146	0.0850	0.0202	0.0124	0.129	0.149	0.124	0.0545	0.0294	0.00421
Tungsten, total	mg/L	-	-	0.0001 - 0.002	< 0.00020	< 0.00020	< 0.0002	< 0.0001	< 0.0001	0.0340	0.0234	0.0210	0.00794	0.00253	0.00166
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.00193	0.00308	0.00197	0.00142	0.00125	0.00184	0.00168	0.00210	0.00190	0.00101	0.00136
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.00320	0.00623	0.00354	0.00096	0.00067	0.00569	0.00632	0.00526	0.00260	0.00169	0.00079
Zinc, total	mg/L	-	-	0.003 - 0.06	< 0.0060	0.192	0.0328	0.0112	0.0114	0.0097	0.0109	0.0092	0.0042	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00056	0.00136	0.00052	0.00033	0.00038	0.00070	0.00072	0.00069	0.00039	0.00020	< 0.0002
Volatile Organic Compounds															
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 6.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes															
SUM OF BTEX	ug/L	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/05/23	9/25/23	8/15/24	10/01/24	7/04/23	8/09/23	8/09/23	9/24/23	6/05/24	6/05/24	8/13/24	10/03/24
					MW22-16-2	MW22-16-2	MW22-16-2	MW22-16-2	MW22-17-1	MW22-17-1	DUP-3 (MW22-17-1)	MW22-17-01	MW22-17-1	DUP-02 (MW22-17-1)	MW22-17-1	MW22-17-1
Anions and Nutrients																
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	< 0.0050	0.0204	3.01	0.0588	0.0156	0.0069	0.0212	0.0253	0.546	0.0342	0.0208	0.906
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.1	< 0.1	< 0.10	< 0.10	0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	1.44	0.59	< 0.1	0.24	0.12	0.19	0.22	0.13	< 0.1	0.11	< 0.1	< 0.1
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.036	< 0.020	< 0.02	0.040	< 0.020	< 0.020	< 0.020	0.021	< 0.02	< 0.02	< 0.02	0.035
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	0.306	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.236|0.201	0.106|0.257	< 0.05|0.903	0.0674|0.104	0.254|0.640	0.163|0.280	0.0632|0.084	0.0147|< 0.050	< 0.002|< 0.05	0.0048|< 0.05	0.0055|< 0.05	0.0200|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	3.32	4.73	1.29	6.62	0.41	< 0.30	0.37	0.63	0.71	0.58	0.46	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	8.57	6.84	2.89	4.44	8.15	10.1	10.5	7.45	8.27	8.37	8.42	8.55
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2	< 2	< 2.0	4.3	4.9	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	57	29	30	12	40	47	35	19	23	30	31	26
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.100	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Dissolved Metals																
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0069	0.0052	0.0034	0.0088	0.0099	0.0076	0.0086	0.0051	0.0055	0.0056	0.0056	0.0082
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	0.00045	0.00045	0.00018	< 0.0001	< 0.00010	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00047	0.00019	0.00024	0.00013	0.00039	0.00036	0.00038	0.00037	0.00021	0.00023	0.00027	0.00025
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0377	0.0256	0.0361	0.0173	0.0271	0.0239	0.0249	0.0236	0.0238	0.0246	0.0333	0.0254
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000040	< 0.000040	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000100	< 0.000100	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.047	0.023	0.026	< 0.01	< 0.010	< 0.020	< 0.020	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	0.0000138	0.0000263	0.0000304	0.0000292	< 0.0000050	< 0.0000100	< 0.0000100	< 0.0000050	-	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	63.7	51.0	58.0	29.0	58.7	60.4	61.7	57.6	55.0	54.1	60.4	60.0
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	0.000012	< 0.000010	0.000011	0.000048	< 0.000010	< 0.000020	< 0.000020	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	0.00187	< 0.0005	< 0.0005	< 0.00050	< 0.00100	< 0.00100	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	0.00149	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00110	0.00011	< 0.0001	< 0.0001	0.00070	0.00051	0.00051	0.00051	0.00044	0.00044	0.00042	0.00044
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00145	0.00171	0.00442	0.00066	0.00026	< 0.00040	< 0.00040	< 0.00020	< 0.0002	< 0.0002	0.00152	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	< 0.010	0.010	< 0.01	0.401	0.569	0.593	0.436	0.260	0.255	0.262	0.296
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	0.000120	-	< 0.000050	< 0.000100	< 0.000100	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0085	0.0067	0.0083	0.0034	0.0035	0.0034	0.0032	0.0034	0.0036	0.0039	0.0034	0.0034
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	15.8	9.84	13.6	6.84	11.0	11.2	11.2	12.2	10.1	10.4	11.4	10.9
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.530**	0.0313	**0.280**	0.109	**0.628**	**0.556**	**0.560**	**0.600**	**0.522**	**0.542**	**0.524**	**0.556**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000024	0.000034	0.000059	0.000082	< 0.000020	0.000029	0.000050	0.000021	0.000026	-	-	0.000021
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00511	0.00287	0.00462	0.00159	0.00199	0.00326	0.00321	0.00117	0.000808	0.000829	0.000830	0.000924
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00363	0.00135	0.00209	0.00106	0.00212	0.00152	0.00152	0.00122	0.00107	0.00108	0.00111	0.00116
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.100	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	6.38	5.08	5.96	2.58	3.11	2.94	2.98	3.11	2.76	2.79	3.03	2.98
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00048	0.00133	0.00054	0.00170	0.00131	0.00114	0.00109	0.00087	0.00070	0.00059	0.00064	0.00066
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000127	0.000082	0.000087	0.000050	0.000051	0.000661	0.000607	0.000461	0.000272	0.000288	0.000078	0.000083
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.94	4.13	4.34	4.04	4.99	5.20	5.41	5.20	4.76	4.79	5.25	5.31
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000020	< 0.000020	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	6.01	3.84	16.5	7.99	1.69	3.37	3.38	1.77	1.12	1.41	1.11	1.24
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0710	0.0497	0.0617	0.0298	0.0502	0.0531	0.0522	0.0511	0.0472	0.0468	0.0513	0.0494
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.36	1.67	6.87	1.57	< 0.50	< 1.00	< 1.00	< 0.50	< 0.5	0.84	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000020	< 0.000020	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00022	0.00037	0.00084	0.00026	0.00013	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00060	< 0.00060	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00016	0.00012	< 0.0001	0.0152	0.0133	0.0127	0.00294	0.00169	0.00155	0.00121	0.00162
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.0107	0.00711	0.0117	0.00424	0.00136	0.00114	0.00114	0.00122	0.00137	0.00126	0.00136	0.00136
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00061	< 0.00050	< 0.0005	< 0.0005	0.00098	< 0.00100	< 0.00100	0.00075	0.00059	0.00057	0.00058	0.00064
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0017	0.0018	0.0061	0.0013	0.0174	< 0.0020	< 0.0020	< 0.0010	< 0.001	< 0.001	0.0012	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	0.00039	< 0.00030	< 0.0003	< 0.0003	0.00092	0.00081	0.00081	0.00080	0.00075	0.00076	0.00086	0.00088
Physical Tests																
Conductivity	uS/cm	-	-	2.0	455	324	143	260	359	362	357	373	347	354	342	326
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	274	175	76.8	226	214	246	240	226	197	201	227	228
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	224	168	201	100	192	197	200	194	179	178	198	195
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	334	192	116	169	211	261	227	222	198	204	205	220
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	406	279	784	738	348	778	244	19.6	3.1	3.1	< 3	13.9
pH	pH units	-	-	0.10	8.26	7.87	7.75	7.67	8.23	8.02	8.21	7.91	8.25	8.19	8.13	7.92
Polycyclic Aromatic Hydrocarbon																
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	< 0.010	< 0.01	< 0.01	< 0.034	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	< 0.015	0.118	0.066	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	< 0.010	0.043	0.026	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	< 0.010	0.075	0.040	0.011	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.012
Naphthalene	ug/L	-	-	0.050	-	< 0.050	0.123	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters																
Gross alpha	Bq/l	-	-	0.1	-	-	-	-	< 0.1	< 0.1	< 0.1	0.13	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	-	-	-	0.19	0.55	0.28	0.17	-	-	-	-
Total Metals																
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	**11.2**	**11.4**	1.49	**3.60**	**3.79**	**3.06**	1.60	0.493	0.0446	0.0470	0.0227	0.143
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	0.00049	0.00097	0.00034	0.00022	0.00014	0.00027	0.00023	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00199	0.00168	0.00047	0.00064	0.00140	0.00094	0.00068	0.00049	0.00026	0.00023	0.00026	0.00031
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.136	0.132	0.0498	0.0527	0.0739	0.0473	0.0372	0.0292	0.0247	0.0248	0.0238	0.0263
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000568	0.000592	0.000086	0.000236	0.000161	0.000105	0.000052	< 0.000020	-	-	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	0.000310	0.000348	-	0.000148	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	0.061	0.033	0.024	0.017	0.016	0.011	0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.0000488	0.0000973	0.0000529	0.0000571	0.000334	0.000174	0.000152	0.0000286	0.0000510	-	-	0.0000232
Calcium, total	mg/L	-	-	0.05 - 1	94.8	66.9	66.4	37.0	181	89.6	73.8	59.4	57.9	55.8	56.7	62.6
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.00742	0.00800	0.000962	0.00287	0.000369	0.000321	0.000166	0.000052	-	-	-	0.000015
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.0384	0.0436	0.00521	0.0151	0.0124	0.00932	0.00479	0.00156	< 0.0005	< 0.0005	< 0.0005	0.00060
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	0.00207	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00973	0.00944	0.00134	0.00333	0.00491	0.00284	0.00171	0.00090	0.00049	0.00049	0.00043	0.00056
Copper, total	mg/L	2	-	0.0005 - 0.01	0.0179	0.0196	0.00334	0.00695	0.0295	0.0158	0.00823	0.00242	0.00090	< 0.0005	< 0.0005	0.00108
Iron, total	mg/L	-	-	0.01 - 0.2	14.1	15.5	1.95	4.76	5.57	4.57	2.68	1.06	0.309	0.300	0.284	0.491
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.00367	0.00380	0.000535	0.00110	**0.00685**	0.00286	0.00156	0.000466	-	-	-	0.000158
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0347	0.0370	0.0116	0.0146	0.0095	0.0076	0.0054	0.0045	0.0033	0.0034	0.0035	0.0040
Magnesium, total	mg/L	-	-	0.005 - 0.1	26.8	19.1	15.6	10.0	39.4	21.1	16.3	11.4	11.1	10.7	11.4	11.6
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.791**	**0.293**	**0.358**	**0.274**	**0.899**	**0.740**	**0.677**	**0.603**	**0.559**	**0.534**	**0.541**	**0.579**
Mercury, total	mg/L	0.001	0.001	0.0000050	< 0.0000050	0.0000053	0.0000415	0.0000056	0.0000131	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000052	0.000035	0.000250	-	< 0.000020	< 0.000020	0.000078	0.000028	0.000042	0.000031	-	0.000187
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.00496	0.00236	0.00405	0.00197	0.00129	0.00335	0.00333	0.00160	0.000816	0.000819	0.000811	0.00104
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.0322	0.0324	0.00613	0.0125	0.0145	0.00880	0.00522	0.00262	0.00123	0.00120	0.00116	0.00154
Phosphorus, total	mg/L	-	-	0.002 - 1	0.236|0.201	0.106|0.257	< 0.05|0.903	0.0674|0.104	0.254|0.640	0.163|0.280	0.0632|0.084	0.0147|< 0.050	< 0.002|< 0.05	0.0048|< 0.05	0.0055|< 0.05	0.0200|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	11.3	9.38	7.40	5.01	4.73	4.60	3.94	3.03	2.86	2.84	2.88	3.13
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.0343	0.0386	0.00505	0.0136	0.0121	0.00858	0.00479	0.00194	0.00072	0.00073	0.00068	0.00106
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	0.000167	0.000115	0.000074	0.000073	0.000062	0.000104	0.000079	0.000062	-	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	24.5	23.9	7.10	9.76	12.2	11.2	8.27	6.32	5.03	4.91	5.18	5.30
Silver, total	mg/L	-	-	0.00001 - 0.0002	0.000060	0.000103	-	0.000126	0.00165	0.00468	0.00298	0.000602	0.000035	0.000031	0.000012	0.000153
Sodium, total	mg/L	-	-	0.05 - 1	6.50	3.28	18.4	9.96	2.09	4.28	4.24	1.61	1.15	1.12	1.11	1.29
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.0954	0.0608	0.0655	0.0369	0.126	0.0784	0.0655	0.0545	0.0489	0.0483	0.0498	0.0498
Sulfur, total	mg/L	-	-	0.5 - 10	1.31	1.61	6.73	1.90	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00040	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	0.000215	0.000245	0.000031	0.000086	0.000083	0.000058	0.000029	< 0.000010	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00213	0.00210	0.00033	0.00060	0.00175	0.00101	0.00060	0.00020	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00114	0.00227	0.00144	0.00062	0.00032	0.00046	0.00038	0.00031	0.00018	0.00017	< 0.0001	0.00022
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.742	0.828	0.112	0.268	0.187	0.224	0.120	0.0352	0.00271	0.00312	0.00122	0.00987
Tungsten, total	mg/L	-	-	0.0001 - 0.002	0.00074	0.00095	0.00024	0.00046	0.0115	0.0222	0.0187	0.00594	0.00165	0.00168	0.00114	0.00265
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.0131	0.00874	0.0117	0.00582	0.00276	0.00160	0.00139	0.00148	0.00134	0.00133	0.00128	0.00143
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.0288	0.0315	0.00410	0.0110	0.0116	0.00819	0.00475	0.00193	0.00074	0.00072	0.00068	0.00112
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0287	0.0380	0.0068	0.0111	0.0229	0.0168	0.0098	0.0031	< 0.003	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00346	0.00232	0.00104	0.00311	0.00316	0.00251	0.00193	0.00125	0.00077	0.00076	0.00082	0.00096
Volatile Organic Compounds																
Acetone	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	< 2.0	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	< 4.5	< 1	< 1	< 1.0	< 1.0	16.8	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.4	< 0.4	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes																
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/04/23	8/09/23	9/24/23	6/05/24	8/13/24	10/03/24	7/04/23	8/09/23	9/24/23	6/05/24	8/13/24	10/01/24
					MW22-17-2	MW22-17-2	MW22-17-02	MW22-17-2	MW22-17-2	MW22-17-2	MW22-18-1	MW22-18-1	MW22-18-1	MW22-18-1	MW22-18-1	MW22-18-1
Anions and Nutrients																
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	< 0.0050	0.0310	0.0564	0.308	0.0784	0.156	0.0140	0.0216	0.0359	0.0672	0.0771	0.373
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	0.17	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	2.82	1.47	1.42	0.82	0.68	0.41	0.74	0.34	0.32	3.51	0.35	0.39
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.020	0.020	0.042	0.044	< 0.02	0.053	0.076	0.091	0.091	0.041	0.058	0.113
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	0.024	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.119|0.144	0.107|0.847	0.0596|0.597	0.0344|< 0.05	0.0347|< 0.1	0.0221|< 0.05	0.0349|0.060	0.0508|0.076	0.0188|< 0.050	0.0138|< 0.05	0.0482|< 0.05	0.0070|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.30	1.38	1.58	0.47	< 0.3	1.33	2.34	1.50	2.34	0.70	0.52
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	8.68	9.54	10.5	11.9	11.1	12.2	10.9	11.3	13.0	11.2	12.6	11.3
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	3.1	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	31	17	32	38	40	35	32	30	42	39	39	34
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0050	0.0062	0.0085	0.0083	0.0084	0.0086	0.0468	0.0091	0.0206	0.0103	0.0101	0.0076
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	0.00011	0.00012	< 0.0001	0.00013	0.00035	< 0.00010	< 0.00020	0.00046	0.00021	0.00017	0.00011
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00128	0.00180	0.00206	0.00165	0.00149	0.00184	0.00070	0.00085	0.00050	0.00117	0.00054	0.00047
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0196	0.0190	0.0193	0.0157	0.0176	0.0153	0.0337	0.0315	0.0290	0.0367	0.0400	0.0381
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	0.000375	0.000396	0.000386	0.000360	0.000510	0.000578
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000100	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.067	0.074	0.071	0.052	0.063	0.063	0.011	< 0.020	< 0.010	0.011	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	0.0000203	0.0000212	0.0000141	0.0000441	0.0000565	0.0000116	< 0.0000100	0.0000191	-	0.0000108	0.0000202
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	62.4	58.7	55.4	47.6	54.0	53.4	27.8	24.8	30.0	27.2	31.2	29.2
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	0.000027	< 0.000020	0.000010	-	0.000010	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	0.00091	0.00108	0.00128	0.00102	0.00107	0.00112
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00021	0.00023	0.00020	0.00022	0.00022	0.00017	0.00022	< 0.00020	0.00019	0.00038	0.00014	0.00011
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00157	0.00052	0.00111	0.00041	0.00161	0.00036	0.00107	0.00086	0.00077	< 0.0002	0.00038	0.00031
Iron, dissolved	mg/L		-	0.01 - 0.05	0.064	0.127	0.175	0.173	0.153	0.251	0.500	0.693	0.667	0.798	0.793	0.923
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	0.000264	< 0.000100	0.000087	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0014	0.0013	0.0018	0.0018	0.0011	0.0015	0.0167	0.0149	0.0166	0.0165	0.0149	0.0134
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	12.3	11.9	11.3	9.00	10.6	10.4	7.27	7.20	7.79	6.90	7.46	7.24
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.282**	**0.282**	**0.263**	**0.282**	**0.275**	**0.272**	**0.445**	**0.390**	**0.490**	**0.639**	**0.493**	**0.483**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000037	0.000111	-	0.000025	0.000054	0.000049	0.000032	0.000032	< 0.000020	-	0.000036	0.000045
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00581	0.00660	0.00735	0.00691	0.00648	0.00515	0.00451	0.00511	0.00174	0.00546	0.00179	0.00120
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00113	0.00244	0.00153	0.00160	0.00186	0.00208	0.00114	0.00133	0.00111	0.00205	0.00252	0.00127
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.64	2.47	2.71	2.47	2.67	2.68	2.10	2.08	1.99	2.27	1.67	1.70
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00099	0.00101	0.00103	0.00097	0.00105	0.00099	0.00304	0.00315	0.00280	0.00315	0.00233	0.00254
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000066	0.000070	0.000106	0.000101	0.000191	0.000050	0.000237	0.000269	0.000215	0.000144	0.000250	0.000059
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	5.58	6.20	6.11	6.21	6.30	6.52	15.4	14.8	15.9	15.2	16.3	16.6
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	0.000010	-	< 0.000010	< 0.000020	< 0.000010	-	0.000011	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	5.49	8.65	19.1	22.8	18.2	11.9	8.08	8.58	4.48	6.99	2.81	2.09
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0572	0.0569	0.0537	0.0466	0.0522	0.0474	0.172	0.180	0.164	0.182	0.160	0.150
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.50	< 0.50	0.80	< 0.5	< 0.5	0.98	< 1.00	< 0.50	1.38	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000020	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00029	0.00026	0.00031	0.00027	0.00031	0.00031
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00111	0.00031	0.00078	0.00147	0.00098	0.00058	0.00019	< 0.00020	0.00110	0.00246	0.00093	0.00046
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	0.00041	0.00050	0.00045	0.00036	0.00214	0.00160	0.00191	0.00179	0.00182	0.00181
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0226	0.0201	0.0221	0.0158	0.0169	0.0142	0.0313	0.0361	0.00914	0.0123	0.00299	0.00198
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.00186	0.00150	0.00172	0.00129	0.00152	0.00105	0.00285	0.00339	0.00181	0.00194	0.00154	0.00174
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	0.00053	0.00082	0.00092	0.00096	0.00098	0.00437	0.00454	0.00484	0.00545	0.00544	0.00576
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0012	0.0015	0.0032	0.0011	0.0044	0.0027	0.0012	< 0.0020	0.0024	0.0012	0.0021	0.0016
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	0.00076	0.00085	0.00121	0.00164	0.00152	0.00150	0.00280	0.00248	0.00306	0.00320	0.00330	0.00329
Physical Tests																
Conductivity	uS/cm	-	-	2.0	389	379	409	381	360	331	207	211	220	223	190	185
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	245	230	244	218	237	232	116	115	117	115	107	110
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	206	196	185	156	178	176	99.4	91.6	107	96.3	109	103
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	251	230	252	234	230	234	148	164	164	172	150	138
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	307	71.2	457	39.5	107	7.5	37.1	102	12.6	8.5	29.8	< 3
pH	pH units	-	-	0.10	8.37	8.34	8.07	8.36	8.19	8.06	8.12	8.07	7.99	7.98	7.95	7.54
Polycyclic Aromatic Hydrocarbon																
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	0.012	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	2.30	2.50	2.10	-	-	-
Gross beta	Bq/l	-	-	0.1	0.14	< 0.1	0.16	-	-	-	1.01	1.15	1.05	-	-	-
Total Metals																
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	1.69	2.79	2.27	0.308	0.517	0.152	1.68	0.890	0.293	0.0773	0.0618	0.0547
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	< 0.00020	< 0.00010	0.00030	0.00040	< 0.0002	0.00014	0.00013	0.00018	0.00055	0.00037	0.00021	0.00022
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00186	0.00317	0.00327	0.00178	0.00160	0.00234	0.00130	0.00100	0.00090	0.00102	0.00055	0.00061
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0321	0.0361	0.0382	0.0191	0.0217	0.0175	0.0526	0.0468	0.0393	0.0378	0.0383	0.0408
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000061	0.000098	0.000104	0.000025	-	-	0.000674	0.000535	0.000373	0.000381	0.000554	0.000567
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000100	-	< 0.0001	-	0.000090	0.000061	< 0.000050	-	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	0.072	0.089	0.076	0.056	0.072	0.077	0.014	0.010	0.011	0.010	< 0.01	< 0.01
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.0000223	0.0000511	0.0000952	0.0000572	0.0000726	0.0000223	0.0000203	0.0000471	0.0000444	0.0000204	0.0000206	0.0000384
Calcium, total	mg/L	-	-	0.05 - 1	93.3	149	133	54.1	60.0	58.6	29.9	26.6	28.1	29.2	29.7	30.1
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000157	0.000261	0.000158	0.000031	0.000050	0.000012	0.000190	0.000106	0.000048	0.000018	0.000016	0.000016
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.00370	0.00802	0.00588	0.00100	0.00153	0.00063	0.00227	0.00309	0.00151	0.00140	0.00130	0.00140
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00143	0.00249	0.00212	0.00046	0.00059	0.00032	0.00078	0.00090	0.00048	0.00038	0.00018	0.00016
Copper, total	mg/L	2	-	0.0005 - 0.01	0.00566	0.00604	0.00638	0.00161	0.00247	0.00083	0.00984	0.00546	0.00240	0.00080	0.00060	0.00088
Iron, total	mg/L	-	-	0.01 - 0.2	2.24	4.44	3.44	0.583	0.800	0.602	1.96	1.79	0.894	0.860	0.986	0.985
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.00124	0.00237	0.00212	0.000321	0.000491	0.000159	0.00251	0.000842	0.000314	0.000161	0.000099	0.000144
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0037	0.0060	0.0050	0.0015	< 0.002	0.0018	0.0185	0.0195	0.0178	0.0151	0.0147	0.0156
Magnesium, total	mg/L	-	-	0.005 - 0.1	19.6	31.6	31.9	11.2	12.4	11.6	7.80	7.67	7.21	7.32	7.59	7.55
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.328**	**0.463**	**0.420**	**0.290**	**0.331**	**0.314**	**0.478**	**0.492**	**0.465**	**0.644**	**0.535**	**0.525**
Mercury, total	mg/L	0.001	0.001	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000044	0.000071	0.000071	0.000045	0.000064	0.000023	< 0.000020	< 0.000020	0.000021	0.000026	0.000113	0.000028
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.00546	0.00592	0.00756	0.00761	0.00716	0.00533	0.00504	0.00349	0.00478	0.00436	0.00196	0.00130
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.00378	0.00618	0.00586	0.00245	0.00308	0.00140	0.00244	0.00557	0.00258	0.00240	0.00284	0.00164
Phosphorus, total	mg/L	-	-	0.002 - 1	0.119|0.144	0.107|0.847	0.0596|0.597	0.0344|< 0.05	0.0347|< 0.1	0.0221|< 0.05	0.0349|0.060	0.0508|0.076	0.0188|< 0.050	0.0138|< 0.05	0.0482|< 0.05	0.0070|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	2.78	3.48	3.24	2.65	2.93	2.72	2.59	2.38	2.71	2.20	1.66	1.85
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00414	0.00687	0.00430	0.00160	0.00190	0.00122	0.00461	0.00428	0.00450	0.00311	0.00238	0.00290
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	< 0.000100	0.000073	< 0.000100	0.000088	0.000134	0.000068	0.000257	0.000167	0.000221	0.000071	-	-
Silicon, total	mg/L	-	-	0.1 - 2	8.47	11.0	10.2	7.01	7.92	6.54	18.6	17.3	15.3	15.4	16.4	15.8
Silver, total	mg/L	-	-	0.00001 - 0.0002	0.000102	0.000057	0.000234	0.000060	0.000033	0.000019	0.000522	0.00191	0.000218	0.000074	0.000035	0.000023
Sodium, total	mg/L	-	-	0.05 - 1	5.27	10.2	19.4	24.0	18.7	11.3	9.11	5.88	6.51	5.96	2.84	2.36
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.0785	0.119	0.107	0.0542	0.0576	0.0532	0.195	0.185	0.189	0.183	0.160	0.149
Sulfur, total	mg/L	-	-	0.5 - 10	< 1.00	< 0.50	< 1.00	0.60	< 1	< 0.5	1.10	0.64	0.88	1.00	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.00040	< 0.0002	< 0.0004	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	0.000034	0.000087	0.000034	-	-	-	0.000014	0.000019	< 0.000010	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00061	0.00084	0.00105	0.00018	0.00089	0.00010	0.00127	0.00099	0.00045	0.00037	0.00038	0.00034
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00150	0.00023	0.00146	0.00278	0.00155	0.00080	0.00049	0.00082	0.00224	0.00345	0.00137	0.00081
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.122	0.261	0.266	0.0240	0.0374	0.0143	0.0280	0.0414	0.0142	0.00668	0.00535	0.00431
Tungsten, total	mg/L	-	-	0.0001 - 0.002	0.0198	0.0184	0.0197	0.0174	0.0167	0.0150	0.0359	0.0247	0.0277	0.0108	0.00291	0.00237
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.00213	0.00197	0.00229	0.00149	0.00158	0.00123	0.00457	0.00249	0.00337	0.00189	0.00143	0.00185
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.00457	0.00890	0.00778	0.00178	0.00232	0.00152	0.00717	0.00703	0.00511	0.00585	0.00613	0.00634
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0065	0.0128	0.0108	0.0048	0.0094	< 0.003	0.0053	0.0064	0.0032	< 0.003	< 0.003	0.0043
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00140	0.00195	0.00187	0.00173	0.00188	0.00167	0.00101	0.00180	0.00214	0.00282	0.00306	0.00328
Volatile Organic Compounds																
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																
SUM OF BTEX	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/04/23	8/09/23	9/24/23	6/05/24	8/13/24	10/01/24	7/03/23	8/10/23	9/21/23	6/04/24	8/11/24	10/02/24
					MW22-18-2	MW22-18-2	MW22-18-2	MW22-18-2	MW22-18-2	MW22-18-2	MW22-19-1	MW22-19-1	MW22-19-1	MW22-19-1	MW22-19-1	MW22-19-1
Anions and Nutrients																
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0185	0.0181	0.0253	0.0146	0.0279	0.516	< 0.0050	0.0168	0.0243	0.0553	0.0168	0.0236
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	0.18	0.12	0.29	0.34	0.20	0.24	0.48	0.75	0.21	0.31	0.24	0.38
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.027	< 0.020	0.033	< 0.02	< 0.02	0.038	< 0.020	0.030	0.031	< 0.02	< 0.02	0.039
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	< 0.020	0.039	0.581	0.101	< 0.02	0.156	0.112	0.068	0.210	0.194	0.189	0.209
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.169|0.325	0.808|1.74	0.0140|< 0.050	0.0329|< 0.1	0.0168|< 0.05	0.0080|< 0.05	0.0584|0.116	0.543|1.47	0.647|2.54	0.0533|< 0.1	0.0952|< 0.05	0.0291|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	0.98	1.48	3.63	1.75	1.05	1.10	9.34	14.0	4.69	6.71	6.85	3.93
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	14.2	12.5	13.2	19.8	31.2	17.9	3.42	2.62	3.22	2.50	3.16	2.52
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 3.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	48	68	31	60	78	50	< 10	37	11	15	< 10	14
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.429	0.206	0.403	0.674	1.04	0.600	0.182	0.0018	0.0021	0.0017	0.0221	0.0022
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00030	0.00037	0.00013	0.00038	0.00013	0.00014
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00059	0.00066	0.00046	0.00066	0.00093	0.00059	0.00059	0.00039	0.00029	0.00016	0.00020	0.00021
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0124	0.0262	0.0205	0.0104	0.0140	0.0136	0.0159	0.0163	0.0136	0.0141	0.0160	0.0149
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	0.000069	0.000164	0.000070	0.000073	0.000114	0.000090	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	0.0000318	0.0000345	0.0000341	0.0000246	0.0000290	0.0000283	0.0000151	0.0000082	0.0000140	0.0000151	0.0000096	0.0000219
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	8.59	18.2	11.7	5.49	6.56	8.66	90.0	83.6	92.0	81.7	91.6	89.3
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	0.000067	0.000067	0.000154	0.000074	0.000129	0.000137	0.000033	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	0.00131	0.00113	0.00116	0.00109	0.00171	0.00160	0.00078	< 0.00050	0.00072	0.00066	0.00081	0.00091
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	0.00055	0.00067	0.00080	0.00081
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00177	0.00156	0.00274	0.00209	0.00089	0.00106	0.00147	0.00204	0.00044	0.00015	0.00015	0.00010
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.0126	0.0190	0.0202	0.0169	0.0168	0.0118	0.00344	0.00143	0.00200	0.00081	0.00126	0.00105
Iron, dissolved	mg/L		-	0.01 - 0.05	0.339	0.318	0.287	0.482	0.741	0.446	0.281	0.014	< 0.010	< 0.01	0.027	< 0.01
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	0.000173	< 0.000050	0.000054	-	0.000088	-	0.000354	< 0.000050	< 0.000050	-	0.000071	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0025	0.0057	0.0042	0.0024	0.0033	0.0028	0.0113	0.0092	0.0164	0.0023	0.0021	0.0024
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	1.93	2.64	2.16	1.29	1.38	1.66	16.8	15.8	17.9	14.4	16.5	17.1
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0698	**0.308**	0.104	0.0136	0.0206	0.0402	0.0916	0.0851	0.0393	0.00303	0.00360	0.00222
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	0.0000087	-	< 5e-005	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	0.000029	0.000135	< 0.000020	-	0.000031	0.000062	0.000020	0.000110	0.000020	0.000045	0.000054	0.000048
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00155	0.00937	0.00485	0.00102	0.000773	0.00126	0.00516	0.00308	0.00124	0.00108	0.00110	0.000422
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00492	0.00369	0.0106	0.00516	0.00566	0.00624	0.00179	0.00245	0.00116	0.00095	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.81	3.23	3.08	1.20	1.29	1.43	1.12	1.07	1.05	0.762	0.791	0.928
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00696	0.0112	0.0108	0.00494	0.00652	0.00691	0.00258	0.00264	0.00199	0.00135	0.00164	0.00150
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000077	0.000086	0.000059	0.000090	0.000158	0.000100	0.000859	0.00109	0.000439	0.000575	0.000772	0.000342
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	5.80	6.80	6.69	4.55	5.97	6.84	4.73	5.08	6.16	5.06	5.61	6.17
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	0.000129	0.000030	0.000138	0.000106	0.000065	0.000060	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	1.62	2.40	2.68	0.892	1.06	1.24	13.6	10.7	5.58	16.8	14.7	6.47
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0411	0.0980	0.0739	0.0292	0.0319	0.0379	0.0956	0.0848	0.0920	0.0746	0.0795	0.0776
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.50	0.82	0.61	< 0.5	< 0.5	3.38	4.08	2.32	2.74	2.17	1.48
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	0.000020	0.000023	0.000019	0.000018	0.000015	0.000012	< 0.000010	0.000016	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00058	0.00056	0.00050	0.00042	0.00059	0.00064	0.00012	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00047	< 0.00010	< 0.00010	0.00010	0.00013	< 0.0001	0.00021	< 0.00010	0.00015	0.00067	0.00053	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00265	0.00180	0.00372	0.00517	0.00889	0.00426	0.00942	< 0.00030	< 0.00030	< 0.0003	0.00088	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0326	0.0110	0.0763	0.0204	0.00921	0.0107	0.0898	0.0576	0.0306	0.00490	0.00411	0.00579
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000577	0.00102	0.000758	0.000630	0.000893	0.000681	**0.0408**	**0.0468**	0.0129	0.00216	0.00129	0.00137
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00055	0.00114	0.00060	0.00050	0.00068	0.00062	0.00111	0.00073	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0043	0.0028	0.0051	0.0041	0.0029	0.0022	0.0055	0.0016	0.0021	0.0034	0.0023	0.0019
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	0.00063	0.00086	0.00066	0.00052	0.00073	0.00072	0.00068	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																
Conductivity	uS/cm	-	-	2.0	71.9	115	112	50.2	42.8	63.1	498	517	502	508	536	492
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	38.1	60.2	50.1	22.4	16.3	29.9	295	334	292	283	305	302
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	29.4	56.3	38.1	19.0	22.1	28.4	294	274	303	263	297	293
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	72	103	91	75	81	66	388	390	319	304	324	283
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	336	758	< 3.0	13.7	< 3	3.0	1020	3260	444	65.3	16.8	23.4
pH	pH units	-	-	0.10	7.28	6.79	6.87	6.97	6.66	6.69	8.11	7.94	7.94	7.95	7.89	7.97
Polycyclic Aromatic Hydrocarbon																
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	-	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	-	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.235	0.113	-	0.047	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.071	0.039	-	0.015	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.164	0.074	-	0.032	< 0.01	< 0.01
Naphthalene	ug/L	-	-	0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	0.565	0.214	-	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	-	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	0.013	-	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Radiological Parameters																
Gross alpha	Bq/l	-	-	0.1	0.24	0.56	0.31	-	-	-	1.30	0.90	-	-	-	-
Gross beta	Bq/l	-	-	0.1	0.14	0.51	0.26	-	-	-	0.40	0.32	-	-	-	-
Total Metals																
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	**4.42**	**11.8**	0.543	1.02	1.13	0.757	2.13	**19.0**	**5.02**	0.552	0.101	0.252
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	< 0.00020	< 0.00020	< 0.00010	0.00021	0.00013	0.00013	0.00038	< 0.00050	0.00027	0.00114	0.00013	0.00061
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00220	0.00419	0.00057	0.00075	0.00096	0.00070	0.00106	0.00624	0.00333	0.00030	0.00022	0.00026
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0632	0.153	0.0252	0.0169	0.0144	0.0149	0.0294	0.141	0.0472	0.0198	0.0156	0.0188
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000424	0.000985	0.000082	0.000104	0.000121	0.000099	0.000097	0.00106	0.000274	0.000061	-	0.000024
Bismuth, total	mg/L	-	-	0.00005 - 0.001	0.000110	0.000200	< 0.000050	< 0.0001	-	-	< 0.000100	< 0.000250	< 0.000100	< 0.0001	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	< 0.020	< 0.020	0.010	< 0.02	< 0.01	< 0.01	< 0.020	< 0.050	0.024	< 0.02	< 0.01	< 0.01
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.000107	0.000205	0.0000466	0.0000306	0.0000294	0.0000343	0.0000356	0.000320	0.000177	0.0000363	0.0000098	0.0000394
Calcium, total	mg/L	-	-	0.05 - 1	12.2	21.4	13.3	7.22	6.63	8.20	108	550	417	90.4	81.2	91.3
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000998	0.00188	0.000206	0.000159	0.000136	0.000152	0.000228	0.00198	0.000353	0.000067	0.000012	0.000035
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.00691	0.0171	0.00136	0.00177	0.00200	0.00192	0.00517	**0.0502**	0.0157	0.00168	0.00100	0.00146
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	0.00073	0.00060	0.00066	0.00071
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00521	0.0102	0.00282	0.00156	0.00091	0.00108	0.00306	0.0180	0.00756	0.00074	0.00026	0.00041
Copper, total	mg/L	2	-	0.0005 - 0.01	0.0396	0.0857	0.0228	0.0203	0.0168	0.0127	0.00842	0.0679	0.0218	0.00360	0.00153	0.00215
Iron, total	mg/L	-	-	0.01 - 0.2	5.30	14.1	0.445	0.858	0.844	0.575	2.65	27.4	9.18	0.585	0.123	0.299
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.00405	**0.00815**	0.000153	0.000270	0.000160	0.000101	0.00138	**0.0156**	**0.00536**	0.000679	0.000088	0.000259
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0121	0.0296	0.0046	0.0030	0.0035	0.0034	0.0152	0.0347	0.0130	0.0026	0.0025	0.0026
Magnesium, total	mg/L	-	-	0.005 - 0.1	4.23	9.15	2.36	1.65	1.50	1.66	23.4	126	92.6	17.2	16.3	17.3
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.163**	**0.485**	0.119	0.0219	0.0258	0.0418	**0.154**	**0.945**	**0.561**	0.0210	0.00754	0.0153
Mercury, total	mg/L	0.001	0.001	0.0000050	0.0000065	< 0.0000050	< 0.0000050	0.0000079	0.0000090	0.0000074	< 0.0000050	0.0000121	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000037	< 0.000020	< 0.000020	-	-	< 0.0002	< 0.000020	0.000027	< 0.000020	0.000031	-	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.00209	0.00503	0.00549	0.00136	0.000824	0.00113	0.00578	0.00239	0.00119	0.00118	0.00117	0.000914
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.00976	0.0161	0.0116	0.00650	0.00590	0.00631	0.00464	0.0339	0.0118	0.00187	0.00051	0.00094
Phosphorus, total	mg/L	-	-	0.002 - 1	0.169|0.325	0.808|1.74	0.0140|< 0.050	0.0329|< 0.1	0.0168|< 0.05	0.0080|< 0.05	0.0584|0.116	0.543|1.47	0.647|2.54	0.0533|< 0.1	0.0952|< 0.05	0.0291|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	3.21	6.42	3.24	1.44	1.32	1.41	1.90	5.07	1.95	0.929	0.807	0.983
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.0166	0.0314	0.0115	0.00584	0.00647	0.00732	0.00609	0.0311	0.00755	0.00229	0.00179	0.00205
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	< 0.000100	0.000101	0.000092	0.000111	0.000143	0.000114	0.000770	0.00123	0.000312	0.000518	0.000524	0.000352
Silicon, total	mg/L	-	-	0.1 - 2	14.1	27.7	7.17	5.43	6.10	6.79	8.92	40.5	15.0	6.14	5.70	5.91
Silver, total	mg/L	-	-	0.00001 - 0.0002	0.00955	0.0213	0.000604	0.000922	0.000223	0.000330	< 0.000020	0.000127	0.000036	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	2.40	4.97	2.42	1.02	1.11	1.32	14.1	15.2	3.92	16.6	15.0	14.2
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.107	0.258	0.0792	0.0384	0.0340	0.0375	0.104	0.374	0.295	0.0823	0.0737	0.0766
Sulfur, total	mg/L	-	-	0.5 - 10	< 1.00	< 1.00	1.16	< 1	< 0.5	< 0.5	3.86	3.69	2.16	2.34	2.79	2.02
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00040	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.00040	< 0.00100	< 0.00040	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	0.000073	0.000122	0.000026	0.000025	0.000015	0.000017	< 0.000020	0.000292	0.000098	-	-	0.000011
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00381	0.00637	0.00060	0.00057	0.00054	0.00062	0.00087	0.00940	0.00318	0.00033	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00089	0.00096	0.00010	0.00034	0.00015	0.00015	0.00057	0.00304	0.00110	0.00207	0.00036	0.00084
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.163	0.389	0.0101	0.0227	0.0120	0.00857	0.150	1.39	0.659	0.0266	0.00799	0.0171
Tungsten, total	mg/L	-	-	0.0001 - 0.002	0.0580	0.0667	0.0867	0.0265	0.00955	0.0108	0.0955	0.0341	0.0315	0.00777	0.00464	0.00469
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.00159	0.00238	0.000929	0.000800	0.000921	0.000729	**0.0509**	0.0190	0.0111	0.00303	0.00120	0.00101
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.00968	0.0272	0.00092	0.00121	0.00084	0.00091	0.00556	0.0496	0.0183	0.00124	0.00055	0.00091
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0275	0.0530	0.0054	< 0.006	0.0050	< 0.003	0.0147	0.0897	0.0295	0.0149	< 0.003	0.0049
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00079	0.00095	0.00069	0.00048	0.00062	0.00072	0.00098	0.00364	0.00240	< 0.0004	0.00022	0.00048
Volatile Organic Compounds																
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	1.36	0.83	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	4.61	1.99	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	6.14	4.28	0.99	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	2.84	1.83	0.65	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	8.98	6.11	1.64	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																
SUM OF BTEX	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	15.0	8.9	1.6	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/03/23	6/04/24	8/11/24	7/03/23	7/03/23	8/10/23	9/21/23	9/21/23	6/04/24	8/15/24	8/15/24	10/02/24	10/02/24
					MW22-19-2	MW22-19-2	MW22-19-2	MW22-20-1	MF-C (MW22-20-1)	MW22-20-1	MW22-20-1	DUP 2 (MW22-20-1)	MW22-20-1	MW22-20-1	MWBD4 (MW22-20-1)	MW22-20-1	MW DUP-04 (MW22-20-1)
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	-	-	0.0250	0.227	0.246	0.251	0.257	0.266	0.365	0.343	0.296	0.357	0.476
Bromide	mg/L	-	-	0.10 - 0.20	-	-	< 0.1	< 0.10	< 0.10	0.13	< 0.20	< 0.20	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	-	-	0.25	4.04	4.09	4.14	5.02	5.06	3.14	3.27	3.21	3.16	3.24
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	-	-	< 0.02	0.116	0.128	0.115	0.150	0.150	0.154	0.078	0.078	0.127	0.128
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	-	-	0.118	0.020	< 0.020	< 0.020	< 0.040	< 0.040	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.020	< 0.020	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.210	-	0.832|0.275	0.174|0.127	0.110|0.131	0.131|0.128	0.134|0.129	0.137|0.128	0.126|0.169	0.118|0.129	0.116|0.146	0.128|0.159	0.129|0.148
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	-	-	0.86	15.8	16.4	14.2	10.4	10.3	0.31	< 0.3	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	-	4.68	4.65	4.65	5.09	5.02	10.2	9.56	2.51	3.25	3.60	2.97	3.50
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2	< 2	< 2.0	< 2.0	< 2.0	11.3	12.7	< 2	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	-	-	65	21	11	23	30	28	15	11	15	13	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	0.105	0.110	0.103	0.122	0.142	0.120	0.147	0.147
Dissolved Metals																	
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0036	0.0258	0.0043	0.0014	0.0011	0.0141	0.0024	0.0022	0.0018	0.0252	< 0.001	0.0012	0.0021
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	0.00020	0.00012	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00024	0.00018	0.00026	0.00123	0.00171	0.00088	0.00042	0.00041	0.00036	0.00021	0.00020	0.00020	0.00023
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.00988	0.00752	0.0104	0.0307	0.0317	0.0344	0.0389	0.0383	0.0471	0.0416	0.0394	0.0412	0.0461
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.086	0.014	0.022	0.043	0.036	0.038	0.034	0.033	0.034	0.040	0.040	0.039	0.040
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	0.000151	0.0000172	0.0000149	0.0000065	0.0000075	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000108	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	78.8	69.0	78.9	75.0	74.1	71.7	79.9	79.8	78.8	79.9	78.9	80.9	81.9
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	-	-	0.000016	0.000020	0.000010	< 0.000010	< 0.000010	-	0.000016	0.000011	0.000012	0.000012
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	0.00068	0.00086	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	0.00052	0.00103	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00020	0.00012	< 0.0001	0.00093	0.00088	0.00059	0.00027	0.00027	0.00017	0.00010	< 0.0001	< 0.0001	0.00013
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	0.00159	0.00237	0.00286	0.00136	0.00029	< 0.00020	< 0.00020	< 0.00020	0.00063	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	< 0.010	0.066	0.012	1.27	1.01	3.84	4.17	4.27	4.54	3.82	3.81	3.70	3.67
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.001	< 0.001	0.0124	0.0119	0.0118	0.0127	0.0125	0.0094	0.0093	0.0094	0.0088	0.0086
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	14.7	12.6	15.7	17.4	17.0	17.0	18.3	18.0	18.7	20.1	20.4	19.8	19.6
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	0.0853	0.00270	0.00068	**0.171**	**0.162**	**0.242**	**0.388**	**0.383**	**0.306**	**0.185**	**0.180**	**0.161**	**0.173**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	-	0.000026	0.000062	0.000040	< 0.000020	0.000048	-	< 0.000020	-	0.000028	0.000026	-	0.000026
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.00519	0.000768	0.00123	0.00442	0.00413	0.00531	0.00375	0.00384	0.000994	0.000666	0.000690	0.000622	0.000691
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00182	0.00063	0.00060	0.00139	0.00128	0.00314	0.00055	0.00055	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	0.105	0.110	0.103	0.122	0.142	0.120	0.147	0.147
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.48	1.13	1.45	3.64	3.52	3.34	3.22	3.14	3.40	3.25	3.16	3.48	3.46
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00106	0.00061	0.00063	0.00314	0.00313	0.00265	0.00234	0.00240	0.00254	0.00246	0.00240	0.00238	0.00234
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	0.000108	0.000108	0.000178	< 0.000050	< 0.000050	< 0.000050	0.000061	0.000066	0.000122	0.000153	0.000068	0.000066	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	3.75	3.60	4.70	8.47	8.22	9.26	9.55	9.43	9.02	9.21	9.15	9.24	9.36
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	2.47	1.44	1.63	39.5	38.4	34.4	38.0	39.5	18.4	18.4	18.7	18.2	19.0
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.0730	0.0568	0.0670	0.314	0.303	0.322	0.427	0.440	0.457	0.439	0.430	0.469	0.514
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.5	< 0.5	8.72	7.91	5.76	2.73	2.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00041	0.00037	0.00036	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	0.00132	< 0.0003	< 0.00030	< 0.00030	0.00052	< 0.00030	< 0.00030	< 0.0003	0.00153	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00013	< 0.0001	< 0.0001	0.0282	0.0279	0.0178	0.00804	0.00804	0.00307	0.00136	0.00139	0.00123	0.00140
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000241	0.000207	0.000224	0.00299	0.00301	0.00211	0.00124	0.00125	0.000447	0.000312	0.000287	0.000396	0.000434
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0049	0.0047	0.0026	0.0038	0.0025	0.0322	< 0.0010	< 0.0010	0.0035	0.0015	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	0.00037	0.00040	0.00035	0.00072	0.00075	0.00175	0.00192	0.00194	0.00153	0.00191	0.00189	0.00184	0.00182
Physical Tests																	
Conductivity	uS/cm	-	-	2.0	466	-	473	592	587	619	655	656	570	574	576	540	543
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	279	-	294	326	333	333	357	354	319	339	345	336	326
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	257	224	262	259	255	249	275	273	274	282	281	284	285
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	315	-	282	365	366	369	381	381	312	310	336	332	310
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	274	-	142	78.1	74.5	62.9	16.4	7.4	18.9	11.1	10.1	6.5	10.6
pH	pH units	-	-	0.10	8.30	-	8.01	8.15	8.14	8.01	7.90	8.21	8.19	7.68	7.66	8.13	8.08
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	-	0.01 - 0.094	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	-	-	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	-	-	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	-	-	0.052	0.192	0.142	< 0.015	< 0.015	< 0.015	< 0.015	0.019	0.018	< 0.015	0.037
Methylnaphthalene, 1-	ug/L	-	-	0.010	-	-	0.017	0.059	0.044	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	0.013
Methylnaphthalene, 2-	ug/L	-	-	0.010	-	-	0.035	0.133	0.098	< 0.010	0.013	0.012	< 0.01	0.019	0.018	0.014	0.024
Naphthalene	ug/L	-	-	0.050	-	-	0.109	0.510	0.362	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	-	-	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	0.1	-	-	-	< 0.1	< 0.1	0.17	< 0.1	< 0.1	-	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	-	-	0.13	0.11	0.23	0.31	< 0.1	-	-	-	-	-
Total Metals																	
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	**4.76**	-	**5.95**	1.71	1.29	0.418	0.357	0.354	0.220	< 0.003	0.0555	0.0519	0.0265
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	0.00023	-	< 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00014	0.00017	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00222	-	0.00251	0.00201	0.00339	0.00120	0.00058	0.00062	0.00048	0.00022	0.00024	0.00022	0.00021
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.0426	-	0.0480	0.0441	0.0404	0.0373	0.0470	0.0488	0.0511	0.0418	0.0429	0.0405	0.0392
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000216	-	0.000256	0.000107	0.000098	0.000034	< 0.000020	0.000022	0.000020	-	-	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	0.000110	-	< 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Boron, total	mg/L	5	5	0.01 - 0.2	0.143	-	< 0.05	0.046	0.046	0.042	0.038	0.038	0.038	0.036	0.035	0.043	0.045
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.000123	-	0.0000829	0.0000621	0.0000488	0.0000130	0.0000115	0.0000136	0.0000212	-	-	-	-
Calcium, total	mg/L	-	-	0.05 - 1	114	-	154	81.2	79.4	87.6	72.8	73.0	80.3	86.7	88.6	84.8	85.0
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000472	-	0.000570	0.000295	0.000232	0.000081	0.000061	0.000068	0.000045	0.000012	0.000020	0.000018	0.000014
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	0.00993	-	0.0141	0.00596	0.00410	0.00186	0.00182	0.00195	0.00132	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	-	0.00090	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.00377	-	0.00481	0.00216	0.00170	0.00087	0.00064	0.00072	0.00034	< 0.0001	0.00013	0.00012	< 0.0001
Copper, total	mg/L	2	-	0.0005 - 0.01	0.0115	-	0.0151	0.0109	0.00668	0.00171	0.00159	0.00160	0.00118	0.00114	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	6.09	-	8.45	4.63	4.32	4.40	4.59	4.56	5.07	4.07	4.17	4.23	3.87
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	0.00324	-	0.00459	0.00119	0.000945	0.000330	0.000261	0.000275	0.000172	-	-	-	-
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0077	-	0.0075	0.0157	0.0145	0.0113	0.0137	0.0133	0.0088	0.0090	0.0096	0.0099	0.0097
Magnesium, total	mg/L	-	-	0.005 - 0.1	24.8	-	33.3	19.8	20.2	18.3	15.5	15.4	20.2	20.6	20.9	20.6	20.7
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.241**	-	**0.252**	**0.212**	**0.203**	**0.258**	**0.531**	**0.508**	**0.326**	**0.180**	**0.186**	**0.179**	**0.166**
Mercury, total	mg/L	0.001	0.001	0.0000050	-	-	0.0000249	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	-	< 0.0004	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000022	-	0.000020	0.000024	-
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.00685	-	0.00176	0.00450	0.00387	0.00580	0.00564	0.00556	0.00112	0.000709	0.000629	0.000829	0.000594
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.00937	-	0.0103	0.00577	0.00440	0.00455	0.00201	0.00246	0.00189	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, total	mg/L	-	-	0.002 - 1	0.210	-	0.832|0.275	0.174|0.127	0.110|0.131	0.131|0.128	0.134|0.129	0.137|0.128	0.126|0.169	0.118|0.129	0.116|0.146	0.128|0.159	0.129|0.148
Potassium, total	mg/L	-	-	0.05 - 1	2.74	-	2.83	4.26	4.09	3.53	3.33	3.27	3.46	3.18	3.27	3.53	3.52
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00830	-	0.00925	0.00718	0.00624	0.00357	0.00303	0.00319	0.00308	0.00256	0.00249	0.00284	0.00271
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	0.000172	-	< 0.00025	0.000054	0.000052	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	13.4	-	16.0	12.4	11.8	10.3	9.91	10.2	9.78	9.13	9.51	9.10	9.08
Silver, total	mg/L	-	-	0.00001 - 0.0002	0.000021	-	-	0.000462	0.000244	0.000077	0.000071	0.000081	0.000049	-	-	0.000011	-
Sodium, total	mg/L	-	-	0.05 - 1	3.44	-	2.09	41.3	36.8	35.6	47.6	44.3	19.0	21.3	21.3	17.2	17.1
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.102	-	0.122	0.311	0.304	0.328	0.464	0.492	0.477	0.453	0.467	0.406	0.410
Sulfur, total	mg/L	-	-	0.5 - 10	< 1.00	-	< 2.5	9.45	7.63	5.75	4.21	3.98	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	-	< 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	0.000066	-	0.000102	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00134	-	0.00216	0.00086	0.00075	0.00031	0.00018	0.00018	0.00014	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00158	-	0.00170	0.00041	0.00038	0.00014	0.00027	0.00036	0.00068	0.00014	< 0.0001	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.279	-	0.371	0.0923	0.0648	0.0214	0.0210	0.0228	0.0132	< 0.0003	0.00418	0.00313	0.00153
Tungsten, total	mg/L	-	-	0.0001 - 0.002	< 0.00020	-	< 0.0005	0.0331	0.0244	0.0225	0.0147	0.0146	0.00370	0.00142	0.00144	0.00121	0.00134
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.000442	-	0.000573	0.00358	0.00315	0.00242	0.00250	0.00253	0.000573	0.000313	0.000338	0.000346	0.000356
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.0104	-	0.0133	0.00408	0.00324	0.00104	0.00100	0.00101	0.00061	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0245	-	0.0326	0.0170	0.0131	0.0436	0.0083	0.0104	0.0093	< 0.003	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00316	-	0.00307	0.00119	0.00118	0.00107	0.00192	0.00176	0.00145	0.00199	0.00205	0.00194	0.00182
Volatile Organic Compounds																	
Acetone	ug/L	-	-	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	-	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	-	-	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	-	-	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	-	-	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	-	-	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	-	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	-	-	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	-	-	< 0.5	0.64	0.57	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	-	< 0.4	1.54	1.42	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	-	-	< 0.3	0.69	0.62	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	-	-	< 0.5	2.23	2.04	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	-	-	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	1.0	-	-	< 1	2.9	2.6	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1

Notes:

CDWQG - HEALTH BASED

Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Parameter	Unit	Guidelines for Canadian Drinking Water Quality Summary Table, Sept 2020	ODWQS(169/03)-Health (2018)	Report Result Limits	7/03/23	8/10/23	9/21/23	6/04/24	8/15/24	10/02/24
					MW22-20-2	MW22-20-2	MW22-20-02	MW22-20-2	MW22-20-2	MW22-20-2
Anions and Nutrients										
Ammonia, total (as N)	mg/L	-		0.005 - 0.05	0.0646	0.0453	0.0553	0.105	1.78	0.0883
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	-	0.10 - 0.20	1.05	0.39	< 0.10	0.13	0.34	0.43
Fluoride	mg/L	1.5	1.5	0.020 - 0.040	0.035	< 0.020	0.020	0.037	0.024	0.051
Nitrate (as N)	mg/L	10	10.0	0.020 - 0.040	0.038	0.160	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	1	1.0	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.160|0.552	0.0726|0.066	0.0603|< 0.100	0.0801|< 0.25	0.0452|< 0.5	0.0724|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	10.1	15.0	17.6	11.0	11.7	11.7
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 3.0	< 2.0	< 2.0	2.2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	57	67	58	56	34	34
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals										
Aluminum, dissolved	mg/L	2.9	-	0.001 - 0.005	0.0064	0.0123	0.0161	0.0094	0.0042	0.0072
Antimony, dissolved	mg/L	0.006	0.006	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.01	0.01	0.0001 - 0.0005	0.00182	0.00123	0.00103	0.00118	0.00205	0.00148
Barium, dissolved	mg/L	2	1	0.0001 - 0.0005	0.0598	0.0322	0.0271	0.0321	0.0405	0.0350
Beryllium, dissolved	mg/L	-	-	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	5	5	0.01 - 0.05	0.014	< 0.010	< 0.010	< 0.01	0.017	0.012
Cadmium, dissolved	mg/L	0.007	0.005	0.000005 - 0.000025	< 0.0000050	0.0000051	0.0000054	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	122	101	96.5	117	116	112
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	0.05	0.05	0.0005 - 0.0025	< 0.00050	0.00059	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00020	0.00033	0.00022	0.00023	0.00027	0.00024
Copper, dissolved	mg/L	2	-	0.0002 - 0.001	< 0.00020	< 0.00020	0.00060	0.00072	< 0.0002	< 0.0002
Iron, dissolved	mg/L		-	0.01 - 0.05	1.02	1.88	1.87	2.56	3.28	2.79
Lead, dissolved	mg/L	0.005	0.01	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0036	0.0028	0.0016	0.0028	0.0040	0.0032
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	11.6	10.2	10.3	10.7	12.2	11.4
Manganese, dissolved	mg/L	0.12	-	0.0001 - 0.0005	**0.140**	**0.121**	0.110	**0.129**	**0.155**	**0.123**
Mercury, dissolved	mg/L	0.001	0.001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000500	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	-	0.000020 - 0.000080	< 0.000020	0.000040	0.000024	-	0.000027	-
Molybdenum, dissolved	mg/L	-	-	0.00005 - 0.00025	0.000682	0.00109	0.000344	0.000331	0.000568	0.000291
Nickel, dissolved	mg/L	-	-	0.0005 - 0.0025	0.00051	0.00510	0.00097	0.00085	0.00093	0.00069
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.503	0.289	0.234	0.328	0.533	0.434
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00157	0.00053	0.00046	0.00051	0.00089	0.00064
Selenium, dissolved	mg/L	0.05	0.05	0.00005 - 0.00025	< 0.000050	0.000072	0.000059	-	0.000072	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	8.02	7.35	6.30	8.98	11.1	10.2
Silver, dissolved	mg/L	-	-	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	-	0.05 - 0.25	5.32	3.66	3.21	4.32	5.40	4.98
Strontium, dissolved	mg/L	7	-	0.0002 - 0.001	0.188	0.146	0.132	0.162	0.178	0.167
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.66	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00015	0.00015	< 0.0001	0.00012	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	0.00031	0.00032	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.02	0.02	0.00001 - 0.00005	0.000348	0.000079	0.000045	0.000045	0.000042	0.000035
Vanadium, dissolved	mg/L	-	-	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	-	-	0.001 - 0.005	0.0028	0.0194	0.0084	0.0020	0.0026	< 0.001
Zirconium, dissolved	mg/L	-	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests										
Conductivity	uS/cm	-	-	2.0	627	591	521	567	594	564
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	375	330	314	334	342	354
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	352	294	283	336	340	327
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	505	356	305	358	359	379
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	1360	46.9	60.0	75.3	36.5	9.3
pH	pH units	-	-	0.10	7.74	7.59	8.13	7.89	7.20	7.78
Polycyclic Aromatic Hydrocarbon										
Acenaphthene	ug/L	-	-	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.04	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	-	-	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	-	0.015	0.169	< 0.015	0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	-	-	0.010	0.054	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	-	-	0.010	0.115	0.014	0.015	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	-	-	0.050	0.417	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	-	-	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	-	-	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters										
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals										
Aluminum, total	mg/L	2.9	-	0.003 - 0.06	**19.9**	0.944	1.17	1.85	**8.50**	0.287
Antimony, total	mg/L	0.006	0.006	0.0001 - 0.002	< 0.00050	0.00029	< 0.00020	< 0.0005	< 0.001	0.00013
Arsenic, total	mg/L	0.01	0.01	0.0001 - 0.002	0.00655	0.00168	0.00132	0.00138	0.00377	0.00160
Barium, total	mg/L	2.0	1	0.0001 - 0.002	0.205	0.0436	0.0401	0.0457	0.106	0.0387
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000896	0.000035	0.000043	< 0.0001	0.000277	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000250	< 0.000050	< 0.000100	< 0.00025	< 0.0005	-
Boron, total	mg/L	5	5	0.01 - 0.2	0.067	< 0.010	< 0.020	< 0.05	< 0.1	0.015
Cadmium, total	mg/L	0.007	0.005	0.000005 - 0.0001	0.000205	0.0000571	0.0000439	0.0000300	0.000142	-
Calcium, total	mg/L	-	-	0.05 - 1	207	119	101	119	164	119
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.00210	0.000120	0.000155	0.000215	0.00102	0.000035
Chromium, total	mg/L	0.05	0.05	0.0005 - 0.01	**0.0512**	0.00329	0.00312	0.00446	0.0204	0.00095
Chromium, hexavalent [Cr VI], total	mg/L	-	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	-	-	0.0001 - 0.002	0.0134	0.00094	0.00086	0.00119	0.00505	0.00040
Copper, total	mg/L	2	-	0.0005 - 0.01	0.0354	0.00181	0.00194	0.00340	0.0128	< 0.0005
Iron, total	mg/L	-	-	0.01 - 0.2	30.6	3.17	3.39	4.76	14.7	3.20
Lead, total	mg/L	0.005	0.01	0.00005 - 0.001	**0.0135**	0.000564	0.000623	0.00104	0.00483	0.000148
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0384	0.0034	0.0036	0.0056	0.0113	0.0042
Magnesium, total	mg/L	-	-	0.005 - 0.1	36.1	12.1	11.2	13.8	22.7	12.0
Manganese, total	mg/L	0.12	-	0.0001 - 0.002	**0.720**	**0.150**	**0.141**	**0.166**	**0.346**	**0.134**
Mercury, total	mg/L	0.001	0.001	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000021	< 0.000020	< 0.000020	-	0.000108	0.000029
Molybdenum, total	mg/L	-	-	0.00005 - 0.001	0.000719	0.00169	0.000350	0.000384	0.000596	0.000339
Nickel, total	mg/L	-	-	0.0005 - 0.01	0.0349	0.0104	0.00317	0.00370	0.0147	0.00143
Phosphorus, total	mg/L	-	-	0.002 - 1	0.160|0.552	0.0726|0.066	0.0603|< 0.100	0.0801|< 0.25	0.0452|< 0.5	0.0724|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	5.04	0.612	0.516	0.792	2.59	0.550
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.0378	0.00220	0.00242	0.00368	0.0152	0.00116
Selenium, total	mg/L	0.05	0.05	0.00005 - 0.001	0.000252	0.000081	< 0.000100	< 0.00025	< 0.0005	-
Silicon, total	mg/L	-	-	0.1 - 2	41.8	9.68	8.49	11.9	27.2	10.2
Silver, total	mg/L	-	-	0.00001 - 0.0002	0.000093	0.000033	< 0.000020	-	< 0.0001	0.000012
Sodium, total	mg/L	-	-	0.05 - 1	7.48	4.49	2.97	4.24	6.33	5.38
Strontium, total	mg/L	7	-	0.0002 - 0.004	0.274	0.157	0.143	0.168	0.218	0.166
Sulfur, total	mg/L	-	-	0.5 - 10	< 2.50	< 0.50	< 1.00	< 2.5	< 5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00100	< 0.00020	< 0.00040	< 0.001	< 0.002	< 0.0002
Thallium, total	mg/L	-	-	0.00001 - 0.0002	0.000119	< 0.000010	< 0.000020	-	< 0.0001	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00456	0.00017	< 0.00020	< 0.0005	0.00157	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	< 0.00050	0.00051	0.00036	< 0.0005	< 0.001	0.00016
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.847	0.0450	0.0528	0.0900	0.392	0.0136
Tungsten, total	mg/L	-	-	0.0001 - 0.002	< 0.00050	< 0.00010	< 0.00020	< 0.0005	< 0.001	< 0.0001
Uranium, total	mg/L	0.02	0.02	0.00001 - 0.0002	0.00251	0.000335	0.000363	0.000410	0.00147	0.000088
Vanadium, total	mg/L	-	-	0.0005 - 0.01	0.0491	0.00241	0.00283	0.00469	0.0208	0.00084
Zinc, total	mg/L	-	-	0.003 - 0.06	0.0698	0.0383	0.0172	< 0.015	0.0454	< 0.003
Zirconium, total	mg/L	-	-	0.0002 - 0.004	0.00290	0.00056	0.00056	< 0.001	0.00205	0.00039
Volatile Organic Compounds										
Acetone	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	5	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	2	2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	80	80	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	-	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	-	-	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	-	200	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	14	14	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	50	50	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	140	140	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	10	10	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	60	60	0.50	0.73	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	5	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	2	1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	1.60	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	-	-	0.30	0.80	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	90	90	0.50	2.40	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	100	100	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes										
SUM OF BTEX	ug/L	-	-	1.0	3.1	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
CDWQG - HEALTH BASED
Ontario Drinking Water Quality Standards - Health Based Standards (June 2003, revised January 2018).
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/04/23	8/09/23	8/09/23	9/24/23	9/24/23	6/05/24	8/13/24	10/02/24
					MW22-01-1	MW22-01-1	DUP-02 (MW22-01-1)	MW22-01-1	DUP 4 (MW22-01-1)	MW22-01-1	MW22-01-1	MW22-01-1
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0368	0.0350	0.0337	0.0735	0.0670	0.129	0.0832	0.0757
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.29	0.25	0.28	0.28	0.31	0.29	0.27	0.27
Fluoride	mg/L	-	-	0.020 - 0.040	0.086	0.053	0.060	0.090	0.110	0.041	0.051	0.100
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	0.023
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0889|0.346	0.190|0.228	0.216|0.170	0.0398|0.053	0.0450|0.074	0.0483|0.086	0.0229|< 0.05	0.0420|0.052
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	5.38	5.17	5.15	5.45	4.89	4.78	5.30	5.15
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.76	0.97	1.28	1.88	1.49	1.01	3.15	1.24
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	11	10	15	< 10	< 10	< 10	< 10	14
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals												
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	0.0024	0.0016	0.0012	0.0011	< 0.001	0.0011	0.0112
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00030	0.00025	0.00027	0.00029	0.00028	0.00026	0.00026	0.00025
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0258	0.0202	0.0208	0.0230	0.0232	0.0230	0.0217	0.0202
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.016	0.01	0.01	0.013	0.012	0.013	0.012	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	70.5	73.0	71.3	71.4	70.8	66.6	76.6	71.2
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00025	0.00010	0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**0.709**	**0.485**	**0.461**	**0.637**	**0.619**	**0.691**	**0.510**	**0.480**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0044	0.0035	0.0035	0.0039	0.0044	0.0043	0.0038	0.0033
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	17.4	16.5	16.6	17.6	17.8	15.8	17.5	16.9
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0595	0.0406	0.0410	0.0462	0.0453	0.0458	0.0408	0.0395
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000022	< 0.000020	< 0.000020	-	0.000050	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.000442	0.000580	0.000560	0.000471	0.000481	0.000424	0.000528	0.000512
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.11	1.71	1.73	1.90	1.92	1.97	1.94	1.85
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00207	0.00213	0.00200	0.00172	0.00162	0.00161	0.00196	0.00185
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.71	5.46	5.48	5.74	5.88	6.03	5.80	5.52
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	4.46	2.76	2.78	3.54	3.64	3.88	3.25	3.02
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.144	0.0996	0.100	0.114	0.112	0.122	0.104	0.0942
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.44	1.89	2.03	1.51	1.66	1.76	1.75	2.00
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	0.00047
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	0.00021	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00017
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000620	0.00157	0.00166	0.00123	0.00127	0.000955	0.00158	0.00153
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	2.0	435	438	431	470	469	439	447	393
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	288	270	255	254	266	253	258	268
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	248	250	246	251	250	231	263	247
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	240	256	264	251	248	250	254	269
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	178	362	462	37.4	30.4	19.1	4.8	7.5
pH	pH units	6.5 - 8.5	-	0.1	8.08	8.11	8.07	7.97	8.03	8.2	8.18	8.07
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	0.048	0.036	0.017	0.019	0.020	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	0.015	0.012	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	0.033	0.024	0.017	0.019	0.020	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	7	7	0.050	0.168	0.090	0.060	0.086	0.087	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	0.19	0.50	0.25	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	0.80	0.10	< 0.1	0.12	-	-	-
Total Metals												
Aluminum, total	mg/L	-	-	0.003 - 0.06	3.78	2.26	1.68	0.180	0.386	0.137	0.0293	0.133
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	< 0.00020	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00012	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00126	0.00087	0.00073	0.00028	0.00037	0.00037	0.00027	0.00030
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0534	0.0370	0.0316	0.0229	0.0262	0.0260	0.0211	0.0225
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000156	0.000091	0.000063	< 0.000020	< 0.000020	-	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	0.020	0.013	0.012	0.011	0.012	0.013	0.012	0.012
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.0000487	0.0000275	0.0000194	< 0.0000050	< 0.0000050	0.0000091	-	-
Calcium, total	mg/L	-	-	0.05 - 1	161	117	108	70.5	73.2	71.6	68.6	76.5
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000349	0.000159	0.000120	0.000016	0.000035	0.000013	-	0.000011
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.00801	0.00458	0.00353	< 0.00050	0.00083	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	**0.00251**	**0.00135**	**0.00099**	0.00017	0.00027	0.00011	< 0.0001	0.00012
Copper, total	mg/L	0.005	-	0.0005 - 0.01	**0.00772**	0.00372	0.00297	< 0.00050	0.00057	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	**5.39**	**3.31**	**2.54**	**0.787**	**1.07**	**1.59**	**0.547**	**0.659**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.00285	0.00153	0.00111	0.000131	0.000271	0.000135	-	0.000085
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0089	0.0067	0.0054	0.0041	0.0046	0.0039	0.0036	0.0043
Magnesium, total	mg/L	-	-	0.005 - 0.1	34.9	31.6	27.6	16.5	17.4	17.4	16.8	17.2
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.232	0.146	0.117	0.0490	0.0589	0.0522	0.0428	0.0469
Mercury, total	mg/L	0.0002	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.000471	0.000548	0.000528	0.000509	0.000474	0.000504	0.000593	0.000519
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.00525	0.00286	0.00214	< 0.00050	0.00054	0.0180	< 0.0005	< 0.0005
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0889|0.346	0.190|0.228	0.216|0.170	0.0398|0.053	0.0450|0.074	0.0483|0.086	0.0229|< 0.05	0.0420|0.052
Potassium, total	mg/L	-	-	0.05 - 1	2.90	2.56	2.39	1.80	1.90	2.04	1.87	1.94
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00820	0.00512	0.00438	0.00206	0.00230	0.00191	0.00187	0.00213
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	14.2	9.67	8.40	5.93	6.59	6.24	5.52	5.70
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	0.000023	0.000015	0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	4.68	3.52	3.41	2.82	3.05	3.88	2.93	3.29
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.191	0.134	0.125	0.104	0.115	0.120	0.0947	0.100
Sulfur, total	mg/L	-	-	0.5 - 10	1.81	2.19	2.18	2.02	1.97	1.73	2.09	1.77
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	0.000057	0.000030	0.000024	< 0.000010	< 0.000010	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00221	0.00121	0.00090	0.00011	0.00023	0.00010	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00023	0.00016	0.00013	< 0.00010	0.00012	< 0.0001	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.310	0.229	0.170	0.0160	0.0339	0.0114	0.00257	0.0118
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	0.00068	0.00057	0.00073	< 0.00010	0.00021	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.00183	0.00210	0.00193	0.00152	0.00147	0.00120	0.00163	0.00150
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	**0.00904**	0.00562	0.00408	< 0.00050	0.00092	< 0.0005	< 0.0005	< 0.0005
Zinc, total	mg/L	0.03	-	0.003 - 0.06	0.0121	0.0066	0.0051	< 0.0030	< 0.0030	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00185	0.00185	0.00161	0.00022	0.00045	< 0.0002	< 0.0002	< 0.0002
Volatile Organic Compounds												
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	**20.9**	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	1.62	0.96	0.87	0.41	0.65	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	0.65	0.40	0.35	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	2.27	1.36	1.22	< 0.50	0.65	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	2.3	1.4	1.2	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/25/22	7/04/23	8/09/23	9/24/23	6/05/24	6/05/24	8/13/24	10/02/24
					MW22-01-2	MW22-01-2	MW22-01-2	MW22-01-2	MW22-01-2	DUP-01 (MW22-01-2)	MW22-01-2	MW22-01-2
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0275	0.0141	0.0075	0.0080	0.554	0.0206	0.151	0.0422
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	1.98	0.44	0.45	0.37	0.31	0.28	0.28	0.28
Fluoride	mg/L	-	-	0.020 - 0.040	0.073	0.064	0.021	0.056	< 0.02	< 0.02	0.023	0.070
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0321	0.153|0.228	0.0863|0.100	0.0263|< 0.050	0.0468|< 0.1	0.0598|< 0.1	0.0140|< 0.05	0.0823|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	3.51	6.00	5.11	5.90	6.19	6.17	5.59	5.44
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.72	1.40	1.44	1.10	0.78	1.00	1.91	1.38
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	24	28	13	< 10	14	< 10	12	14
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Dissolved Metals												
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0016	< 0.0010	< 0.0010	0.0014	0.0016	0.0011	0.0014	0.0012
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	0.00012	< 0.00010	0.00011	0.00016	0.00010	< 0.0001	< 0.0001	0.00018
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00050	0.00056	0.00024	0.00019	< 0.0001	0.00013	0.00025	0.00012
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0280	0.0234	0.0203	0.0179	0.0136	0.0135	0.0255	0.0156
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.022	0.019	0.011	0.01	< 0.01	< 0.01	0.011	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	0.0000053	0.0000240
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	61.4	64.0	70.3	69.9	64.8	65.1	72.6	68.9
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00063	0.00060	0.00022	0.00018	< 0.0001	< 0.0001	0.00038	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00063	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00302	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	0.045	0.170	0.198	0.134	0.092	0.091	0.092	0.097
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	0.000107	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0040	0.0028	0.0027	0.0035	0.0032	0.0033	0.0030	0.0029
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	16.1	18.5	16.6	18.3	15.1	15.4	17.5	16.5
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.195	0.187	0.0897	0.0757	0.0392	0.0394	0.119	0.0325
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	0.0000054	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000047	< 0.000020	-	-	0.000024	0.000033
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00350	0.00278	0.00113	0.000866	0.000751	0.000735	0.00122	0.000726
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	0.00072	0.00138	< 0.0005	< 0.0005	< 0.0005	0.00120
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.70	2.69	1.97	2.06	1.87	1.88	2.35	2.09
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00313	0.00440	0.00338	0.00339	0.00387	0.00404	0.00398	0.00379
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.90	5.13	4.59	4.49	4.24	4.23	4.73	4.50
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	3.49	2.57	2.02	2.14	1.96	2.09	2.03	2.09
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0680	0.0769	0.0685	0.0648	0.0610	0.0570	0.0682	0.0604
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.36	2.11	1.91	1.94	2.46	2.58	2.03	2.22
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00035	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00013
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	0.00037	< 0.00010	< 0.00010	0.00018	< 0.0001	< 0.0001	0.00285	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.00316	0.00372	0.00222	0.00211	0.00277	0.00271	0.00298	0.00266
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0030	0.0011	0.0022	0.0017	< 0.001	< 0.001	0.0021	0.0018
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	2.0	421	417	431	458	420	421	434	396
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	244	244	247	265	244	240	247	262
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	220	236	244	250	224	226	253	240
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	251	311	244	247	234	236	239	255
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	92.4	540	80.4	62.0	73.9	67.9	6.2	10.5
pH	pH units	6.5 - 8.5	-	0.1	8.08	8.07	8.12	7.98	8.1	8.11	8.14	8
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.071	< 0.019	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	7	7	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	0.24	0.12	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	0.28	0.15	-	-	-	-
Total Metals												
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	5.37	1.49	0.737	0.821	0.800	0.659	0.114
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00020	0.00052	0.00029	< 0.0002	0.00024	< 0.0001	0.00017
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00162	0.00054	0.00053	0.00037	0.00042	0.00036	0.00024
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0682	0.0309	0.0241	0.0209	0.0213	0.0245	0.0170
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000205	0.000058	0.000030	-	-	0.000030	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	0.029	0.013	0.014	< 0.02	< 0.02	0.013	0.010
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	0.0000629	0.0000378	0.0000201	0.0000183	0.0000183	0.0000078	0.0000176
Calcium, total	mg/L	-	-	0.05 - 1	-	132	79.6	73.0	72.7	77.4	70.1	73.2
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000553	0.000162	0.000093	0.000096	0.000094	0.000074	0.000015
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.0112	0.00342	0.00170	0.00188	0.00197	0.00153	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	**0.00393**	**0.00114**	0.00073	0.00065	0.00064	0.00079	0.00022
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	**0.00858**	0.00269	0.00137	0.00146	0.00202	0.00099	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**6.44**	**2.11**	**1.15**	**1.28**	**1.29**	**1.12**	**0.360**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.00359	0.000980	0.000495	0.000546	0.000586	0.000376	0.000092
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0103	0.0054	0.0042	0.0036	0.0036	0.0038	0.0032
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	31.2	20.4	17.6	17.8	18.5	18.1	16.9
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.381	0.131	0.124	0.0903	0.0971	0.158	0.0678
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000096	0.000030	0.000046	0.000024	-	0.000025	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.00238	0.00108	0.00129	0.000779	0.000826	0.00123	0.000762
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	0.00813	0.00380	0.00266	0.00182	0.00188	0.00122	0.00089
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0321	0.153|0.228	0.0863|0.100	0.0263|< 0.050	0.0468|< 0.1	0.0598|< 0.1	0.0140|< 0.05	0.0823|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	-	4.33	2.61	2.34	2.13	2.22	2.47	2.19
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.0153	0.00644	0.00491	0.00531	0.00542	0.00511	0.00437
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	< 0.000100	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Silicon, total	mg/L	-	-	0.1 - 2	-	17.7	7.44	6.18	5.57	5.67	5.94	4.47
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	0.000020	0.000011	< 0.000010	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	3.24	2.39	1.96	1.92	2.03	1.97	2.12
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.121	0.0754	0.0726	0.0674	0.0706	0.0708	0.0637
Sulfur, total	mg/L	-	-	0.5 - 10	-	2.30	2.12	2.19	1.83	2.27	2.33	2.10
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00040	< 0.00020	< 0.00020	< 0.0004	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	0.000089	0.000023	0.000011	-	-	0.000020	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00182	0.00055	0.00029	0.00028	0.00026	0.00027	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00074	0.00078	0.00042	0.00035	0.00094	0.00011	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.323	0.0980	0.0483	0.0559	0.0557	0.0458	0.00742
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00020	0.00012	0.00011	< 0.0002	< 0.0002	0.00013	< 0.0001
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.00456	0.00255	0.00278	0.00264	0.00271	0.00290	0.00280
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	**0.0127**	0.00359	0.00168	0.00200	0.00190	0.00168	< 0.0005
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	0.0215	0.0113	0.0045	< 0.006	0.0091	0.0031	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	0.00314	0.00100	0.00043	< 0.0004	< 0.0004	0.00040	< 0.0002
Volatile Organic Compounds												
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/26/22	6/28/23	8/12/23	9/24/23	6/04/24	8/11/24	10/01/24
					MW22-02-1	MW22-02-1	MW22-02-1	MW22-02-1	MW22-02-1	MW22-02-1	MW22-02-1
Anions and Nutrients											
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.112	0.0635	0.0203	0.0269	0.115	0.0875	0.205
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	0.11	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	1.38	1.22	1.13	0.68	0.61	0.36	0.41
Fluoride	mg/L	-	-	0.020 - 0.040	0.253	0.217	0.186	0.181	0.102	0.064	0.307
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	0.023	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0613	0.0588|< 0.050	0.0300|0.054	0.0839|0.071	0.0464|0.088	0.0454|1.55	0.0886|0.094
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	0.96	0.70	0.75	0.47	< 0.3	0.84	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.48	1.91	1.79	2.06	1.96	2.05	2.61
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	26	19	10	< 10	< 10	< 10	10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	0.054	< 0.05
Dissolved Metals											
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0011	< 0.0010	0.0011	0.0017	0.0014	0.0016	< 0.001
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	0.00080	**0.00160**	0.00065	0.00090	0.00047	0.00010	0.00029
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00021	0.00015	0.00051	0.00040	0.00026	0.00020	0.00019
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0459	0.0409	0.0403	0.0374	0.0371	0.0405	0.0362
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.015	0.022	0.018	0.017	0.017	0.014	0.016
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	0.0000178	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	68.1	65.2	64.0	66.3	61.8	78.2	69.1
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00012	< 0.00010	0.00016	0.00018	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	< 0.00035	0.00042	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**0.869**	< 0.010	**1.36**	**1.24**	**1.64**	**1.29**	**1.31**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0100	0.0109	0.0100	0.0092	0.0100	0.0078	0.0082
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	20.5	22.0	21.1	23.2	20.0	22.8	21.7
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0396	0.0145	0.0698	0.0628	0.0435	0.0380	0.0405
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000044	< 0.000080	-	0.000035	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00172	0.00344	0.00263	0.00260	0.00305	0.00118	0.00231
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	0.054	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	3.12	3.83	3.17	3.07	3.16	2.83	3.06
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00082	0.00101	0.00080	0.00078	0.00087	0.00072	0.00077
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	0.000277	0.000214	0.000130
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	9.60	8.86	9.08	9.12	9.41	9.73	9.61
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	7.47	8.58	7.39	8.28	7.72	6.98	7.62
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.115	0.120	0.119	0.119	0.117	0.123	0.118
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.65	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	0.66
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00024	0.00037	0.00029	0.00041	0.00021	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	0.00012	0.00016	0.00014	0.00014	0.00019	0.00062	0.00014
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000048	0.000191	0.000103	0.000107	0.000056	0.000019	0.000052
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	< 0.0010	0.0032	0.0011	< 0.0010	< 0.001	0.0017	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests											
Conductivity	uS/cm	-	-	2.0	474	436	493	506	469	488	374
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	283	251	278	296	281	291	285
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	254	253	247	261	237	289	262
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	292	290	300	272	298	280	278
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	74.6	97.9	14.5	52.9	23.5	500	131
pH	pH units	6.5 - 8.5	-	0.1	8.04	8.02	8.3	7.98	8.29	8.02	8.07
Polycyclic Aromatic Hydrocarbon											
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.049	< 0.028	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	7	7	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters											
Gross alpha	Bq/l	-	-	0.1	-	-	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	-	-	0.12	0.10	-	-	-
Total Metals											
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	0.272	0.179	0.352	0.122	14.3	0.166
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	0.00475	0.00080	0.00092	0.00066	0.00070	0.00038
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00033	0.00041	0.00055	0.00031	0.00506	0.00029
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0442	0.0425	0.0414	0.0398	0.162	0.0393
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	-	0.000685	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	-	< 0.00025	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	0.023	0.019	0.018	0.020	< 0.05	0.017
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	0.0000263	0.0000074	0.0000148	0.0000050	**0.000234**	0.0000114
Calcium, total	mg/L	-	-	0.05 - 1	-	67.1	73.3	70.5	68.8	566	76.8
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000030	0.000021	0.000035	0.000014	0.00118	0.000016
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.00088	0.00063	0.00092	< 0.0005	0.0407	0.00059
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	0.00026	0.00031	0.00031	0.00012	**0.0102**	0.00015
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	0.00105	< 0.00050	0.00057	< 0.0005	**0.0244**	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**0.555**	**1.18**	**2.01**	**1.90**	**23.7**	**1.87**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.000134	0.000170	0.000243	0.000106	0.00994	0.000128
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0117	0.0100	0.0103	0.0098	0.0294	0.0094
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	22.0	23.1	22.0	21.8	138	23.5
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.0400	0.0835	0.0702	0.0493	0.955	0.0580
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000063	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000105	0.000033	0.000049	0.000032	0.000087	0.000239
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.00341	0.00280	0.00277	0.00328	0.00189	0.00220
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	0.00080	0.00084	0.00085	< 0.0005	0.0245	0.00061
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0613	0.0588|< 0.050	0.0300|0.054	0.0839|0.071	0.0464|0.088	0.0454|1.55	0.0886|0.094
Potassium, total	mg/L	-	-	0.05 - 1	-	3.67	3.19	3.04	3.12	6.65	3.07
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00150	0.00111	0.00140	0.00102	0.0232	0.00104
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	-	< 0.00025	-
Silicon, total	mg/L	-	-	0.1 - 2	-	9.83	9.73	10.2	10.0	35.6	9.45
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	-	0.000098	-
Sodium, total	mg/L	-	-	0.05 - 1	-	8.89	8.12	6.92	7.77	8.60	7.77
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.116	0.120	0.118	0.122	0.450	0.118
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 0.50	< 0.50	< 0.50	< 0.5	< 2.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.001	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	-	0.000200	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00010	< 0.00010	0.00014	< 0.0001	0.00679	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00165	0.00076	0.00116	0.00052	0.00292	0.00032
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.0191	0.0149	0.0238	0.00877	1.22	0.0129
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	0.00021	0.00016	0.00018	0.00020	0.00111	0.00016
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.000226	0.000138	0.000140	0.000073	0.00172	0.000073
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	0.00090	0.00062	0.00094	< 0.0005	**0.0373**	0.00058
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	0.0061	0.0035	0.0031	< 0.003	**0.0693**	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	0.00057	0.00033	0.00042	0.00023	**0.00797**	0.00027
Volatile Organic Compounds											
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	1.1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes											
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/26/22	6/28/23	8/12/23	9/24/23	6/04/24	8/13/24	10/01/24	11/24/22	6/28/23	8/10/23	9/24/23	6/04/24	10/03/24
					MW22-02-2	**MW22-2-2**	**MW22-02-2**	**MW22-02-2**	**MW22-02-2**	**MW22-02-2**	**MW22-02-2**	**MW22-03-1**	**MW22-3-1**	**MW22-03-1**	**MW22-03-1**	**MW22-03-1**	**MW22-03-1**
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0128	0.0100	< 0.0050	0.0070	0.283	0.0167	0.0862	0.0581	0.115	0.0746	0.0819	0.268	0.124
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.20	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	1.24	0.73	0.46	0.36	0.33	0.36	0.30	0.37	0.32	0.39	0.26	0.29	0.35
Fluoride	mg/L	-	-	0.020 - 0.040	0.122	0.090	0.077	0.063	0.036	0.098	0.124	0.094	0.054	0.028	< 0.040	0.084	0.118
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	0.175	0.210	0.213	0.174	0.170	0.025	0.192	< 0.020	< 0.020	0.036	< 0.040	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.020	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0800	0.0296|< 0.050	0.0466|0.051	0.0211|< 0.050	0.0195|< 0.05	0.150|0.418	0.0161|< 0.05	0.423	0.166|0.321	0.0767|0.098	0.0591|0.065	11.2|22.2	11.8|22.0
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	9.21	16.6	12.8	8.37	7.94	12.1	8.99	2.39	2.21	2.05	1.88	2.35	3.02
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.03	1.50	1.12	1.14	0.96	1.94	1.31	2.97	4.01	4.35	3.85	3.79	5.55
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 20	< 5
Chemical oxygen demand [COD]	mg/L	-	-	10	26	17	< 10	< 10	< 10	29	< 10	53	26	15	11	18	72
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Dissolved Metals																	
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0036	0.0022	0.0028	0.0040	0.0017	0.0035	0.0025	0.0042	< 0.0010	0.0018	0.0017	0.0036	0.0025
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	0.00026	< 0.0001	0.00015	0.00017	0.00028	0.00010	< 0.00010	< 0.00010	< 0.0001	0.00046
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00023	0.00033	0.00030	0.00027	0.00027	0.00053	0.00028	0.00184	0.00210	0.00211	0.00195	0.00168	0.00098
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0404	0.0396	0.0305	0.0318	0.0274	0.0484	0.0258	0.0563	0.0527	0.0471	0.0479	0.0419	0.105
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.015	0.016	0.014	0.014	< 0.01	0.013	0.011	0.012	0.012	0.015	0.013	0.01	0.016
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.0000132	0.0000107	0.0000121	0.0000074	-	0.0000075	0.0000121	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	70.6	66.1	62.1	69.8	65.5	75.4	68.3	85.1	84.4	89.8	102	88.4	105
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	0.00053	0.00066	0.00087	0.00099	0.00083	< 0.0005	0.00126	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	0.00062	0.00085	0.00080	0.00082	< 0.0005	**0.00112**	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00018	< 0.0001	0.00013	0.00018	0.00015	0.00014	0.00013	0.00017
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00053	0.00022	0.00091	0.00031	< 0.0002	0.00294	< 0.0002	0.00111	< 0.00020	0.00275	0.00069	0.00056	0.00070
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	0.013	0.015	< 0.01	**0.365**	**0.426**	**0.908**	**0.985**	**0.814**	< 0.01
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	0.000177	-	< 0.000050	< 0.000050	0.000093	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0094	0.0082	0.0105	0.0099	0.0080	0.0077	0.0078	0.0054	0.0039	0.0052	0.0049	0.0050	0.0059
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	21.9	23.8	21.2	22.4	19.7	23.1	20.5	15.7	16.8	17.5	20.4	16.5	20.2
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0395	0.0249	0.0136	0.00943	0.00642	0.0680	0.00100	0.186	0.233	0.214	0.208	0.200	0.196
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000059
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000038	< 0.000020	0.000042	< 0.000080	-	-	-	0.000025	< 0.000020	0.000023	< 0.000020	-	< 0.0004
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00487	0.00572	0.00492	0.00398	0.00214	0.00409	0.00211	0.00117	0.000634	0.000500	0.000441	0.000390	0.00146
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00051	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	3.75	5.12	5.10	5.25	3.88	3.78	4.31	1.83	1.82	1.72	1.83	1.81	3.27
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00108	0.00137	0.00150	0.00147	0.00092	0.00106	0.00155	0.00151	0.00126	0.00120	0.00127	0.00150	0.00336
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000570	0.00118	0.000671	0.000520	0.000466	0.000493	0.000508	< 0.000050	< 0.000050	0.000080	< 0.000050	-	0.000146
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.65	6.37	6.69	6.75	6.33	6.88	7.12	7.28	7.30	8.46	8.60	7.48	6.30
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	8.85	12.1	8.96	7.79	6.32	6.39	9.11	7.09	5.59	5.91	6.74	5.72	9.82
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0965	0.100	0.0966	0.0973	0.0940	0.105	0.0880	0.128	0.117	0.127	0.137	0.120	0.148
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	3.18	5.61	3.52	3.18	2.98	3.84	3.03	0.92	0.66	0.56	0.61	1.12	1.31
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	0.000010	< 0.000010	0.000013	0.000013	-	0.000013	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00034	0.00033	< 0.00010	0.00011	< 0.0001	0.00027	< 0.0001	0.00012	< 0.00010	0.00010	< 0.00010	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00012	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.00300	0.00336	0.00263	0.00238	0.00208	0.00436	0.00211	0.000942	0.000584	0.000279	0.000228	0.000324	**0.0110**
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00086	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00279
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0017	0.0026	0.0013	0.0016	< 0.001	0.0041	0.0019	0.0026	< 0.0010	0.0020	0.0010	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests																	
Conductivity	uS/cm	-	-	2.0	491	487	491	508	465	510	390	518	485	582	635	510	575
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	290	262	261	277	260	293	267	323	292	332	359	892	602
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	266	263	242	266	245	283	255	277	280	296	339	289	345
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	303	307	282	267	291	298	264	380	426	341	346	438	1320
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	158	31.1	55.7	55.7	16.9	371	8.4	1300	407	118	35.1	74500	47500
pH	pH units	6.5 - 8.5	-	0.1	7.88	8.07	8.05	7.95	8.09	8.12	8.03	7.98	8.07	8.05	7.68	7.93	7.82
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.013	< 0.031	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	< 0.015	< 0.015	0.113	0.077
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.045	0.028
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.068	0.049
Naphthalene	ug/L	7	7	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	-	< 0.050	< 0.050	< 0.050	0.144	0.088
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.024	0.027
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	0.010	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	0.1	-	0.12	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1	0.20	-	-
Gross beta	Bq/l	-	-	0.1	-	0.19	0.62	0.21	-	-	-	-	< 0.1	0.14	< 0.1	-	-
Total Metals																	
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	0.419	0.412	0.276	0.100	4.35	0.0514	-	9.33	1.22	0.355	535	461
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	0.00022	0.00020	0.00090	0.00024	< 0.0005	0.00037	-	< 0.00020	< 0.00010	< 0.00010	< 0.01	< 0.002
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00049	0.00045	0.00042	0.00030	0.00227	0.00033	-	0.00377	0.00237	0.00216	**0.120**	**0.109**
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0432	0.0367	0.0337	0.0285	0.0818	0.0275	-	0.119	0.0561	0.0530	4.30	3.16
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	-	0.000178	-	-	0.000355	0.000049	< 0.000020	0.0195	0.0201
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	-	< 0.00025	-	-	< 0.000100	< 0.000050	< 0.000050	< 0.005	0.00478
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	0.018	0.015	0.015	< 0.01	< 0.05	0.016	-	0.021	0.016	0.015	*< 1*	**0.547**
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	0.0000241	0.0000734	0.0000316	0.0000160	0.0000928	0.0000177	-	0.0000746	0.0000108	0.0000063	**0.00340**	**0.00406**
Calcium, total	mg/L	-	-	0.05 - 1	-	71.5	77.8	70.8	70.8	186	73.4	-	139	112	96.5	5560	5430
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000044	0.000049	0.000031	0.000011	0.000378	0.000011	-	0.00103	0.000148	0.000047	0.0638	0.0497
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.00173	0.00193	0.00170	0.00138	0.0102	0.00141	-	0.0217	0.00287	0.00085	1.10	1.12
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	0.00055	0.00081	0.00088	**0.00105**	< 0.0005	**0.00112**	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	0.00034	0.00036	0.00021	0.00010	**0.00339**	< 0.0001	-	**0.00574**	0.00088	0.00037	**0.311**	**0.307**
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	0.00107	0.00106	0.00083	0.00050	**0.00764**	< 0.0005	-	**0.0129**	0.00167	0.00050	**0.666**	**0.660**
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**0.506**	**0.563**	**0.345**	0.136	**5.99**	0.060	-	**11.5**	**2.31**	**1.46**	**616**	**595**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.000195	0.000361	0.000268	0.000094	0.00327	-	-	0.00491	0.000730	0.000245	0.297	0.273
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0090	0.0097	0.0097	0.0074	0.0146	0.0085	-	0.0162	0.0058	0.0056	0.683	0.849
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	23.9	23.1	22.2	21.5	50.2	20.9	-	31.6	21.1	19.4	1420	1290
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.0502	0.0383	0.0224	0.0109	0.320	0.00529	-	0.514	0.252	0.225	15.5	17.4
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	0.0000067	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000023	0.000022	< 0.000020	-	0.000114	-	-	< 0.000020	0.000022	0.000022	-	0.00298
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.00524	0.00461	0.00384	0.00242	0.00328	0.00220	-	0.000534	0.000482	0.000479	0.00821	0.00504
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	0.00099	0.00134	0.00120	0.00103	0.00742	0.00053	-	0.0146	0.00206	0.00078	**0.748**	**0.767**
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0800	0.0296|< 0.050	0.0466|0.051	0.0211|< 0.050	0.0195|< 0.05	0.150|0.418	0.0161|< 0.05	0.423	0.166|0.321	0.0767|0.098	0.0591|0.065	11.2|22.2	11.8|22.0
Potassium, total	mg/L	-	-	0.05 - 1	-	5.05	5.16	4.56	4.19	4.84	4.34	-	4.44	2.28	1.85	182	107
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00206	0.00231	0.00181	0.00124	0.00688	0.00173	-	0.0190	0.00372	0.00200	1.04	0.795
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	0.00106	0.000727	0.000543	0.000421	0.000342	0.000430	-	< 0.000100	< 0.000050	< 0.000050	0.00508	0.00331
Silicon, total	mg/L	-	-	0.1 - 2	-	7.36	7.54	7.59	6.77	14.4	6.53	-	23.9	11.0	9.23	1100	658
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	0.000028	< 0.000010	< 0.000010	**0.00227**	**0.00189**
Sodium, total	mg/L	-	-	0.05 - 1	-	12.5	10.0	6.43	6.73	6.88	9.40	-	7.12	6.53	6.52	72.3	39.4
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.0977	0.0980	0.0958	0.0947	0.178	0.0875	-	0.166	0.142	0.136	4.63	3.82
Sulfur, total	mg/L	-	-	0.5 - 10	-	5.83	4.44	3.24	3.19	4.36	3.04	-	< 1.00	0.90	0.90	< 50	13.7
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.001	< 0.0002	-	< 0.00040	< 0.00020	< 0.00020	< 0.02	< 0.004
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	0.000013	0.000020	0.000023	0.000011	0.000087	0.000015	-	0.000084	0.000016	< 0.000010	**0.00737**	**0.00547**
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00016	0.00016	0.00011	< 0.0001	0.00212	< 0.0001	-	0.00397	0.00055	0.00018	0.254	0.254
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00126	0.00071	0.00039	0.00020	0.00066	0.00015	-	0.00037	0.00060	< 0.00010	0.0191	0.00910
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.0329	0.0293	0.0208	0.00864	0.354	0.00315	-	0.585	0.0880	0.0260	39.0	27.1
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0005	< 0.0001	-	< 0.00020	< 0.00010	< 0.00010	< 0.01	< 0.002
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.00348	0.00297	0.00248	0.00218	0.00472	0.00218	-	0.00160	0.000526	0.000377	**0.0698**	**0.0660**
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	0.00123	0.00126	0.00092	0.00058	**0.0119**	0.00056	-	**0.0217**	0.00302	0.00097	**1.25**	**1.10**
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	0.0051	0.0058	0.0036	< 0.003	0.0190	< 0.003	-	**0.0328**	0.0042	< 0.0030	**1.33**	**1.44**
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	0.00044	0.00034	0.00029	< 0.0002	0.00181	< 0.0002	-	0.00225	0.00100	0.00050	**0.309**	**0.0880**
Volatile Organic Compounds																	
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	*< 23.0*	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/24/22	6/28/23	8/10/23	9/24/23	6/04/24	10/03/24	11/24/22	7/02/23	8/11/23	9/23/23	6/03/24	8/15/24	9/30/24
					MW22-03-2	MW22-3-2	MW22-03-2	MW22-03-2	MW22-03-2	MW22-03-2	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1	MW22-04-1
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.134	0.0580	0.0491	0.0089	0.131	0.0613	< 0.0500	0.0053	0.0053	0.0233	0.0289	0.0913	0.0289
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.20	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.48	0.54	0.49	0.32	0.39	0.63	0.53	0.60	0.42	0.28	0.50	1.60	0.52
Fluoride	mg/L	-	-	0.020 - 0.040	0.120	0.055	0.046	0.049	0.077	0.111	0.049	< 0.020	< 0.020	0.040	< 0.02	0.025	0.059
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	0.020	0.067	0.088	0.036	0.042	0.702	0.671	0.523	0.274	0.816	0.825	0.772
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.020	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.153	0.0745|< 1.00	0.0656|< 0.100	0.0166|< 0.050	0.0410|< 0.05	0.0212|< 0.05	0.965	0.312|1.37	0.0353|< 0.050	3.26|22.7	2.13|10.8	0.511|0.371	0.274|1.23
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	2.13	1.77	2.44	2.07	2.07	1.75	3.26	3.47	2.97	2.18	3.59	3.10	3.05
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	3.96	3.85	3.38	3.60	4.48	3.68	2.02	2.59	2.13	2.84	2.57	3.99	2.84
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2	< 2	-	2.1	< 2.0	< 5.0	< 3.3	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	40	37	24	< 10	16	16	77	< 10	11	74	49	40	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																	
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0018	0.0017	0.0028	0.0020	0.0023	0.0027	0.0018	0.158	< 0.0010	0.0024	0.0021	0.0107	0.0012
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	0.00016	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00012	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00035	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00095	0.00097	0.00054	0.00041	0.00062	0.00070	< 0.00010	0.00034	< 0.00010	< 0.00010	< 0.0001	0.00016	< 0.0001
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0817	0.0662	0.0617	0.0539	0.0480	0.0456	0.0148	0.0176	0.0156	0.0151	0.0154	0.0166	0.0147
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.021	0.022	0.023	0.023	0.021	0.025	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	0.011
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.0000131	0.0000166	0.0000082	0.0000063	0.0000172	0.0000268	< 0.0000050	0.0000162	< 0.0000050	< 0.0000050	-	0.0000098	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	90.5	91.7	89.4	102	108	108	72.8	80.7	67.6	72.6	72.8	71.6	73.6
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	0.000013	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.00116	0.00165	0.00133	0.00117	0.00145	0.00144	0.00134
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	**0.00136**	**0.00120**	**0.00101**	**0.00144**	**0.00141**	**0.00121**
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	< 0.00010	0.00032	0.00019	< 0.00010	0.00018	0.00019	< 0.00010	0.00060	< 0.00010	< 0.00010	< 0.0001	0.00023	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00072	0.00137	0.00032	0.00055	< 0.0002	0.00039	0.00063	0.00132	0.00027	0.00030	0.00028	0.00412	0.00053
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	0.010	0.011	< 0.010	0.030	0.024	< 0.010	**0.420**	< 0.010	< 0.010	< 0.01	0.025	< 0.01
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	0.000641	< 0.000050	< 0.000050	-	0.000071	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0077	0.0068	0.0084	0.0081	0.0080	0.0072	0.0044	0.0040	0.0041	0.0038	0.0036	0.0034	0.0032
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	17.2	20.0	18.7	20.2	20.2	20.9	17.8	18.8	17.5	18.5	17.2	18.3	17.5
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0662	0.307	0.223	0.0321	0.306	0.399	0.00956	0.0295	0.00038	0.00114	0.00026	0.00348	0.00013
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000052	0.000021	< 0.000020	< 0.000020	-	0.000025	0.000031	0.000021	0.000058	0.000023	-	0.000029	0.000025
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00138	0.000987	0.000937	0.000723	0.000700	0.000726	0.000479	0.000192	0.000318	0.000288	0.000288	0.000345	0.000267
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	0.00061	0.00062	0.00053	0.00077	0.00069	< 0.00050	0.00074	< 0.00050	< 0.00050	< 0.0005	0.00698	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.70	1.62	1.58	1.57	1.51	1.65	1.05	1.12	1.09	1.08	1.03	1.09	0.927
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00088	0.00079	0.00080	0.00067	0.00080	0.00084	0.00055	0.00106	0.00067	0.00072	0.00079	0.00083	0.00062
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000053	< 0.000050	< 0.000050	< 0.000050	-	-	0.000070	0.000057	0.000054	0.000058	0.000069	0.000066	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	8.26	7.86	8.25	8.08	8.08	8.82	5.56	5.60	5.75	5.44	5.53	5.64	5.47
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	15.5	12.6	12.0	13.2	11.6	13.3	1.79	1.65	1.67	1.63	1.85	1.68	1.60
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.183	0.174	0.160	0.176	0.179	0.178	0.0610	0.0706	0.0615	0.0624	0.0595	0.0602	0.0576
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.05	0.64	0.65	0.72	0.99	0.82	1.33	1.23	0.97	0.54	1.65	1.35	1.05
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00017	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00019	0.00018	< 0.00010	< 0.00010	< 0.0001	0.00330	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	0.00764	< 0.00030	< 0.00030	< 0.0003	0.00059	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.00168	0.00128	0.00152	0.00173	0.00134	0.00141	0.00145	0.00146	0.00136	0.00132	0.00141	0.00144	0.00145
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	0.00056	< 0.00050	0.00063	< 0.0005	< 0.0005	< 0.00050	0.00081	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0013	0.0022	< 0.0010	< 0.0010	0.0011	0.0016	0.0019	0.0021	< 0.0010	< 0.0010	< 0.001	0.0036	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	0.00057	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																	
Conductivity	uS/cm	-	-	2.0	581	541	632	645	627	578	455	439	448	428	450	470	437
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	348	314	361	361	368	353	270	263	248	289	263	313	349
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	297	311	300	338	353	356	255	279	241	257	253	254	256
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	374	358	382	351	358	318	326	333	254	317	501	302	289
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	398	64.5	150	14.3	10.7	< 3	5570	3390	60.5	9010	21600	1160	3840
pH	pH units	6.5 - 8.5	-	0.1	8.07	8.05	7.74	7.61	7.98	7.9	7.95	7.96	8.06	7.96	7.96	7.71	7.73
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.015	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	< 0.015	0.196	0.084	0.032	0.171
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	0.078	0.033	0.013	0.070
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	0.010	< 0.010	0.118	0.051	0.019	0.101
Naphthalene	ug/L	7	7	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	-	< 0.050	< 0.050	0.161	0.089	< 0.05	0.114
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	0.018	0.013	< 0.01	0.023
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals																	
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	61.5	1.94	0.230	0.331	0.182	-	4.96	0.418	146	64.1	9.51	9.33
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00200	< 0.00020	0.00020	0.00050	0.00066	-	0.00032	0.00016	0.00201	< 0.002	0.00082	0.00025
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.0168	0.00096	0.00052	0.00073	0.00093	-	0.00472	0.00046	0.0793	0.0457	0.00852	0.00943
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.590	0.0712	0.0582	0.0541	0.0476	-	0.0595	0.0187	0.764	0.552	0.0856	0.120
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.00401	0.000168	< 0.000020	0.000023	-	-	0.000296	< 0.000020	0.00568	0.00277	0.000460	0.000531
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	0.00102	< 0.000100	< 0.000050	-	-	-	< 0.000100	< 0.000050	0.00132	0.00107	< 0.00025	0.000177
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	< 0.200	0.029	0.024	0.022	0.027	-	0.022	< 0.010	**0.335**	< 0.2	< 0.05	0.041
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	**0.000614**	0.0000301	0.0000169	0.0000521	0.0000896	-	0.000170	0.0000161	**0.00212**	**0.00124**	0.000173	**0.000398**
Calcium, total	mg/L	-	-	0.05 - 1	-	261	109	93.3	102	103	-	383	85.6	4780	2360	184	954
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.00662	0.000240	0.000035	0.000049	0.000029	-	0.000435	0.000043	0.0108	0.00551	0.000943	0.000803
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.103	0.00283	0.00050	0.00092	< 0.0005	-	0.0131	0.00233	0.431	0.157	0.0247	0.0247
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	**0.00131**	**0.00131**	**0.00104**	**0.00138**	**0.00128**	**0.00126**
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	**0.0294**	**0.00119**	0.00014	0.00036	0.00029	-	**0.00919**	0.00066	**0.158**	**0.0703**	**0.0135**	**0.0144**
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	**0.0787**	0.00249	0.00072	0.00095	0.00079	-	**0.0204**	0.00199	**0.366**	**0.199**	**0.0419**	**0.0402**
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**55.6**	**1.73**	0.207	**0.377**	0.184	-	**10.4**	**0.906**	**304**	**124**	**20.9**	**21.8**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.0375	0.00159	0.000204	0.000278	0.000259	-	0.00785	0.000682	0.109	0.0700	0.0138	0.0130
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0721	0.0092	0.0081	0.0075	0.0082	-	0.0127	0.0038	0.272	0.0869	0.0165	0.0215
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	67.8	21.5	18.7	22.5	21.7	-	70.6	20.4	763	458	43.2	110
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	1.78	0.284	0.0298	0.280	0.354	-	0.542	0.0296	7.71	3.90	0.565	1.08
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	0.0000197	-	0.0000499	0.0000458
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000069	0.000024	< 0.000020	0.000030	0.000034	-	< 0.000020	< 0.000020	0.000027	0.000098	0.000774	0.00221
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.00196	0.000881	0.000736	0.000709	0.000698	-	0.000416	0.000316	0.00510	0.00272	0.000676	0.000554
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	**0.0733**	0.00261	0.00168	0.00158	0.00109	-	0.0121	0.00114	**0.317**	**0.129**	**0.0284**	0.0214
Phosphorus, total	mg/L	-	-	0.002 - 1	0.153	0.0745|< 1.00	0.0656|< 0.100	0.0166|< 0.050	0.0410|< 0.05	0.0212|< 0.05	0.965	0.312|1.37	0.0353|< 0.050	3.26|22.7	2.13|10.8	0.511|0.371	0.274|1.23
Potassium, total	mg/L	-	-	0.05 - 1	-	15.8	2.05	1.50	1.76	1.90	-	2.37	1.26	24.4	17.1	3.30	3.26
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.0997	0.00363	0.00098	0.00141	0.00115	-	0.00772	0.00128	0.150	0.0897	0.0150	0.0143
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	< 0.00100	< 0.000100	< 0.000050	-	-	-	< 0.000100	0.000057	0.00111	< 0.001	0.000313	0.000192
Silicon, total	mg/L	-	-	0.1 - 2	-	124	11.9	8.71	9.04	8.76	-	15.2	6.62	239	125	25.3	23.8
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	**0.000238**	0.000025	< 0.000010	-	-	-	0.000027	< 0.000010	**0.000737**	**0.000451**	-	0.000048
Sodium, total	mg/L	-	-	0.05 - 1	-	18.0	14.1	11.1	12.3	13.4	-	2.22	1.76	11.0	8.10	2.64	2.64
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.405	0.180	0.166	0.182	0.168	-	0.262	0.0669	3.28	1.54	0.141	0.601
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 10.0	< 1.00	0.92	0.79	0.92	-	1.29	1.05	< 10.0	< 10	< 2.5	1.59
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00400	< 0.00040	< 0.00020	< 0.0002	< 0.0002	-	< 0.00040	< 0.00020	< 0.00400	< 0.004	< 0.001	< 0.0004
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	**0.000462**	< 0.000020	< 0.000010	-	-	-	0.000088	0.000016	**0.00228**	**0.00132**	0.000279	0.000224
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.0279	0.00093	0.00012	0.00014	< 0.0001	-	0.00460	0.00028	0.0798	0.0555	0.00552	0.00799
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00456	0.00021	0.00012	0.00075	0.00038	-	0.00141	0.00055	0.00676	0.00431	0.00663	0.00099
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	1.72	0.0535	0.00759	0.0135	0.00577	-	0.307	0.0331	15.0	7.70	0.563	0.650
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00200	< 0.00020	< 0.00010	< 0.0001	< 0.0001	-	< 0.00020	< 0.00010	< 0.00200	< 0.002	< 0.0005	< 0.0002
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	**0.0107**	0.00206	0.00188	0.00157	0.00133	-	0.00244	0.00146	**0.0196**	**0.0116**	0.00222	0.00390
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	**0.103**	0.00346	0.00097	0.00085	0.00065	-	**0.0165**	0.00153	**0.507**	**0.218**	**0.0278**	**0.0315**
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	**0.227**	0.0069	< 0.0030	0.0062	0.0048	-	0.0258	0.0033	**0.617**	**0.240**	**0.0529**	**0.0450**
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	**0.00854**	< 0.00040	0.00033	0.00026	0.00038	-	0.00250	0.00060	**0.0821**	**0.0378**	0.00359	**0.00426**
Volatile Organic Compounds																	
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	*< 14.5*	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/02/23	8/08/23	9/20/23	8/14/24	9/29/24	7/02/23	8/08/23	9/20/23	8/14/24	9/29/24
					MW22-05-1	MW22-05-1	MW22-05-1	MW22-05-1	MW22-05-1	MW22-05-2	MW22-05-2	MW22-05-02	MW22-05-02	MW22-05-02
Anions and Nutrients														
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0132	0.0217	0.0483	0.996	0.0264	0.0304	< 0.0050	0.0269	2.20	0.0259
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.10	0.12	< 0.10	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.38	0.44	1.61	0.46	0.33	0.88	0.29	0.34	0.29	0.26
Fluoride	mg/L	-	-	0.020 - 0.040	0.032	0.032	0.048	< 0.02	0.072	0.025	< 0.020	0.034	< 0.04	0.060
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	0.078	0.256	< 0.020	< 0.02	< 0.02	< 0.020	0.082	0.074	0.036	0.037
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.850|1.82	< 0.050|0.364	0.0214|< 0.050	0.0108|0.103	0.0050|< 0.05	0.210|0.124	0.612|0.553	0.198|0.234	0.530|0.421	0.0578|< 0.1
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	2.82	4.57	5.75	4.63	5.58	5.10	2.45	2.91	2.67	2.75
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.60	2.22	3.34	4.76	2.64	2.07	2.85	2.36	2.05	1.79
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 3.8	< 2.0	< 2.0	< 2	< 2	< 3.0	< 2.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	< 10	24	12	< 10	< 10	< 10	32	22	< 10	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Dissolved Metals														
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0016	0.0022	0.0020	0.0026	0.0100	0.0038	0.0011	0.0020	0.0023	0.0015
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	0.00019	< 0.0001	0.00032	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	< 0.00010	0.00385	0.00440	0.00436	0.00150	0.00248	< 0.00010	< 0.00010	0.00013	< 0.0001
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0132	0.0170	0.0179	0.0181	0.0152	0.0176	0.0146	0.0130	0.0146	0.0128
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.010	< 0.010	0.012	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	0.0000065	-	0.0000159	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000060
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	69.0	74.8	73.1	72.5	75.2	71.4	67.9	66.6	68.4	71.2
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	0.00093	< 0.00050	< 0.00050	0.00055	< 0.0005	< 0.00050	0.00109	0.00090	0.00102	0.00082
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	0.00093	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00082	0.00083	0.00089	0.00075
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	< 0.00010	0.00044	0.00048	0.00042	0.00014	0.00043	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00024	0.00094	< 0.00020	< 0.0002	0.00020	0.00067	0.00023	0.00027	0.00158	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	**0.406**	**0.714**	**0.598**	0.205	0.058	< 0.010	< 0.010	< 0.01	< 0.01
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	0.000067	< 0.000050	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0030	0.0029	0.0028	0.0025	0.0024	0.0032	0.0026	0.0027	0.0025	0.0028
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	13.5	16.5	16.2	15.6	15.1	15.5	14.6	14.8	14.6	13.9
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00067	0.420	0.429	0.329	0.248	0.396	0.00048	0.00145	0.00086	0.00299
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	0.000153	0.000031	0.000258	0.000133	0.000046	0.000065	0.000076	0.000039	0.000090
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.000360	0.00252	0.00184	0.00255	0.00160	0.00247	0.000362	0.000348	0.000426	0.000319
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	0.00074	0.00378	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.863	1.40	1.57	1.17	1.19	1.45	0.858	0.935	0.867	0.868
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00057	0.00060	0.00074	0.00054	0.00061	0.00064	0.00028	0.00030	0.00031	0.00025
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000400	< 0.000050	< 0.000050	0.000055	-	< 0.000050	0.000467	0.000398	0.000382	0.000411
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.54	6.82	6.09	6.55	6.14	6.29	5.06	4.97	4.95	5.01
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	1.53	1.80	2.18	1.69	1.82	1.92	1.43	1.74	1.51	1.56
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0614	0.0759	0.0715	0.0698	0.0641	0.0776	0.0596	0.0590	0.0589	0.0572
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.11	1.75	1.93	1.74	1.98	1.78	1.00	0.87	1.08	0.90
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00010	0.00015	0.00020	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.0003	0.00031	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	0.00022	< 0.00010	< 0.00010	0.00043	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000964	0.00216	0.00226	0.00183	0.00174	0.00260	0.00102	0.000995	0.00104	0.00103
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	< 0.0010	< 0.0010	0.0022	0.0016	0.0017	0.0013	< 0.0010	< 0.0010	0.0012	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests														
Conductivity	uS/cm	-	-	2.0	390	428	459	440	406	438	-	428	428	393
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	237	260	254	265	283	293	-	255	267	257
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	228	255	249	245	250	242	230	227	231	235
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	281	249	262	248	252	280	-	245	243	254
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	3840	< 3.0	14.6	8.9	6.3	295	-	455	652	190
pH	pH units	6.5 - 8.5	-	0.1	7.97	8.37	8.07	7.99	8.09	8.06	-	7.99	7.87	7.99
Polycyclic Aromatic Hydrocarbon														
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	0.189	0.083	0.068	0.151	0.040	0.208	0.073	0.029	0.131	0.051
Methylnaphthalene, 1-	ug/L	2	2	0.010	0.070	0.027	0.022	0.052	0.015	0.063	0.027	0.010	0.049	0.018
Methylnaphthalene, 2-	ug/L	2	2	0.010	0.119	0.056	0.046	0.099	0.025	0.145	0.046	0.019	0.082	0.033
Naphthalene	ug/L	7	7	0.050	0.245	0.242	0.105	0.157	< 0.05	0.425	0.093	< 0.050	0.107	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	0.015	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters														
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	0.14	< 0.1	< 0.1	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	0.17	< 0.1	-	-	0.20	0.29	< 0.1	-	-
Total Metals														
Aluminum, total	mg/L	-	-	0.003 - 0.06	8.74	0.271	0.0696	1.61	0.0282	2.04	8.21	3.42	6.65	1.30
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	< 0.00020	< 0.00010	0.00036	< 0.0002	0.00023	< 0.00020	0.00010	< 0.00020	< 0.0002	< 0.0002
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00479	0.00395	0.00466	0.00533	0.00166	0.00378	0.00380	0.00170	0.00283	0.00074
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0844	0.0191	0.0198	0.0309	0.0169	0.0311	0.0703	0.0389	0.0623	0.0237
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000476	< 0.000020	< 0.000020	0.000060	-	0.000083	0.000340	0.000149	0.000279	0.000051
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000050	< 0.0001	-	< 0.000100	0.000079	< 0.000100	< 0.0001	< 0.0001
Boron, total	mg/L	0.2	-	0.01 - 0.2	0.030	< 0.010	< 0.010	< 0.02	< 0.01	< 0.020	0.018	< 0.020	< 0.02	< 0.02
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	**0.000239**	0.0000081	0.0000541	0.0000346	0.0000169	0.0000315	0.000108	0.0000662	0.0000815	0.0000298
Calcium, total	mg/L	-	-	0.05 - 1	517	76.0	70.9	119	73.4	104	280	135	250	95.0
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000819	0.000029	< 0.000010	0.000163	-	0.000203	0.000774	0.000400	0.000712	0.000136
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.0200	0.00072	< 0.00050	0.00393	< 0.0005	0.00439	0.0183	0.00802	0.0149	0.00335
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	0.00099	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00091	0.00082	**0.00111**	0.00072
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	**0.00986**	0.00067	0.00060	**0.00171**	0.00017	**0.00192**	**0.00687**	**0.00316**	**0.00486**	**0.00114**
Copper, total	mg/L	0.005	-	0.0005 - 0.01	**0.0230**	0.00063	0.00057	0.00347	< 0.0005	0.00381	**0.0159**	**0.00783**	**0.0116**	0.00287
Iron, total	mg/L	0.3	-	0.01 - 0.2	**13.5**	**0.981**	**1.05**	**3.40**	**0.303**	**3.08**	**12.6**	**5.32**	**9.59**	**1.94**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.00875	0.000238	0.000122	0.00136	-	0.00134	0.00588	0.00268	0.00456	0.000956
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0188	0.0034	0.0031	0.0046	0.0029	0.0065	0.0152	0.0079	0.0130	0.0049
Magnesium, total	mg/L	-	-	0.005 - 0.1	98.9	18.0	15.4	24.2	15.3	24.0	59.9	28.3	49.8	19.2
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.752	0.457	0.439	0.425	0.278	0.471	0.475	0.179	0.325	0.0656
Mercury, total	mg/L	0.0002	-	0.0000050	0.0000064	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	0.0000065	0.0000064	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000087	0.000345	0.000212	0.000368	0.000157	0.000160	0.000062	0.000048	< 0.0008	0.000106
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.000376	0.00219	0.00175	0.00220	0.00163	0.00223	0.000364	0.000359	0.000421	0.000326
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.0168	0.00092	0.00104	0.00330	0.00054	0.00350	0.0143	0.00626	0.0110	0.00228
Phosphorus, total	mg/L	-	-	0.002 - 1	0.850|1.82	< 0.050|0.364	0.0214|< 0.050	0.0108|0.103	0.0050|< 0.05	0.210|0.124	0.612|0.553	0.198|0.234	0.530|0.421	0.0578|< 0.1
Potassium, total	mg/L	-	-	0.05 - 1	2.93	1.63	1.50	1.68	1.22	2.12	3.01	1.78	2.73	1.29
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.0131	0.00111	0.00085	0.00309	0.00068	0.00394	0.0121	0.00566	0.0101	0.00228
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	0.000451	< 0.000050	< 0.000050	< 0.0001	-	< 0.000100	0.000352	0.000459	0.000508	0.000365
Silicon, total	mg/L	-	-	0.1 - 2	20.4	7.61	6.27	9.82	6.21	10.7	19.7	11.2	18.4	7.61
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	0.000049	< 0.000010	< 0.000010	-	-	0.000020	0.000042	< 0.000020	0.000038	-
Sodium, total	mg/L	-	-	0.05 - 1	2.47	2.19	1.81	2.02	1.72	2.26	2.55	1.98	2.44	1.70
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.341	0.0774	0.0696	0.0956	0.0688	0.0966	0.204	0.106	0.179	0.0749
Sulfur, total	mg/L	-	-	0.5 - 10	1.19	2.05	2.09	1.54	2.03	1.76	1.31	1.02	< 1	< 1
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.00020	< 0.0004	< 0.0002	< 0.00040	< 0.00020	< 0.00040	< 0.0004	< 0.0004
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	0.000096	< 0.000010	< 0.000010	0.000022	-	< 0.000020	0.000126	0.000057	0.000095	0.000039
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00407	0.00010	< 0.00010	0.00057	< 0.0001	0.00081	0.00405	0.00148	0.00363	0.00058
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00098	0.00017	0.00059	0.00049	0.00034	0.00042	0.00044	0.00032	0.00027	< 0.0002
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.510	0.0187	0.00421	0.107	0.00152	0.135	0.549	0.223	0.520	0.0831
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	0.00023	< 0.00010	< 0.00010	< 0.0002	< 0.0001	< 0.00020	< 0.00010	< 0.00020	< 0.0002	< 0.0002
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.00207	0.00236	0.00254	0.00223	0.00182	0.00288	0.00166	0.00132	0.00165	0.00116
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	**0.0236**	0.00081	< 0.00050	0.00426	< 0.0005	0.00483	**0.0207**	**0.00824**	**0.0171**	0.00313
Zinc, total	mg/L	0.03	-	0.003 - 0.06	**0.0362**	0.0045	0.0040	0.0076	< 0.003	0.0081	0.0276	0.0139	0.0208	< 0.006
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00212	0.00022	< 0.00020	0.00050	< 0.0002	0.00058	0.00293	0.00090	0.00250	0.00051
Volatile Organic Compounds														
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	**0.53**	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	**1.34**	< 0.50	< 0.50	< 0.5	< 0.5	**0.97**	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	1.64	1.82	0.69	< 0.4	< 0.4	2.60	0.82	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	0.68	0.74	0.30	< 0.3	< 0.3	1.02	0.40	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	2.32	2.56	0.99	< 0.5	< 0.5	3.62	1.22	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes														
SUM OF BTEX	ug/L	-	-	1.0	3.7	2.6	< 1.0	< 1	< 1	5.1	1.2	< 1.0	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/25/22	6/28/23	8/08/23	8/08/23	9/20/23	8/14/24	9/29/24
					MW22-06-1	MW22-06-1	MW22-06-1	DUP-01 (MW22-06-1)	MW22-06-1	MW22-06-1	MW22-06-1
Anions and Nutrients											
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0326	< 0.0050	< 0.0050	0.0114	0.0066	0.101	0.0300
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.44	0.30	0.44	0.32	0.34	0.39	0.24
Fluoride	mg/L	-	-	0.020 - 0.040	0.034	< 0.020	< 0.020	< 0.020	0.026	< 0.02	0.045
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	0.027	0.034	0.039	0.158	0.039	0.022	0.021
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.808	0.0026|< 0.050	0.0072|< 0.050	0.0039|< 0.050	0.0032|< 0.050	< 0.002|< 0.05	0.0045|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	1.41	1.59	1.48	1.36	1.73	1.24	1.19
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.54	1.34	1.29	2.35	1.99	1.43	1.79
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	24	< 10	< 10	< 10	< 10	13	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Dissolved Metals											
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0018	0.0010	0.0010	0.0015	0.0016	0.0017	< 0.001
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00022	0.00017	0.00017	0.00017	0.00017	0.00022	0.00016
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0126	0.0112	0.0106	0.0111	0.0108	0.0106	0.00994
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.0000192	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	59.0	57.5	66.0	62.8	61.1	60.0	63.6
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00052	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00067	0.00022	0.00028	0.00027	0.00030	0.00294	0.00028
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0024	0.0014	0.0014	0.0015	0.0016	0.0016	0.0017
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	10.5	11.0	11.3	11.0	11.7	11.4	10.5
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0174	0.00061	0.00140	0.00150	0.00264	0.00074	0.00091
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000029	< 0.000020	< 0.000020	< 0.000020	0.000044	0.000035	0.000066
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.000290	0.000202	0.000216	0.000198	0.000202	0.000288	0.000181
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.793	0.729	0.642	0.648	0.688	0.639	0.626
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00119	0.00118	0.00111	0.00107	0.00115	0.00096	0.00100
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000059	0.000066	0.000055	0.000076	0.000060	0.000060	0.000058
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.24	4.31	4.48	4.38	4.38	4.35	4.29
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	1.20	1.18	1.09	1.09	1.19	1.08	1.10
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0478	0.0509	0.0525	0.0532	0.0502	0.0500	0.0480
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.61	< 0.50	0.54	0.78	< 0.50	0.50	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00025	< 0.00010	< 0.00010	0.00027	< 0.00010	0.00020	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000339	0.000215	0.000228	0.000235	0.000236	0.000227	0.000238
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0021	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0018	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests											
Conductivity	uS/cm	-	-	2.0	363	351	362	361	382	362	346
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	213	198	208	203	221	244	244
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	190	189	211	202	201	197	202
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	228	202	222	210	196	184	207
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	2300	< 3.0	< 3.0	< 3.0	< 3.0	< 3	3.3
pH	pH units	6.5 - 8.5	-	0.1	8.07	8.15	8.23	8.25	8.11	7.94	8.13
Polycyclic Aromatic Hydrocarbon											
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	0.043	0.035	< 0.015	0.057	0.036
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	0.013	0.010	< 0.010	0.018	0.012
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	0.030	0.025	0.010	0.039	0.024
Naphthalene	ug/L	7	7	0.050	-	< 0.050	0.088	0.074	< 0.050	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters											
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	0.26	< 0.1	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-
Total Metals											
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	0.0090	0.0247	0.0218	0.0072	0.0045	0.0130
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00020	0.00018	0.00018	0.00019	0.00019	0.00019
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0116	0.0112	0.0108	0.0113	0.0106	0.0107
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	< 0.0000050	0.0000122	0.0000071	< 0.0000050	-	-
Calcium, total	mg/L	-	-	0.05 - 1	-	54.6	58.2	59.4	60.5	66.3	62.9
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	< 0.010	0.040	0.032	< 0.010	< 0.01	0.020
Lead, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0015	0.0016	0.0019	0.0018	0.0014	0.0018
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	11.4	11.1	11.2	11.1	11.2	10.6
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.00205	0.00601	0.00587	0.00346	0.00126	0.00321
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000021	0.000041
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.000199	0.000178	0.000181	0.000212	0.000194	0.000183
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00132	< 0.0005
Phosphorus, total	mg/L	-	-	0.002 - 1	0.808	0.0026|< 0.050	0.0072|< 0.050	0.0039|< 0.050	0.0032|< 0.050	< 0.002|< 0.05	0.0045|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	-	0.757	0.729	0.721	0.659	0.657	0.656
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00115	0.00123	0.00116	0.00119	0.00106	0.00097
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	0.000078	0.000060	0.000067	0.000082	0.000077	0.000084
Silicon, total	mg/L	-	-	0.1 - 2	-	4.40	4.37	4.44	4.46	4.33	4.25
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	1.20	1.30	1.28	1.22	1.12	1.08
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.0489	0.0510	0.0510	0.0497	0.0490	0.0489
Sulfur, total	mg/L	-	-	0.5 - 10	-	0.56	0.74	0.62	0.60	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	0.00018	0.00013	< 0.00010	< 0.0001	0.00013
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.00054	0.00144	0.00159	0.00037	< 0.0003	0.00079
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.000225	0.000236	0.000236	0.000251	0.000226	0.000236
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	< 0.0030	0.0042	< 0.0030	< 0.0030	< 0.003	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Volatile Organic Compounds											
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	5.9	< 1.0	< 1.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes											
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Table D3 Analytical Results: Marten Falls Community Access Road
Hydrogeological Investigation, AECOM

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/25/22	6/28/23	6/28/23	8/08/23	9/20/23	8/14/24	9/29/24	11/25/22	6/28/23	9/23/23	6/10/24	8/15/24	9/30/24
					MW22-06-2	MW22-06-2	DUP (MW22-06-2)	MW22-06-2	MW22-06-2	MW22-06-2	MW22-06-2	MW22-06-3	MW22-07-01	MW22-07-1	MW22-07-1	MW22-07-1	MW22-07-1
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0135	< 0.0050	< 0.0050	< 0.0050	0.0090	4.35	0.0523	< 0.0500	0.194	0.610	0.875	-	0.112
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	0.10	< 0.10	< 0.1	< 0.1	< 0.10	0.12	< 0.10	< 0.1	-	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.26	0.24	0.30	0.26	0.28	0.42	0.27	0.30	7.57	4.86	0.48	-	3.09
Fluoride	mg/L	-	-	0.020 - 0.040	0.024	< 0.020	0.024	< 0.020	0.020	< 0.02	0.030	0.046	0.134	0.171	0.134	-	0.343
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	0.031	0.030	0.027	0.051	0.129	0.028	0.028	< 0.020	< 0.020	0.052	< 0.02	-	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	0.020	-	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.411	0.0043|< 0.050	0.0038|< 0.050	0.0068|< 0.050	< 0.0020|< 0.050	0.0021|< 0.05	0.0042|< 0.05	0.364	0.0275|< 0.050	0.0545|0.052	0.0389|< 0.05	< 0.05	0.130|0.086
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	1.40	1.50	1.56	1.52	1.92	1.73	1.62	1.36	< 0.30	< 0.30	5.74	-	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	1.32	1.66	1.27	1.52	1.43	1.97	2.20	2.43	12.9	10.6	1.99	-	10.6
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	-	8.1	6.1	< 3	-	3.0
Chemical oxygen demand [COD]	mg/L	-	-	10	53	10	10	< 10	< 10	10	< 10	49	55	41	12	-	43
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																	
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0214	0.0017	0.0012	0.0018	0.0019	0.0028	0.0030	0.0073	0.0053	0.0104	0.0054	0.0082	0.0104
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00024	0.00059	< 0.0001	0.00028	0.00098
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00020	0.00017	0.00018	0.00019	0.00017	0.00020	0.00021	0.00019	0.00360	0.00359	0.00273	0.00394	0.00469
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0141	0.0128	0.0115	0.0118	0.0117	0.0110	0.0112	0.0140	0.0351	0.0309	0.0255	0.0289	0.0324
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	0.104	0.091	0.026	0.118	0.103
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000089	< 0.0000050	< 0.0000050	0.0000214	0.0000138	0.0000108	0.0000318
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	61.3	60.0	59.5	62.2	60.9	60.9	65.7	60.1	54.9	53.3	60.3	48.1	48.0
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	0.00065	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00050	0.00056	0.00060	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	-	0.00054
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00015	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00011	0.00082	0.00082	0.00030	0.00058	0.00047
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00092	0.00036	0.00023	0.00038	0.00042	0.00042	0.00471	0.00084	0.00052	0.00121	0.00079	0.00052	0.00081
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	0.026	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	**0.457**	0.123	0.021	0.300	**0.326**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	0.000059	< 0.000050	< 0.000050	-	-	0.000079
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0023	0.0012	0.0014	0.0012	0.0016	0.0013	0.0063	0.0022	0.0039	0.0071	0.0033	0.0032	0.0030
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	11.0	12.2	11.4	11.4	11.6	11.6	11.5	10.7	20.8	21.1	15.3	19.7	18.6
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0434	0.00106	0.00056	0.00078	0.00067	0.00084	0.00022	0.0407	0.204	0.203	0.228	0.209	0.187
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000135	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000035	< 0.000020	< 0.000020	0.000103	< 0.000020	0.000046	-	0.000054	0.000024	< 0.000020	-	0.000056	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.000293	0.000083	0.000203	0.000083	0.000102	0.000087	0.000070	0.000315	0.00901	0.0105	0.00156	0.0105	0.00895
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	0.00057	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	0.00183	**0.0146**	0.00139	0.00878	0.00628
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.22	0.582	0.729	0.538	0.562	0.493	0.491	1.23	5.05	4.08	1.52	3.26	3.41
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00190	0.00132	0.00116	0.00132	0.00123	0.00124	0.00130	0.00186	0.00166	0.00152	0.00099	0.00138	0.00136
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000077	0.000070	0.000062	0.000103	0.000085	0.000130	0.000297	0.000086	0.000068	0.000081	-	0.000072	0.000073
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	3.86	3.85	4.26	3.91	3.59	3.86	3.64	3.86	8.22	8.66	6.80	9.02	8.53
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	1.11	1.08	1.15	0.955	0.979	1.04	1.52	1.15	22.5	23.6	5.94	22.4	22.5
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0531	0.0492	0.0514	0.0509	0.0488	0.0494	0.0488	0.0527	0.253	0.243	0.187	0.262	0.247
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.54	< 0.50	< 0.50	0.57	< 0.50	0.60	< 0.5	0.58	< 0.50	< 0.50	2.16	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	0.000011	< 0.000010	< 0.000010	0.000011	< 0.000010	-	-	0.000011	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00013	0.00010	0.00178	0.00214	0.00019	0.00193	0.00195
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00109	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00015	0.00016	< 0.0001	0.00010	0.00012
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000420	0.000229	0.000206	0.000236	0.000237	0.000228	0.000240	0.000414	0.000658	0.000516	0.000658	0.000466	0.000823
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.00068
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	0.0165	< 0.0010	0.0020	0.0269	0.0040	0.0078	0.0052
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																	
Conductivity	uS/cm	-	-	2.0	367	345	346	357	373	368	357	362	482	486	416	-	435
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	226	203	196	205	218	275	259	330	268	276	244	-	287
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	198	200	196	202	200	200	211	194	223	220	214	-	196
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	245	217	216	219	190	212	201	262	293	278	213	-	264
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	1380	10.9	< 3.0	9.2	< 3.0	< 3	< 3	6110	6.5	56.2	20.0	-	598
pH	pH units	6.5 - 8.5	-	0.1	8.07	8.08	8.2	8.18	8.11	8.04	8.11	8.03	8.33	8.34	8.3	-	8.12
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.094	-	< 0.01	-	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	-	< 0.005	-	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Chrysene	ug/L	0.0001	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	-	< 0.0050	-	< 0.005	-	< 0.005
Fluoranthene	ug/L	0.0008	0.4	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	< 0.015	0.039	< 0.015	0.064	0.018	-	< 0.015	-	< 0.015	-	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	< 0.010	0.012	< 0.010	0.021	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	< 0.010	0.027	0.012	0.043	0.018	-	0.012	-	< 0.01	-	0.013
Naphthalene	ug/L	7	7	0.050	-	< 0.050	< 0.050	0.086	< 0.050	0.060	< 0.05	-	< 0.050	-	< 0.05	-	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	-	< 0.020	-	< 0.02	-	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	< 0.010	-	< 0.01	-	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	0.14	-	-	-	-
Total Metals																	
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	0.0619	0.0077	0.0918	0.0086	0.0867	0.0185	-	0.0503	0.306	0.101	0.418	0.524
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	-	0.00027	0.00318	0.00042	0.00048	0.00150
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00025	0.00019	0.00028	0.00018	0.00029	0.00021	-	0.00372	0.00445	0.00257	0.00503	0.00621
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0132	0.0116	0.0128	0.0119	0.0123	0.0126	-	0.0358	0.0385	0.0261	0.0334	0.0341
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	-	-	0.000025
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	-	0.107	0.102	0.022	0.104	0.118
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	< 0.0000050	< 0.0000050	0.0000051	< 0.0000050	-	-	-	0.0000099	0.000130	0.0000369	0.0000304	0.0000863
Calcium, total	mg/L	-	-	0.05 - 1	-	56.4	57.8	58.0	56.2	67.2	64.8	-	52.6	54.4	64.1	60.5	57.0
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	0.000014	< 0.000010	0.000014	-	-	< 0.000010	0.000028	-	0.000039	0.000043
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.00062	< 0.00050	0.00078	0.00053	0.00099	0.00058	-	< 0.00050	0.00314	0.00050	0.00220	0.00269
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	-	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	0.00025	< 0.00010	0.00032	< 0.00010	0.00025	< 0.0001	-	0.00087	**0.00114**	0.00039	0.00088	0.00084
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	0.00091	< 0.00050	0.00110	< 0.00050	0.00089	< 0.0005	-	< 0.00050	0.00291	0.00085	0.00162	0.00243
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	0.097	< 0.010	0.157	0.011	0.156	0.026	-	**0.573**	**0.807**	0.122	**0.993**	**1.12**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	0.000163	< 0.000050	0.000107	-	-	< 0.000050	0.000415	0.000124	0.000323	0.000610
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0012	0.0018	0.0016	0.0014	0.0011	0.0014	-	0.0037	0.0057	0.0038	0.0034	0.0038
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	12.4	10.8	11.5	10.9	12.8	11.7	-	20.2	20.5	14.7	22.2	20.5
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.0174	0.00200	0.0223	0.00203	0.0175	0.00322	-	0.210	0.221	0.215	0.228	0.209
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	-	-	0.0000154
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000020	-	-	< 0.000020	0.000034	0.000083	-	0.000516
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.000081	0.000191	0.000086	0.000098	0.000091	0.000077	-	0.00871	0.0117	0.00175	0.00996	0.00885
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00084	< 0.0005	-	0.00208	0.0198	0.00232	0.0106	0.00843
Phosphorus, total	mg/L	-	-	0.002 - 1	0.411	0.0043|< 0.050	0.0038|< 0.050	0.0068|< 0.050	< 0.0020|< 0.050	0.0021|< 0.05	0.0042|< 0.05	0.364	0.0275|< 0.050	0.0545|0.052	0.0389|< 0.05	< 0.05	0.130|0.086
Potassium, total	mg/L	-	-	0.05 - 1	-	0.621	0.728	0.608	0.539	0.514	0.519	-	4.91	3.96	1.47	3.36	3.35
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00149	0.00111	0.00145	0.00118	0.00138	0.00121	-	0.00177	0.00191	0.00115	0.00198	0.00186
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	0.000095	0.000057	0.000073	0.000110	0.000118	0.000112	-	0.000085	0.000098	-	0.000065	0.000084
Silicon, total	mg/L	-	-	0.1 - 2	-	3.96	4.38	3.97	3.88	4.08	3.85	-	8.39	9.16	6.41	9.70	9.24
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	0.000033	0.000010	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	1.20	1.16	1.05	0.983	1.05	1.08	-	23.2	21.0	5.65	25.2	22.0
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.0496	0.0492	0.0486	0.0461	0.0519	0.0486	-	0.234	0.247	0.178	0.281	0.267
Sulfur, total	mg/L	-	-	0.5 - 10	-	0.63	0.55	0.69	0.69	< 0.5	0.54	-	< 0.50	< 0.50	1.91	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	-	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	< 0.000010	< 0.000010	< 0.000010	0.000012	-	-	-	< 0.000010	< 0.000010	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	-	< 0.00010	< 0.00010	< 0.0001	0.00012	0.00013
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00021	0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	-	0.00326	0.00592	0.00090	0.00468	0.00306
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.00370	0.00040	0.00518	0.00062	0.00707	0.00107	-	0.00280	0.0149	0.00504	0.0203	0.0201
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00012	-	0.00012	0.00027	0.00011	0.00012	0.00019
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.000239	0.000242	0.000246	0.000271	0.000231	0.000246	-	0.000700	0.000577	0.000675	0.000529	0.000822
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	< 0.00050	< 0.00050	0.00054	< 0.00050	0.00062	< 0.0005	-	0.00062	0.00086	< 0.0005	0.00144	0.00149
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	0.0036	0.0031	< 0.0030	< 0.0030	< 0.003	< 0.003	-	< 0.0030	**0.0475**	0.0086	0.0233	0.0236
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	-	0.00037	0.00053	< 0.0002	0.00064	0.00071
Volatile Organic Compounds																	
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	25	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	-	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	**9.0**	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	-	0.54	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	-	0.51	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	-	1.05	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	-	1.0	< 1.0	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/27/22	6/28/23	9/23/23	6/10/24	8/15/24	9/30/24	11/27/22	11/27/22
					MW22-07-2	MW22-07-02	MW22-07-2	MW22-07-2	MW22-07-2	MW22-07-2	MW22-07-3	MW22-07-4
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.130	0.0891	0.246	1.03	0.162	0.0438	< 0.0500	0.0189
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	0.10	< 0.10
Chloride	mg/L	-	790	0.10 - 0.20	0.92	0.66	0.76	3.24	0.44	0.51	3.40	2.87
Fluoride	mg/L	-	-	0.020 - 0.040	0.135	0.139	0.148	0.188	0.073	0.218	0.079	0.087
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	0.020	< 0.02	< 0.02	< 0.02	0.040	< 0.020
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	0.011	0.047	< 0.010	< 0.010
Phosphorus, Total	mg/L	-	-	0.002 - 1	1.45	0.0415|0.104	0.215|1.07	0.0513|< 0.05	0.0345|< 0.05	0.0162|< 0.05	0.827	0.0127
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	2.71	7.22	6.97	0.38	4.46	4.16	3.46	3.23
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	2.74	2.32	3.68	14.0	2.36	2.32	2.34	2.58
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	-	15.4	< 2	< 2	-	-
Chemical oxygen demand [COD]	mg/L	-	-	10	37	17	58	44	< 10	10	37	16
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050
Dissolved Metals												
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0019	0.0024	0.0083	0.0057	0.0024	0.0025	0.0034	0.0038
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	0.00018	0.00014	0.00045	0.00022	0.00010	0.00011	0.00012	0.00018
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00141	0.00278	0.00238	0.00448	0.00238	0.00208	0.00042	0.00082
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0300	0.0275	0.0284	0.0290	0.0228	0.0231	0.0147	0.0189
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.03	0.035	0.033	0.114	0.022	0.023	0.02	0.028
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.0000072	< 0.0000050	0.0000139	0.0000074	0.0000264	0.0000119	< 0.0000050	< 0.0000050
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	59.2	60.3	61.5	50.2	59.3	63.8	59.8	54.4
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00095	< 0.0005	< 0.0005	< 0.00050	< 0.00050
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	-
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00040	0.00040	0.00037	0.00068	0.00024	0.00016	< 0.00010	0.00013
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00043	0.00095	0.00122	< 0.0002	0.00080	0.00037	0.00075	0.00057
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	0.049	< 0.010	**0.550**	< 0.01	< 0.01	< 0.010	< 0.010
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0043	0.0031	0.0065	0.0036	0.0031	0.0031	0.0038	0.0042
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	13.9	15.2	15.8	20.2	14.4	14.1	13.3	13.4
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.181	0.244	0.193	0.209	0.204	0.177	0.00205	0.0247
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000022	< 0.000020	-	0.000026	0.000023	0.000048	0.000101	< 0.000020
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00249	0.00232	0.00228	0.0109	0.00103	0.00113	0.00471	0.00523
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	0.00050	0.00315	0.0108	< 0.0005	0.00065	0.00098	0.00078
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.69	2.07	2.13	3.83	1.26	1.32	2.64	3.47
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00156	0.00121	0.00142	0.00126	0.00092	0.00089	0.00120	0.00149
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000074	-	-	0.000246	0.000188
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.86	6.88	6.96	8.96	6.38	6.55	5.02	5.27
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	6.40	6.52	7.72	23.8	4.99	5.94	3.69	5.01
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.177	0.191	0.194	0.280	0.165	0.169	0.0752	0.103
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.07	2.06	2.38	< 0.5	1.52	1.54	1.28	1.10
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	0.000015	0.000018
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00060	0.00070	0.00138	0.00123	0.00014	0.00014	0.00066	0.00059
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0009	< 0.0003	< 0.00030	< 0.00030
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	0.00016	0.00022	< 0.0001	< 0.00010	< 0.00010
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000977	0.000944	0.000838	0.000379	0.000431	0.000491	0.000685	0.000938
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	0.00066	< 0.00050	0.00056	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0015	0.0023	0.0153	0.0015	0.0044	0.0038	0.0014	< 0.0010
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030
Physical Tests												
Conductivity	uS/cm	-	-	2.0	402	400	421	461	406	387	390	382
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	241	235	270	276	274	268	229	231
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	205	213	219	208	207	217	204	191
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	252	406	340	238	234	232	250	246
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	3110	1790	2090	41.4	20.5	5.5	624	906
pH	pH units	6.5 - 8.5	-	0.1	8.07	8.09	8.21	8.23	7.99	8.15	8.07	8.07
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.059	-	< 0.01	< 0.01	< 0.01	-	-
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	-	-
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	-	-
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	-	< 0.005	< 0.005	< 0.005	-	-
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	-	-
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	-	-
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	-	-
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	-	*< 0.005*	*< 0.005*	*< 0.005*	-	-
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	-	-
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	-	0.032	0.406	0.364	-	-
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	-	0.013	0.134	0.134	-	-
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	-	0.019	0.272	0.230	-	-
Naphthalene	ug/L	7	7	0.050	-	< 0.050	-	< 0.05	0.450	0.251	-	-
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	-	< 0.02	< 0.02	< 0.02	-	-
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	-	< 0.01	< 0.01	< 0.01	-	-
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	-	-	-	-	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	-	-	-	-	-	-	-
Total Metals												
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	1.30	3.41	0.236	0.0189	0.0357	-	-
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	0.00045	0.00116	0.00030	0.00014	0.00026	-	-
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00345	0.00397	0.00481	0.00250	0.00223	-	-
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0375	0.0588	0.0281	0.0242	0.0245	-	-
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000054	0.000154	-	-	-	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000100	-	-	-	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	0.040	0.045	0.108	0.022	0.024	-	-
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	0.0000242	0.000126	0.0000269	0.0000204	0.0000129	-	-
Calcium, total	mg/L	-	-	0.05 - 1	-	86.0	113	53.2	67.3	62.7	-	-
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000139	0.000408	0.000020	-	-	-	-
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.00293	0.00859	0.00201	< 0.0005	< 0.0005	-	-
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	-
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	**0.00132**	**0.00264**	0.00076	0.00030	0.00018	-	-
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	0.00217	**0.00684**	0.00111	< 0.0005	0.00064	-	-
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**1.63**	**4.39**	**0.939**	0.045	0.051	-	-
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.000732	0.00212	0.000197	0.000522	-	-	-
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0051	0.0093	0.0037	0.0030	0.0036	-	-
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	21.8	27.7	19.6	15.3	14.2	-	-
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.305	0.331	0.211	0.211	0.182	-	-
Mercury, total	mg/L	0.0002	-	0.0000050	-	0.0000163	0.0000065	-	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000030	0.000045	0.000084	0.000026	0.000083	-	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.00209	0.00223	0.00997	0.00100	0.00102	-	-
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	0.00238	0.0101	0.0109	0.00059	0.00094	-	-
Phosphorus, total	mg/L	-	-	0.002 - 1	1.45	0.0415|0.104	0.215|1.07	0.0513|< 0.05	0.0345|< 0.05	0.0162|< 0.05	0.827	0.0127
Potassium, total	mg/L	-	-	0.05 - 1	-	2.50	3.00	3.33	1.29	1.37	-	-
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00375	0.00772	0.00149	0.00101	0.00099	-	-
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	< 0.000050	0.000138	0.000075	-	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	-	9.56	13.7	8.61	6.72	6.60	-	-
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	< 0.000010	0.000026	-	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	7.34	7.43	23.4	5.79	5.22	-	-
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.203	0.234	0.259	0.176	0.164	-	-
Sulfur, total	mg/L	-	-	0.5 - 10	-	2.43	2.62	< 0.5	1.62	1.62	-	-
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00040	< 0.0002	< 0.0002	< 0.0002	-	-
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	0.000012	0.000096	-	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00057	0.00148	< 0.0001	< 0.0001	< 0.0001	-	-
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00099	0.00291	0.00202	0.00024	0.00032	-	-
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.0950	0.208	0.00946	0.00112	0.00178	-	-
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00010	< 0.00020	0.00014	< 0.0001	< 0.0001	-	-
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.00107	0.00109	0.000399	0.000460	0.000450	-	-
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	0.00333	**0.00795**	0.00085	< 0.0005	< 0.0005	-	-
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	0.0060	**0.0860**	0.0148	0.0048	0.0043	-	-
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	0.00090	0.00150	0.00036	< 0.0002	< 0.0002	-	-
Volatile Organic Compounds												
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	-
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2	< 2	< 2	-	-
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	-
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	-
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	-
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	-
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	-	-
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	-	-
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	-
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	-
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1	< 1	< 1	-	-

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/25/22	6/27/23	8/11/23	9/23/23	6/10/24	8/12/24	9/30/24	9/30/24
					MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW22-08-1	MW DUP 2 (MW22-08-1)
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.491	0.587	0.555	0.379	0.400	0.412	0.413	0.442
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.70	0.31	0.30	0.26	0.23	0.23	0.23	0.20
Fluoride	mg/L	-	-	0.020 - 0.040	0.262	0.402	0.351	0.414	0.494	0.269	0.823	0.723
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.296	0.864|0.281	0.948|1.03	0.157|0.203	0.242|0.218	0.223|0.164	0.143|0.199	0.125|0.166
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	0.56	< 0.30	0.33	0.35	0.49	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	6.25	6.13	7.42	6.25	8.62	6.49	6.34	7.43
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 3.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	42	74	84	19	22	18	16	17
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	0.161	0.121	0.198	0.153	0.132	0.150
Dissolved Metals												
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0019	0.0171	0.0014	0.0015	0.0020	0.0012	0.0015	0.0011
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00550	0.00893	**0.0139**	**0.0136**	**0.0212**	**0.0159**	**0.0145**	**0.0155**
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0457	0.0550	0.0406	0.0374	0.0403	0.0408	0.0368	0.0363
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.079	0.099	0.111	0.088	0.079	0.109	0.095	0.091
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	59.1	55.5	53.8	61.5	68.9	65.3	63.9	65.0
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00037	0.00036	0.00026	0.00028	0.00035	0.00022	0.00020	0.00021
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00036	< 0.00020	0.00058	0.00040	< 0.0002	0.00101	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	0.157	0.276	**1.05**	**1.24**	**1.76**	**1.38**	**1.34**	**1.47**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0056	0.0044	0.0055	0.0049	0.0045	0.0051	0.0048	0.0048
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	17.5	19.5	19.8	20.4	20.4	20.7	18.9	18.8
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.211	0.226	0.166	0.177	0.248	0.150	0.156	0.166
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000032	< 0.000020	0.000050	< 0.000020	0.000021	0.000037	0.000022	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00639	0.00729	0.00644	0.00645	0.00828	0.00684	0.00658	0.00643
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00072	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	0.161	0.121	0.198	0.153	0.132	0.150
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.65	2.38	2.18	1.92	1.70	1.97	1.81	1.84
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00080	0.00082	0.00068	0.00057	0.00052	0.00058	0.00052	0.00052
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000074	-	-	0.000087	0.000139
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	7.83	7.73	7.87	8.24	8.02	8.56	7.96	8.28
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	28.9	28.9	29.6	26.8	17.7	23.8	22.2	21.6
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.314	0.428	0.446	0.434	0.470	0.450	0.426	0.410
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.83	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00010	< 0.00010	0.00023	< 0.00010	< 0.0001	0.00011	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	0.00102	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00011	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.00127	0.000868	0.000200	0.000180	0.000386	0.000088	0.000066	0.000090
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	0.00068	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	0.0020	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	2.0	489	496	517	517	505	496	495	488
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	293	310	317	315	293	298	299	361
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	220	219	216	238	256	248	237	240
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	306	362	458	312	272	301	306	305
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	352	158	2270	196	98.4	15.4	175	39.3
pH	pH units	6.5 - 8.5	-	0.1	8.14	8.32	8.17	8.36	8.15	8.19	8.08	7.96
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	0.033	0.056	0.107	0.104	0.063	0.030	0.038
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	0.011	0.014	0.029	0.028	0.015	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	0.022	0.042	0.078	0.076	0.048	0.030	0.038
Naphthalene	ug/L	7	7	0.050	-	< 0.050	0.104	0.184	0.142	0.104	0.060	0.078
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	0.55	< 0.1	< 0.1	-	-	-	-
Total Metals												
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	9.91	20.6	1.47	1.30	0.149	0.925	0.310
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00050	< 0.00050	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.0119	0.0195	0.0155	0.0186	0.0152	0.0168	0.0166
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.129	0.205	0.0501	0.0479	0.0409	0.0461	0.0411
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000356	0.000824	0.000056	0.000060	-	0.000034	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000250	< 0.000250	< 0.000050	< 0.0001	-	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	0.118	0.134	0.092	0.081	0.116	0.109	0.105
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	0.0000554	0.000133	0.0000170	0.0000199	-	0.0000100	-
Calcium, total	mg/L	-	-	0.05 - 1	-	120	286	77.8	77.1	62.1	70.3	66.5
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.00119	0.00260	0.000197	0.000167	0.000018	0.000123	0.000036
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.0213	0.0493	0.00346	0.00301	< 0.0005	0.00200	0.00074
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	**0.00619**	**0.0146**	**0.00124**	**0.00104**	0.00030	0.00075	0.00039
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	**0.0113**	**0.0294**	0.00170	0.00173	< 0.0005	0.00107	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**11.4**	**29.0**	**3.11**	**3.14**	**1.66**	**2.73**	**1.94**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.00436	0.0128	0.000792	0.000846	0.000082	0.000473	0.000155
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0187	0.0415	0.0073	0.0066	0.0052	0.0068	0.0057
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	31.8	65.9	22.3	21.3	20.2	20.6	19.8
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.467	0.845	0.254	0.254	0.165	0.197	0.182
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000028	0.000060	0.000033	0.000066	0.000036	0.000034	0.000039
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.00587	0.00461	0.00659	0.00766	0.00717	0.00704	0.00682
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	0.0158	**0.0365**	0.00251	0.00251	< 0.0005	0.00157	0.00064
Phosphorus, total	mg/L	-	-	0.002 - 1	0.296	0.864|0.281	0.948|1.03	0.157|0.203	0.242|0.218	0.223|0.164	0.143|0.199	0.125|0.166
Potassium, total	mg/L	-	-	0.05 - 1	-	5.30	8.06	2.22	2.06	1.95	2.06	1.91
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.0202	0.0432	0.00343	0.00332	0.00077	0.00242	0.00107
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	< 0.000250	< 0.000250	0.000063	< 0.0001	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	-	26.4	48.4	11.3	10.2	8.57	10.1	8.83
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	< 0.000050	0.000078	< 0.000010	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	30.7	30.5	21.6	18.1	21.5	20.0	20.6
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.470	0.627	0.437	0.464	0.435	0.455	0.432
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 2.50	< 2.50	< 0.50	< 1	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00100	< 0.00100	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	0.000075	0.000264	0.000014	-	-	0.000010	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00360	0.00891	0.00064	0.00055	< 0.0001	0.00042	0.00014
Tin, total	mg/L	-	-	0.0001 - 0.002	-	< 0.00050	< 0.00050	0.00018	0.00025	< 0.0001	0.00013	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.516	1.03	0.0842	0.0736	0.00963	0.0508	0.0171
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00050	< 0.00050	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.00140	0.00186	0.000418	0.000403	0.000099	0.000206	0.000152
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	**0.0220**	**0.0480**	0.00342	0.00297	< 0.0005	0.00212	0.00081
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	**0.0306**	**0.0712**	0.0055	0.0062	< 0.003	0.0031	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	0.00218	0.00328	0.00126	0.00107	0.00025	0.00096	0.00038
Volatile Organic Compounds												
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	0.50	**0.75**	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	0.51	**0.94**	**1.71**	**2.07**	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	0.71	1.27	2.13	3.26	0.82	0.57	0.49
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	0.37	0.78	1.19	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	0.71	1.64	2.91	4.45	0.82	0.57	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	-	1.2	2.6	5.1	7.3	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/25/22	6/27/23	8/11/23	9/23/23	6/10/24	8/12/24	9/30/24	9/30/24
					MW-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW22-08-2	MW DUP 3 MW22-08-2
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	< 0.0250	0.168	0.0675	0.0819	0.106	0.237	0.0712	0.128
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.40	0.31	0.26	0.27	0.22	0.20	0.17	0.20
Fluoride	mg/L	-	-	0.020 - 0.040	0.336	0.445	0.277	0.315	0.362	0.392	0.522	0.628
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	0.794	0.029	< 0.020	0.044	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.441	0.130|2.87	0.107|< 0.100	0.172|< 0.100	0.0769|< 0.1	0.285|< 0.5	0.0628|< 0.1	0.0781|< 0.1
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	1.14	0.38	1.08	1.31	0.87	< 0.3	0.56	0.57
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	6.76	6.94	7.68	7.36	12.1	9.76	7.72	7.72
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 3.0	< 2.0	< 2.0	< 3.8	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	203	386	41	54	32	48	22	23
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	0.077	0.092	0.085	0.185	0.132	0.132
Dissolved Metals												
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0022	0.0035	0.0049	0.0027	0.0049	0.0092	0.0020	0.0026
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00839	0.00590	0.0123	**0.0145**	0.0111	**0.0276**	**0.0224**	**0.0220**
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0313	0.0358	0.0331	0.0346	0.0297	0.0343	0.0312	0.0315
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.032	0.054	0.04	0.036	0.031	0.038	0.043	0.05
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	0.0000096	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	74.2	70.4	73.8	82.4	69.9	83.1	76.7	75.6
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	< 0.00010	0.00023	0.00021	0.00023	0.00021	0.00025	0.00015	0.00014
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00082	< 0.00020	< 0.00020	< 0.00020	0.00021	0.00093	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	0.110	**0.648**	**0.801**	**0.693**	**1.20**	**1.17**	**1.26**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0048	0.0039	0.0048	0.0046	0.0037	0.0041	0.0042	0.0047
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	15.7	18.2	18.6	19.8	16.4	19.1	18.6	17.4
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0467	0.242	0.218	0.258	0.217	0.241	0.191	0.189
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000040	0.000058	0.000038	< 0.000020	0.000045	0.000131	0.000021	0.000022
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00518	0.00586	0.00551	0.00494	0.00434	0.00566	0.00581	0.00603
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00072	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	0.077	0.092	0.085	0.185	0.132	0.132
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.38	1.26	1.19	1.26	1.22	1.40	1.30	1.28
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00044	0.00050	0.00044	0.00043	0.00037	0.00039	0.00038	0.00035
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000065	< 0.000050	0.000132	0.000414	-	0.000155	-	0.000241
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	7.31	6.85	7.03	7.91	6.26	8.81	7.82	7.82
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	10.8	12.6	14.6	12.4	20.5	11.9	12.4	11.7
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.204	0.278	0.328	0.319	0.294	0.342	0.352	0.340
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.57	< 0.50	0.72	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00013	< 0.00010	< 0.00010	< 0.00010	0.00031	0.00024	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	0.00038	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.00117	0.00154	0.000979	0.000852	0.000420	0.000358	0.000430	0.000420
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	0.00099	0.00192	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0014	< 0.0010	< 0.0010	< 0.0010	0.0011	0.0014	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests												
Conductivity	uS/cm	-	-	2.0	490	507	546	555	507	494	518	505
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	293	308	309	337	285	297	304	408
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	250	251	261	287	242	286	268	260
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	349	383	336	311	286	294	305	312
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	1360	250	44.7	49.8	11.2	108	17.3	14.3
pH	pH units	6.5 - 8.5	-	0.1	7.99	8.25	8.12	8.24	8.25	8.09	7.96	7.81
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.017	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	0.042	0.077	0.095	0.048	0.018	0.017	0.026
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	0.017	0.019	0.025	0.012	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	0.025	0.058	0.070	0.036	0.018	0.017	0.026
Naphthalene	ug/L	7	7	0.050	-	< 0.050	0.174	0.171	0.058	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	0.40	0.15	< 0.1	-	-	-	-
Total Metals												
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	5.04	1.23	2.01	0.169	5.35	0.953	0.968
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00020	0.00025	< 0.00020	< 0.0002	< 0.001	< 0.0002	< 0.0002
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00784	0.00985	0.00829	0.0121	0.0254	0.00744	0.00781
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0754	0.0455	0.0518	0.0328	0.0817	0.0433	0.0435
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000159	< 0.000040	0.000072	-	< 0.0002	0.000042	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000100	< 0.000100	< 0.0001	< 0.0005	< 0.0001	< 0.0001
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	0.061	0.045	0.037	0.033	< 0.1	0.054	0.051
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	0.0000598	0.0000149	0.0000277	0.0000319	0.0000683	0.0000140	0.0000100
Calcium, total	mg/L	-	-	0.05 - 1	-	94.4	89.8	90.0	77.9	128	84.1	87.3
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000581	0.000162	0.000270	0.000020	0.000633	0.000121	0.000123
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.0101	0.00230	0.00380	< 0.001	0.0110	0.00172	0.00175
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	**0.00294**	0.00084	**0.00125**	0.00032	**0.00343**	0.00060	0.00063
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	**0.00664**	0.00162	0.00244	< 0.001	**0.00771**	0.00140	0.00160
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**5.25**	**1.65**	**2.57**	**1.03**	**6.97**	**1.37**	**1.50**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.00208	0.000560	0.000935	0.000457	0.00271	0.000435	0.000459
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0097	0.0055	0.0072	0.0045	0.0111	0.0062	0.0061
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	24.0	20.9	21.9	16.3	29.7	19.1	20.4
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.350	0.245	0.257	0.228	0.426	0.211	0.211
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000322	0.000196	0.000214	0.000302	0.000626	0.000114	0.000146
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.00565	0.00481	0.00392	0.00456	0.00481	0.00432	0.00421
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	0.00752	0.00204	0.00323	0.00101	0.00911	0.00197	0.00191
Phosphorus, total	mg/L	-	-	0.002 - 1	0.441	0.130|2.87	0.107|< 0.100	0.172|< 0.100	0.0769|< 0.1	0.285|< 0.5	0.0628|< 0.1	0.0781|< 0.1
Potassium, total	mg/L	-	-	0.05 - 1	-	2.74	1.62	1.66	1.20	2.94	1.48	1.48
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00999	0.00294	0.00415	0.00072	0.0105	0.00226	0.00221
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	0.000165	< 0.000100	< 0.000100	< 0.0001	< 0.0005	< 0.0001	< 0.0001
Silicon, total	mg/L	-	-	0.1 - 2	-	15.9	9.90	10.8	6.66	18.0	8.71	8.91
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	-	< 0.0001	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	13.0	12.9	12.6	20.2	12.5	17.1	17.9
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.304	0.318	0.317	0.297	0.390	0.310	0.319
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 1.00	< 1.00	< 1.00	< 1	< 5	< 1	< 1
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00040	< 0.00040	< 0.00040	< 0.0004	< 0.002	< 0.0004	< 0.0004
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	0.000044	< 0.000020	< 0.000020	-	< 0.0001	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00094	0.00020	0.00043	< 0.0002	< 0.001	0.00030	0.00027
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00021	< 0.00020	< 0.00020	0.00034	< 0.001	< 0.0002	< 0.0002
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.216	0.0533	0.0819	0.00827	0.234	0.0377	0.0400
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.001	< 0.0002	< 0.0002
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.00211	0.00126	0.00136	0.000465	0.00112	0.00108	0.00112
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	**0.0120**	0.00266	0.00426	< 0.001	**0.0108**	0.00219	0.00232
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	0.0157	< 0.0060	0.0073	< 0.006	< 0.03	< 0.006	< 0.006
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	0.00176	0.00041	0.00075	< 0.0004	< 0.002	0.00098	0.00093
Volatile Organic Compounds												
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	0.63	**0.91**	0.75	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	0.65	2.04	1.92	0.44	< 0.4	0.40	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	0.64	0.63	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	0.65	2.68	2.55	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	-	1.3	3.6	3.3	< 1	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/24/22	6/27/23	8/11/23	9/20/23	6/10/24	8/12/24	9/30/24
					MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1	MW22-09-1
Anions and Nutrients											
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	1.46	1.01	1.14	1.41	1.15	1.14	1.32
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.20	0.18	< 0.20	< 0.2	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	6.86	6.01	6.39	5.82	5.46	5.64	5.45
Fluoride	mg/L	-	-	0.020 - 0.040	0.263	0.288	0.230	0.271	0.275	0.146	0.529
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.040	< 0.020	< 0.040	< 0.04	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.020	< 0.010	< 0.020	< 0.02	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	1.03	0.308|6.41	1.03|1.31	0.156|0.201	0.332|0.271	0.151|0.196	0.188|2.36
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.60	< 0.30	< 0.60	< 0.6	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	7.34	8.50	8.12	8.32	8.31	8.12	7.50
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	7.6	< 3.0	8.4	< 3.8	< 2	2.3
Chemical oxygen demand [COD]	mg/L	-	-	10	24	67	73	20	35	28	23
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	0.094	0.142	0.156	0.170	0.164	0.142
Dissolved Metals											
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0018	0.0030	0.0013	0.0012	0.0028	0.0027	0.0022
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00632	**0.0249**	**0.0152**	0.0130	**0.0173**	**0.0146**	0.0124
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0920	0.0923	0.0753	0.0688	0.0680	0.0683	0.0655
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.063	0.068	0.074	0.073	0.075	0.082	0.078
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	0.0000051	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	78.9	72.1	70.7	75.7	78.0	81.7	76.9
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00031	0.00033	0.00018	< 0.00010	0.00015	0.00011	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00045	< 0.00020	< 0.00020	< 0.00020	< 0.0002	0.00147	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**0.550**	**2.77**	**2.53**	**2.35**	**3.06**	**2.50**	**2.48**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0105	0.0068	0.0088	0.0086	0.0081	0.0083	0.0084
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	31.1	32.5	31.8	35.8	32.5	34.7	31.6
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0609	0.0721	0.0409	0.0312	0.0443	0.0321	0.0299
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000024	< 0.000020	0.000040	< 0.000020	-	0.000040	0.000037
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00178	0.00335	0.00257	0.00219	0.00315	0.00252	0.00228
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	0.094	0.142	0.156	0.170	0.164	0.142
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	3.23	2.93	2.70	2.80	2.82	2.87	2.73
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00187	0.00152	0.00112	0.00088	0.00109	0.00091	0.00091
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000059	-	-	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	9.68	9.09	9.68	9.50	9.67	10.4	9.61
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	18.3	18.3	17.9	19.3	18.4	18.8	17.7
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.429	0.445	0.471	0.473	0.495	0.486	0.448
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00011	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00015	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000081	0.000048	< 0.000010	< 0.000010	-	-	-
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0012	< 0.0010	< 0.0010	< 0.0010	< 0.001	0.0016	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests											
Conductivity	uS/cm	-	-	2.0	642	605	640	660	647	620	593
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	393	354	372	367	371	361	471
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	325	314	307	336	329	347	322
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	491	392	555	352	354	348	356
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	826	216	7490	24.2	169	137	387
pH	pH units	6.5 - 8.5	-	0.1	8.03	8.16	7.8	7.9	8.15	8.1	8
Polycyclic Aromatic Hydrocarbon											
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	0.035	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	0.016	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	0.019	< 0.010	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	7	7	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters											
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals											
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	153	15.5	0.725	**1.57**	0.712	24.1
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00200	< 0.00050	0.00013	< 0.0002	< 0.0001	< 0.0005
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.0604	0.0227	0.0156	0.0168	0.0123	0.0243
Barium, total	mg/L	-	-	0.0001 - 0.002	-	1.20	0.181	0.0710	0.0791	0.0730	0.247
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.00576	0.000682	0.000023	0.000066	0.000026	0.00114
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	0.00131	< 0.000250	< 0.000050	< 0.0001	-	< 0.00025
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	**0.315**	0.107	0.072	0.078	0.093	0.142
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	**0.00111**	0.000165	0.0000190	0.0000339	0.0000088	**0.000282**
Calcium, total	mg/L	-	-	0.05 - 1	-	1670	403	81.2	107	83.7	710
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.0174	0.00175	0.000084	0.000184	0.000078	0.00252
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.386	0.0399	0.00179	0.00391	0.00178	0.0711
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	**0.0969**	**0.0108**	0.00055	**0.00115**	0.00054	**0.0181**
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	**0.201**	**0.0224**	0.00098	0.00260	0.00100	**0.0368**
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**192**	**24.7**	**3.59**	**4.98**	**3.45**	**39.4**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.0859	0.0106	0.000428	0.00112	0.000464	0.0177
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.229	0.0354	0.0090	0.0102	0.0089	0.0523
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	389	109	33.6	38.7	35.8	182
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	4.93	0.714	0.0585	0.104	0.0582	1.25
Mercury, total	mg/L	0.0002	-	0.0000050	-	0.0000110	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000020	0.000028	-	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.00564	0.00245	0.00249	0.00264	0.00242	0.00252
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	**0.240**	**0.0267**	0.00126	0.00269	0.00116	**0.0430**
Phosphorus, total	mg/L	-	-	0.002 - 1	1.03	0.308|6.41	1.03|1.31	0.156|0.201	0.332|0.271	0.151|0.196	0.188|2.36
Potassium, total	mg/L	-	-	0.05 - 1	-	47.7	6.84	2.76	3.17	3.02	8.64
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.292	0.0278	0.00216	0.00375	0.00200	0.0396
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	0.00115	< 0.000250	< 0.000050	< 0.0001	-	< 0.00025
Silicon, total	mg/L	-	-	0.1 - 2	-	271	39.3	11.0	12.4	11.2	51.3
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	**0.000573**	0.000073	< 0.000010	-	-	**0.000160**
Sodium, total	mg/L	-	-	0.05 - 1	-	36.0	20.1	16.0	18.4	17.3	20.5
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	1.80	0.678	0.451	0.502	0.482	0.884
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 10.0	< 2.50	< 0.50	< 1	< 0.5	< 2.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00400	< 0.00100	< 0.00020	< 0.0004	< 0.0002	< 0.001
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	**0.00163**	0.000188	< 0.000010	0.000023	-	**0.000309**
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.0768	0.00766	0.00035	0.00079	0.00037	0.0133
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00570	0.00069	0.00018	0.00023	< 0.0001	0.00085
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	10.4	1.02	0.0492	0.115	0.0515	1.48
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	0.00225	< 0.00050	< 0.00010	< 0.0002	< 0.0001	< 0.0005
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	**0.0106**	0.00140	0.000060	0.000168	0.000061	0.00258
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	**0.376**	**0.0399**	0.00176	0.00400	0.00183	**0.0638**
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	**0.444**	**0.0530**	0.0042	< 0.006	< 0.003	**0.0816**
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	**0.0449**	0.00376	0.00092	0.00130	0.00089	**0.00576**
Volatile Organic Compounds											
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes											
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/24/22 MW22-09-2	6/27/23 MW22-09-2	8/11/23 MW22-09-2	9/20/23 MW22-09-2	6/10/24 MW22-09-2	8/12/24 MW22-09-2	9/30/24 MW22-09-2	11/24/22 MW22-10-01	6/27/23 MW22-10-1	8/11/23 MW22-10-1	9/20/23 MW22-10-1	8/14/24 MW22-10-1	9/29/24 MW22-10-1
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.467	0.361	0.346	0.401	0.430	0.371	0.335	0.126	0.0785	0.0656	0.0704	1.93	0.112
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.20	< 0.10	< 0.10	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.26	0.21	0.27	0.34	0.29	0.24	0.28	0.64	0.43	0.31	0.40	0.27	0.26
Fluoride	mg/L	-	-	0.020 - 0.040	< 0.020	0.031	< 0.020	0.028	0.038	< 0.02	0.033	0.085	0.047	< 0.020	0.042	< 0.02	0.060
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.040	< 0.020	0.040	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.020	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	1.02	0.130|0.099	0.213|< 0.250	0.0967|< 0.100	0.227|0.428	0.0769|< 0.1	0.150|< 0.5	0.431	0.119|0.088	1.19|2.42	1.14|1.00	0.0471|0.135	0.647|0.915
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	0.94	< 0.30	< 0.30	< 0.30	0.36	< 0.3	< 0.3	2.55	0.95	2.35	2.54	2.06	1.46
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	19.4	25.4	29.1	30.8	25.2	31.4	36.7	5.10	6.80	4.98	6.18	5.15	6.28
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 3.8	< 2	< 3	-	< 3.0	< 3.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	57	92	139	93	93	80	86	59	33	58	70	20	38
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.100	< 0.100	< 0.05	0.053	< 0.5	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Dissolved Metals																	
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0110	0.0260	0.0282	0.0300	0.0228	0.0314	0.0737	0.0027	0.0014	0.0239	0.0019	0.0016	0.0015
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0001	< 0.0001	< 0.001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00215	0.00135	0.00193	0.00202	0.00193	0.00212	0.00123	0.00251	0.00517	0.00376	0.00553	0.00195	0.00601
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0175	0.0101	0.00931	0.00841	0.0107	0.00887	0.00778	0.0708	0.0718	0.0504	0.0403	0.0328	0.0395
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000040	< 0.000040	< 0.000040	-	-	< 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000100	-	-	< 0.0005	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.020	< 0.020	< 0.020	< 0.01	< 0.01	< 0.1	0.02	0.017	0.012	0.014	0.012	0.013
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000100	< 0.0000100	0.0000053	-	-	0.0000101	0.0000058	0.0000051	0.0000055	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	43.6	25.4	23.1	22.6	33.3	23.9	21.0	105	102	92.9	95.9	96.6	103
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.0005	< 0.0005	< 0.005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00013	< 0.00020	< 0.00020	< 0.00020	0.00023	0.00022	*< 0.001*	0.00036	0.00046	0.00037	0.00038	0.00027	0.00025
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	< 0.00035	< 0.00040	< 0.00040	< 0.00040	< 0.0002	0.00246	0.00212	0.00109	0.00034	0.00031	< 0.00020	0.00320	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**0.875**	**0.704**	**0.974**	**0.948**	**1.40**	**1.22**	**1.13**	< 0.010	0.032	**0.451**	**0.853**	**0.337**	**1.05**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000100	-	0.000218	< 0.0005	< 0.000050	< 0.000050	0.000053	< 0.000050	0.000201	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0018	< 0.0020	< 0.0020	< 0.0020	< 0.001	< 0.001	< 0.01	0.0056	0.0045	0.0035	0.0033	0.0026	0.0033
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	4.88	4.22	3.78	3.58	6.18	3.97	3.38	17.5	18.0	17.4	17.4	17.2	16.0
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0744	0.0603	0.0591	0.0536	0.0779	0.0556	0.0553	0.332	0.343	0.387	0.389	0.370	0.367
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	< 5e-005	< 5e-005	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000041	< 0.000020	< 0.000020	< 0.000020	-	0.000027	-	0.000056	0.000044	0.000036	0.000083	0.000051	0.000158
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000100	-	0.000094	< 0.0005	0.00256	0.00138	0.000815	0.000843	0.000584	0.000773
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.0005	< 0.0005	< 0.005	0.00098	0.00111	0.00110	0.00105	0.00091	0.00060
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.100	< 0.100	< 0.05	0.053	< 0.5	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.231	0.121	0.129	0.147	0.155	0.147	< 0.5	1.92	1.38	1.01	0.990	0.871	0.975
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00059	< 0.00040	< 0.00040	< 0.00040	0.00042	0.00039	< 0.002	0.00130	0.00155	0.00123	0.00105	0.00084	0.00109
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000100	0.000123	0.000260	0.000051	0.000114	< 0.0005	0.000126	< 0.000050	< 0.000050	0.000617	-	0.000724
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	2.19	1.58	1.87	2.00	2.40	2.33	1.88	8.37	8.77	8.18	8.65	7.57	8.76
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.0001	< 0.000010	< 0.000100	< 0.000010	< 0.000010	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	1.02	0.775	0.782	0.883	1.08	0.945	0.816	9.32	5.22	3.93	3.93	3.31	4.20
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0968	0.0466	0.0462	0.0412	0.0644	0.0463	0.0352	0.131	0.126	0.113	0.115	0.108	0.108
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 1.00	< 1.00	< 1.00	< 0.5	< 0.5	< 5	1.07	< 0.50	0.57	0.66	0.93	0.84
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00040	< 0.00040	< 0.0002	< 0.0002	< 0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0001	< 0.0001	< 0.001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00016	< 0.00020	< 0.00020	< 0.00020	< 0.0001	0.00031	< 0.001	0.00021	< 0.00010	< 0.00010	< 0.00010	0.00042	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00047	0.00061	0.00063	0.00073	0.00044	0.00066	< 0.003	< 0.00030	< 0.00030	< 0.00207	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0001	< 0.0001	< 0.001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000070	< 0.000020	< 0.000020	< 0.000020	0.000015	-	< 0.0001	0.00221	0.00150	0.00123	0.000940	0.00110	0.000969
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.0005	< 0.0005	*< 0.005*	0.00073	0.00082	0.00054	< 0.00050	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	< 0.0010	< 0.0020	< 0.0020	< 0.0020	< 0.001	0.0049	< 0.01	< 0.0010	< 0.0010	0.0052	0.0028	0.0060	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00060	< 0.00060	< 0.00060	< 0.0003	< 0.0003	< 0.003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests																	
Conductivity	uS/cm	-	-	2.0	236	174	181	158	242	146	181	617	567	573	573	560	569
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	136	96.4	95.8	83.1	134	78.4	104	400	362	362	369	334	409
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	129	80.8	73.2	71.2	108	76.0	66.4	334	329	304	311	312	323
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	339	170	208	134	206	130	192	459	420	394	366	312	368
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	2350	67.7	288	79.6	857	41.6	370	2600	900	2180	1860	129	3530
pH	pH units	6.5 - 8.5	-	0.1	7.66	7.82	7.74	7.27	7.68	7.17	7.01	7.84	8.02	7.62	7.67	7.96	7.7
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	-	< 0.015	0.033	0.048	0.087	0.103
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	0.015	0.021	0.030	0.045
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	0.018	0.027	0.057	0.058
Naphthalene	ug/L	7	7	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	-	< 0.050	< 0.050	< 0.050	0.088	0.051
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	0.010	< 0.01	0.018
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	0.13	< 0.1	-	-	-	-	< 0.1	< 0.1	< 0.1	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	0.42	0.13	-	-	-	-	< 0.1	0.20	< 0.1	-	-
Total Metals																	
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	2.85	4.93	1.03	4.51	1.07	4.30	-	1.72	21.2	7.29	1.01	12.4
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00010	< 0.00050	0.00024	< 0.0002	< 0.0002	< 0.001	-	0.00010	< 0.00050	0.00037	< 0.0002	< 0.0005
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00233	0.00284	0.00227	0.00322	0.00267	0.00225	-	0.00616	0.0113	0.00632	0.00325	0.0110
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0318	0.0455	0.0170	0.0470	0.0162	0.0409	-	0.0838	0.213	0.0989	0.0428	0.133
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000094	0.000159	< 0.000040	0.000191	-	< 0.0002	-	0.000061	0.000940	0.000347	-	0.000497
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000250	< 0.000100	< 0.0001	< 0.0001	< 0.0005	-	< 0.000050	0.000254	< 0.000100	< 0.0001	< 0.00025
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	< 0.010	< 0.050	< 0.020	< 0.02	< 0.02	< 0.1	-	0.020	0.059	0.041	< 0.02	< 0.05
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	0.0000344	0.0000426	0.0000253	0.0000578	-	0.0000799	-	0.0000267	**0.000332**	**0.000206**	0.0000347	0.000129
Calcium, total	mg/L	-	-	0.05 - 1	-	31.7	43.8	30.0	89.8	33.0	44.0	-	123	942	350	136	400
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000298	0.000578	0.000119	0.000516	0.000113	0.000496	-	0.000199	0.00263	0.000894	0.000121	0.00156
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.00622	0.00981	0.00208	0.0101	0.00212	0.00934	-	0.00359	0.0540	0.0179	0.00294	0.0264
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	**0.00184**	**0.00270**	0.00068	**0.00305**	0.00076	**0.00264**	-	**0.00150**	**0.0174**	**0.00609**	**0.00097**	**0.00891**
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	0.00383	**0.00583**	0.00120	**0.00627**	0.00122	**0.00560**	-	0.00331	**0.0468**	**0.0142**	0.00267	**0.0250**
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**4.01**	**6.29**	**2.18**	**7.01**	**2.38**	**6.54**	-	**2.13**	**33.1**	**11.4**	**1.86**	**18.9**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.00142	0.00260	0.000492	0.00310	0.000553	0.00251	-	0.000826	0.0169	0.00583	0.000729	0.00864
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0038	0.0060	< 0.0020	0.0069	< 0.002	< 0.01	-	0.0064	0.0442	0.0159	0.0040	0.0246
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	7.05	10.2	5.70	21.3	6.98	11.2	-	22.8	191	70.1	23.2	68.7
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.109	0.137	0.0740	0.215	0.0869	0.133	-	0.391	1.71	0.796	0.422	0.946
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005	-	< 0.0000050	0.0000063	< 0.0000050	-	0.0000214
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	< 0.000020	< 0.000020	< 0.000200	0.000050	0.000022	0.000066	-	0.000039	0.000111	0.000352	0.000355	0.000395
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.000069	< 0.000250	< 0.000100	0.000149	< 0.0001	< 0.0005	-	0.00138	0.000987	0.000693	0.000495	0.000786
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	0.00433	0.00726	0.00161	0.00709	0.00161	0.00749	-	0.00352	**0.0412**	0.0147	0.00266	0.0214
Phosphorus, total	mg/L	-	-	0.002 - 1	1.02	0.130|0.099	0.213|< 0.250	0.0967|< 0.100	0.227|0.428	0.0769|< 0.1	0.150|< 0.5	0.431	0.119|0.088	1.19|2.42	1.14|1.00	0.0471|0.135	0.647|0.915
Potassium, total	mg/L	-	-	0.05 - 1	-	0.894	1.49	0.430	1.49	0.445	1.26	-	1.94	6.21	2.78	1.19	4.18
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00565	0.00920	0.00211	0.00875	0.00210	0.00815	-	0.00461	0.0373	0.0127	0.00250	0.0220
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	0.000082	< 0.000250	< 0.000100	0.000105	< 0.0001	< 0.0005	-	0.000077	0.000290	0.000126	< 0.0001	< 0.00025
Silicon, total	mg/L	-	-	0.1 - 2	-	6.77	11.7	4.22	10.6	4.13	9.53	-	11.9	44.2	20.8	9.74	31.0
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	0.000014	< 0.000050	< 0.000020	0.000022	-	< 0.0001	-	< 0.000010	**0.000157**	0.000042	-	0.000074
Sodium, total	mg/L	-	-	0.05 - 1	-	1.36	1.49	1.05	1.84	1.11	1.35	-	5.84	5.75	3.87	3.90	5.81
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.0580	0.0636	0.0510	0.116	0.0536	0.0576	-	0.145	0.616	0.282	0.131	0.319
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 0.50	< 2.50	< 1.00	< 1	< 1	< 5	-	< 0.50	< 2.50	1.08	< 1	< 2.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00100	< 0.00040	< 0.0004	< 0.0004	< 0.002	-	< 0.00020	< 0.00100	< 0.00040	< 0.0004	< 0.001
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	0.000026	< 0.000050	< 0.000020	0.000061	-	< 0.0001	-	0.000021	**0.000369**	0.000124	-	0.000185
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00066	0.00116	0.00032	0.00149	0.00033	< 0.001	-	0.00090	0.0155	0.00515	0.00057	0.00827
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00025	< 0.00050	< 0.00020	0.00035	< 0.0002	< 0.001	-	0.00038	0.00078	0.00064	0.00032	< 0.0005
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.127	0.243	0.0489	0.241	0.0540	0.196	-	0.130	1.71	0.621	0.0824	0.954
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00010	< 0.00050	< 0.00020	< 0.0002	< 0.0002	< 0.001	-	< 0.00010	< 0.00050	< 0.00020	< 0.0002	< 0.0005
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.000151	0.000286	0.000062	0.000548	0.000082	0.000342	-	0.00161	0.00336	0.00208	0.00118	0.00194
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	**0.00603**	**0.0100**	0.00207	**0.0106**	0.00230	**0.00929**	-	0.00488	**0.0614**	**0.0213**	0.00282	**0.0319**
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	0.0118	0.0159	< 0.0060	0.0184	< 0.006	< 0.03	-	0.0077	**0.0986**	**0.0380**	0.0085	**0.0436**
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	0.00145	0.00214	0.00081	0.00220	0.00075	0.00225	-	0.00147	**0.00505**	0.00310	0.00090	**0.00468**
Volatile Organic Compounds																	
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1.0	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/24/22	9/29/24	11/24/22	11/27/22	6/27/23	8/11/23	9/20/23	8/14/24
					MW22-10-02	MW22-10-02	MW22-10-03	MW22-10-04	MW22-10-4	MW22-10-4	MW22-10-4	MW22-10-4
Anions and Nutrients												
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	< 0.0500	0.0224	0.0667	< 0.0500	0.0325	0.0415	0.0590	0.736
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.20	0.17	0.22	0.44	0.22	0.13	0.16	0.45
Fluoride	mg/L	-	-	0.020 - 0.040	0.033	< 0.02	< 0.020	0.100	0.085	0.033	0.103	< 0.02
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.02	< 0.020	< 0.020	< 0.020	0.028	< 0.020	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	1.43	0.0233|< 0.25	0.139	0.565	0.139|< 0.100	0.256|0.242	0.119|0.118	0.221|< 0.5
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	0.62	0.54	2.97	0.42	0.31	0.82	< 0.30	0.73
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	33.9	48.1	56.8	8.05	19.7	20.2	10.9	25.8
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2	-	-	< 3.8	< 2.0	< 2.0	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	100	113	151	150	81	114	45	101
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.25	< 0.250	< 0.050	< 0.050	< 0.050	0.087	< 0.1
Dissolved Metals												
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.211	0.972	0.883	0.0153	0.0838	0.0692	0.0176	0.167
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.0005	< 0.00050	< 0.00010	0.00011	0.00012	< 0.00010	< 0.0002
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00067	0.00073	0.00063	0.00875	0.00404	0.00605	0.0155	0.00328
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0196	0.00613	0.0194	0.0474	0.0222	0.0263	0.0383	0.0171
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	0.000020	< 0.0001	< 0.000100	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.00025	< 0.000250	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.0001
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.05	< 0.050	0.026	0.018	0.022	0.034	< 0.02
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.0000212	-	0.0000404	< 0.0000050	0.0000081	< 0.0000050	< 0.0000050	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	62.4	30.1	46.0	83.9	44.9	58.0	89.7	43.8
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	-	< 0.000050	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	0.00068	< 0.0025	< 0.00250	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.001
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.0005	-	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00039	0.00061	**0.00112**	0.00034	0.00017	0.00022	0.00036	< 0.0002
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00364	0.00120	0.00424	0.00041	0.00042	0.00041	0.00057	0.00134
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	0.140	**0.480**	**0.514**	**2.78**	**1.06**	**2.01**	**4.58**	**1.07**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	0.000083	< 0.00025	0.00166	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.0001
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0015	< 0.005	< 0.0050	0.0057	0.0027	0.0034	0.0057	0.0024
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	5.19	4.90	4.11	13.7	7.01	9.16	16.2	7.58
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.164	0.0850	0.691	0.275	0.0976	0.124	0.202	0.0555
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	0.0000061	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000500	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000103	0.000110	0.000076	0.000049	< 0.000020	0.000041	0.000064	0.000088
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00194	0.000255	0.000307	0.00183	0.00172	0.00124	0.00138	0.000546
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	0.00165	< 0.0025	< 0.00250	< 0.00050	< 0.00050	0.00083	0.00062	< 0.001
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.25	< 0.250	< 0.050	< 0.050	< 0.050	0.087	< 0.1
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.531	0.305	< 0.250	1.28	0.522	0.618	1.13	0.704
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00072	< 0.001	< 0.00100	0.00053	0.00040	0.00040	0.00050	0.00054
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000207	< 0.00025	0.000274	< 0.000050	0.000100	0.000150	0.000135	0.000109
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.52	5.81	4.39	8.00	3.73	4.63	8.58	3.50
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	-	< 0.000050	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	7.52	2.58	3.25	8.06	11.3	8.06	6.40	5.92
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0616	0.0246	0.0410	0.124	0.0625	0.0904	0.151	0.0653
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.90	< 2.5	< 2.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.001	< 0.00100	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0004
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	-	< 0.000050	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00046	0.00057	0.00052	< 0.00010	0.00011	< 0.00010	< 0.00010	< 0.0002
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00024	< 0.0005	0.00058	0.00054	< 0.00010	0.00014	0.00010	< 0.0002
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00593	0.0146	0.00764	0.00044	0.00127	0.00082	< 0.00030	0.00239
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.0005	< 0.00050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0002
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.00126	0.000480	0.000264	0.000139	0.000257	0.000260	0.000210	0.000113
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	0.00116	< 0.0025	< 0.00250	< 0.00050	0.00050	< 0.00050	< 0.00050	< 0.001
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	< 0.0010	< 0.005	0.0050	0.0013	< 0.0010	0.0043	0.0020	< 0.002
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00089	< 0.0015	< 0.00150	< 0.00030	0.00044	0.00041	< 0.00030	0.00064
Physical Tests												
Conductivity	uS/cm	-	-	2.0	317	158	243	503	394	377	512	228
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	197	89.4	136	311	268	218	312	139
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	177	95.3	132	266	141	182	291	140
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	405	172	287	425	406	294	314	190
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	2640	6.9	302	2340	623	321	324	< 3
pH	pH units	6.5 - 8.5	-	0.1	7.74	7.29	7.29	7.61	8.12	7.82	7.57	7.58
Polycyclic Aromatic Hydrocarbon												
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.01*	-	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.01*	-	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.005	-	-	< 0.0050	< 0.0050	< 0.0050	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.01*	-	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.01*	-	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.01*	-	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.005*	-	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.01*	-	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	-	-	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	0.014	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Naphthalene	ug/L	7	7	0.050	-	< 0.05	-	-	< 0.050	< 0.050	< 0.050	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.02	-	-	< 0.020	< 0.020	< 0.020	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.01	-	-	< 0.010	< 0.010	< 0.010	< 0.01
Radiological Parameters												
Gross alpha	Bq/l	-	-	0.1	-	-	-	-	< 0.1	< 0.1	0.24	-
Gross beta	Bq/l	-	-	0.1	-	-	-	-	< 0.1	< 0.1	< 0.1	-
Total Metals												
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	1.25	-	-	2.88	5.10	1.18	2.06
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.0005	-	-	< 0.00020	0.00021	< 0.00010	< 0.001
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00091	-	-	0.00528	0.00878	0.0137	0.00460
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.00950	-	-	0.0418	0.0690	0.0450	0.0322
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	< 0.0001	-	-	0.000132	0.000234	0.000054	< 0.0002
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.00025	-	-	< 0.000100	< 0.000100	< 0.000050	< 0.0005
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	< 0.05	-	-	0.029	0.032	0.033	< 0.1
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	-	-	-	0.0000422	0.0000641	0.0000195	-
Calcium, total	mg/L	-	-	0.05 - 1	-	32.3	-	-	58.7	105	88.1	53.8
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	-	-	-	0.000342	0.000664	0.000170	0.000216
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	< 0.0025	-	-	0.00575	0.0109	0.00249	< 0.005
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.0005	-	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	0.00076	-	-	**0.00174**	**0.00318**	**0.00100**	**0.00107**
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	< 0.0025	-	-	0.00403	**0.00738**	0.00142	< 0.005
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**0.631**	-	-	**4.42**	**8.22**	**5.94**	**3.77**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.000299	-	-	0.00142	0.00294	0.000586	0.000909
Lithium, total	mg/L	-	-	0.001 - 0.02	-	< 0.005	-	-	0.0059	0.0108	0.0068	< 0.01
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	6.45	-	-	10.3	18.0	16.0	9.27
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.0852	-	-	0.159	0.251	0.220	0.0877
Mercury, total	mg/L	0.0002	-	0.0000050	-	0.0000054	-	-	0.0000058	< 0.0000050	< 0.0000050	0.0000072
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000194	-	-	0.000136	0.000063	0.000227	0.000269
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	< 0.00025	-	-	0.00160	0.00144	0.00135	< 0.0005
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	< 0.0025	-	-	0.00463	0.00881	0.00232	< 0.005
Phosphorus, total	mg/L	-	-	0.002 - 1	1.43	0.0233|< 0.25	0.139	0.565	0.139|< 0.100	0.256|0.242	0.119|0.118	0.221|< 0.5
Potassium, total	mg/L	-	-	0.05 - 1	-	0.342	-	-	1.40	2.35	1.37	1.36
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00127	-	-	0.00618	0.0111	0.00307	0.00435
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	< 0.00025	-	-	0.000111	0.000187	< 0.000050	< 0.0005
Silicon, total	mg/L	-	-	0.1 - 2	-	6.39	-	-	8.94	15.5	10.7	7.44
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	-	-	-	< 0.000020	0.000021	< 0.000010	< 0.0001
Sodium, total	mg/L	-	-	0.05 - 1	-	2.07	-	-	12.2	9.42	5.56	6.67
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.0244	-	-	0.0757	0.131	0.144	0.0683
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 2.5	-	-	< 1.00	< 1.00	< 0.50	< 5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.001	-	-	< 0.00040	< 0.00040	< 0.00020	< 0.002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	-	-	-	0.000028	0.000073	0.000014	< 0.0001
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	< 0.0005	-	-	0.00053	0.00090	0.00034	< 0.001
Tin, total	mg/L	-	-	0.0001 - 0.002	-	< 0.0005	-	-	0.00020	0.00030	< 0.00010	< 0.001
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.350	-	-	0.118	0.215	0.0506	0.0741
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.0005	-	-	< 0.00020	< 0.00020	< 0.00010	< 0.001
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.000230	-	-	0.000436	0.000793	0.000342	0.000250
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	< 0.0025	-	-	**0.00623**	**0.0114**	0.00255	< 0.005
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	< 0.015	-	-	0.0086	**0.0367**	0.0076	< 0.03
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	< 0.001	-	-	0.00122	0.00178	0.00074	< 0.002
Volatile Organic Compounds												
Acetone	ug/L	-	2700	20	-	< 20	-	-	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.2	-	-	< 0.20	< 0.20	< 0.20	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2	-	-	< 2.0	< 2.0	< 2.0	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.2	-	-	< 0.20	< 0.20	< 0.20	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	-	-	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.3	-	-	< 0.30	< 0.30	< 0.30	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.3	-	-	< 0.30	< 0.30	< 0.30	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	-	-	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	-	-	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	-	-	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.4	-	-	< 0.40	< 0.40	< 0.40	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.3	-	-	< 0.30	< 0.30	< 0.30	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.5	-	-	< 0.50	< 0.50	< 0.50	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1
Ungrouped Analytes												
SUM OF BTEX	ug/L	-	-	1.0	-	< 1	-	-	< 1.0	< 1.0	< 1.0	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	6/27/23	6/27/23	8/08/23	9/20/23	9/20/23	8/14/24	8/14/24	9/29/24	9/29/24
					MW22-11-1	MF-A (MW22-11-1)	MW22-11-1	MW22-11-1	DUP 1 (MW22-11-1)	MW22-11-1	MWBD3 (MW22-11-1)	MW22-11-1	MW DUP 1 (MW22-11-1)
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.443	0.437	0.467	0.518	0.484	1.18	3.62	0.563	0.493
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.14	0.11	< 0.10	0.37	< 0.10	0.22	0.11	< 0.1	< 0.1
Fluoride	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	0.026	< 0.020	< 0.02	< 0.02	0.028	0.027
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	0.023	< 0.020	< 0.020	0.664	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0584 | < 0.050	0.0648 | < 0.050	0.0657 | 0.085	0.0590 | < 0.100	0.0601 | 0.061	0.0653 | 0.066	0.0562 | 0.066	0.0605 | 0.072	0.0545 | < 0.1
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.30	< 0.30	0.52	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	39.7	38.4	36.8	37.6	31.1	37.8	38.1	39.9	38.7
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	9.6	12.3	< 2.0	< 2.0	2.5	2.2	2.3	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	113	116	92	87	92	94	90	94	92
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	0.054	< 0.100	< 0.100	< 0.1	< 0.1	0.056	< 0.1
Dissolved Metals													
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.104	0.0995	0.100	0.105	0.101	0.0997	0.102	0.0978	0.0957
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00138	0.00129	0.00135	0.00119	0.00110	0.00131	0.00125	0.00134	0.00125
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0154	0.0142	0.0130	0.0116	0.0109	0.00952	0.00981	0.0103	0.00992
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	0.000026	< 0.000040	0.000032	< 0.000040	< 0.000040	-	-	0.000044	0.000043
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000100	< 0.000100	< 0.0001	< 0.0001	-	< 0.0001
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.020	< 0.010	< 0.020	< 0.020	< 0.02	< 0.02	< 0.01	< 0.02
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000050	< 0.0000100	< 0.0000100	-	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	59.2	58.2	64.4	63.7	65.3	60.5	60.9	64.5	64.1
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000020	< 0.000020	-	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	0.00053	< 0.00100	0.00056	< 0.00100	< 0.00100	< 0.001	< 0.001	0.00052	< 0.001
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00059	0.00059	0.00017	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00011	< 0.0002
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00031	< 0.00040	0.00050	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**1.79**	**1.70**	**1.91**	**1.80**	**1.85**	**1.70**	**1.67**	**1.65**	**1.71**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000100	< 0.000100	< 0.0001	< 0.0001	-	< 0.0001
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.0020	< 0.0010	< 0.0020	< 0.0020	< 0.002	< 0.002	< 0.001	< 0.002
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	9.53	9.10	9.67	10.1	9.94	9.34	9.22	9.13	9.31
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.162	0.150	0.150	0.138	0.135	0.131	0.133	0.132	0.132
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 5e-005	< 5e-005	-	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000025	0.000029	0.000038	-	-	-	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.000136	0.000135	0.000121	< 0.000100	< 0.000100	< 0.0001	< 0.0001	0.000053	< 0.0001
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00100	< 0.00100	< 0.001	< 0.001	< 0.0005	< 0.001
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	0.054	< 0.100	< 0.100	< 0.1	< 0.1	0.056	< 0.1
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.127	0.110	0.106	< 0.100	< 0.100	< 0.1	< 0.1	0.088	< 0.1
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00026	< 0.00040	< 0.00020	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000107	0.000142	0.000256	0.000556	0.000461	0.000167	0.000222	0.000438	0.000483
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	3.47	3.17	3.54	3.44	3.40	3.41	3.48	3.73	3.49
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000010	< 0.000020	< 0.000020	-	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	1.65	1.52	1.55	1.64	1.64	1.29	1.32	1.41	1.29
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0542	0.0504	0.0542	0.0514	0.0503	0.0492	0.0504	0.0505	0.0499
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 1.00	< 0.50	< 1.00	< 1.00	< 1	< 1	< 0.5	< 1
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000020	< 0.000020	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00020	0.00020	0.00021	0.00022	< 0.00020	0.00022	0.00024	0.00027	0.00026
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00028	0.00026	0.00012	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00338	0.00347	0.00343	0.00406	0.00356	0.00334	0.00370	0.00394	0.00362
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	0.00114	0.00105	0.00057	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000067	0.000066	0.000071	0.000071	0.000072	0.000071	0.000071	0.000076	0.000079
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	0.00154	0.00148	0.00153	0.00162	0.00153	0.00150	0.00158	0.00167	0.00169
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0016	< 0.0020	0.0017	< 0.0020	< 0.0020	< 0.002	< 0.002	0.0017	< 0.002
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00100	0.00095	0.00110	0.00117	0.00104	0.00115	0.00117	0.00130	0.00124
Physical Tests													
Conductivity	uS/cm	-	-	2.0	336	337	342	329	355	337	339	328	323
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	217	216	198	201	214	248	213	264	211
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	187	183	201	201	204	190	190	199	198
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	256	256	257	238	253	253	266	248	254
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	16.1	17.3	44.8	20.6	18.4	5.3	5.3	10.3	10.1
pH	pH units	6.5 - 8.5	-	0.1	8.15	8.18	7.99	8.23	7.82	7.68	7.87	7.92	7.97
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	0.044	0.040	0.090	0.058	0.063	0.020	0.022	0.033	0.018
Methylnaphthalene, 1-	ug/L	2	2	0.010	0.013	0.012	0.025	0.015	0.015	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	0.031	0.028	0.065	0.043	0.048	0.020	0.022	0.033	0.018
Naphthalene	ug/L	7	7	0.050	0.084	0.086	0.228	0.092	0.101	< 0.05	< 0.05	0.064	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	0.1	0.36	0.56	0.40	0.59	0.56	-	-	-	-
Gross beta	Bq/l	-	-	0.1	0.13	0.13	0.16	0.13	0.15	-	-	-	-
Total Metals													
Aluminum, total	mg/L	-	-	0.003 - 0.06	0.431	0.369	0.570	0.272	0.265	0.234	0.227	0.176	0.172
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00152	0.00150	0.00137	0.00133	0.00132	0.00140	0.00139	0.00139	0.00137
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0174	0.0169	0.0147	0.0139	0.0131	0.0116	0.0113	0.0113	0.0112
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000042	0.000047	0.000051	< 0.000040	0.000044	0.000035	0.000038	0.000041	0.000044
Bismuth, total	mg/L	-	-	0.00005 - 0.001	0.000066	< 0.000050	< 0.000050	< 0.000100	< 0.000050	-	-	-	< 0.0001
Boron, total	mg/L	0.2	-	0.01 - 0.2	0.011	0.010	< 0.010	< 0.020	< 0.010	< 0.01	< 0.01	< 0.01	< 0.02
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.0000078	0.0000055	0.0000092	0.0000168	0.0000073	0.0000051	-	-	-
Calcium, total	mg/L	-	-	0.05 - 1	67.2	63.3	65.6	66.3	62.8	71.5	70.7	66.1	67.9
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000033	0.000027	0.000045	< 0.000020	0.000018	0.000013	0.000012	-	-
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.00124	0.00114	0.00208	< 0.00100	0.00091	0.00080	0.00077	0.00069	< 0.001
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	0.00083	0.00081	0.00052	0.00026	0.00026	0.00022	0.00023	0.00018	< 0.0002
Copper, total	mg/L	0.005	-	0.0005 - 0.01	0.00185	0.00161	0.00245	0.00106	0.00081	0.00096	0.00102	< 0.0005	0.00100
Iron, total	mg/L	0.3	-	0.01 - 0.2	**2.29**	**2.27**	**2.66**	**2.26**	**2.18**	**1.92**	**1.93**	**1.79**	**1.89**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.000220	0.000174	0.000321	0.000162	0.000150	0.000108	0.000112	0.000066	< 0.0001
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0016	0.0012	0.0016	< 0.0020	0.0012	< 0.001	< 0.001	0.0011	< 0.002
Magnesium, total	mg/L	-	-	0.005 - 0.1	10.4	10.4	10.8	9.78	9.68	10.7	10.5	9.64	9.74
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.178	0.176	0.171	0.150	0.146	0.144	0.141	0.137	0.140
Mercury, total	mg/L	0.0002	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 5e-005
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000200	< 0.000020	-	0.000030	-	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.000169	0.000130	0.000118	0.000122	0.000111	0.000084	0.000074	0.000056	< 0.0001
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.00071	0.00066	0.00105	< 0.00100	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.001
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0584 | < 0.050	0.0648 | < 0.050	0.0657 | 0.085	0.0590 | < 0.100	0.0601 | 0.061	0.0653 | 0.066	0.0562 | 0.066	0.0605 | 0.072	0.0545 | < 0.1
Potassium, total	mg/L	-	-	0.05 - 1	0.234	0.214	0.252	0.166	0.155	0.127	0.125	0.107	0.100
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00078	0.00065	0.00096	0.00047	0.00048	0.00039	0.00038	0.00028	< 0.0004
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	0.000070	0.000052	0.000072	< 0.000100	0.000088	0.000087	0.000110	0.000086	< 0.0001
Silicon, total	mg/L	-	-	0.1 - 2	4.21	4.03	4.51	3.97	3.99	4.03	3.97	3.76	3.73
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	< 0.000020	< 0.000010	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	1.74	1.76	1.92	1.74	1.63	1.47	1.44	1.37	1.42
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.0553	0.0539	0.0576	0.0533	0.0539	0.0569	0.0578	0.0522	0.0532
Sulfur, total	mg/L	-	-	0.5 - 10	< 0.50	< 0.50	< 0.50	< 1.00	< 0.50	< 0.5	< 0.5	< 0.5	< 1
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0004
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	< 0.000020	< 0.000010	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00032	0.00031	0.00037	0.00030	0.00030	0.00032	0.00030	0.00028	0.00026
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00036	0.00033	< 0.00010	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.0214	0.0181	0.0290	0.0142	0.0134	0.0125	0.0120	0.00846	0.00819
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	0.00202	0.00183	0.00150	0.00090	0.00069	0.00079	0.00079	0.00080	0.00038
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.000093	0.000091	0.000102	0.000088	0.000089	0.000090	0.000085	0.000089	0.000085
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	0.00235	0.00224	0.00284	0.00210	0.00212	0.00226	0.00222	0.00200	0.00199
Zinc, total	mg/L	0.03	-	0.003 - 0.06	0.0032	< 0.0030	< 0.0030	< 0.0060	< 0.0030	< 0.003	< 0.003	< 0.003	< 0.006
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00141	0.00122	0.00146	0.00117	0.00123	0.00142	0.00135	0.00130	0.00117
Volatile Organic Compounds													
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	0.61	0.57	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	0.51	0.50	**1.45**	0.65	0.54	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	0.73	0.72	2.37	1.41	1.02	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	< 0.30	< 0.30	0.98	0.56	0.36	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	0.73	0.72	3.35	1.97	1.38	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	1.0	1.2	1.2	4.8	2.6	1.9	< 1	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	8/11/23	9/23/23	7/02/23	6/10/24	6/10/24	8/12/24	9/29/24
					MW2-12-1	MW22-12-1	MW22-12-1	MW22-12-1	DUP 03 (MW22-12-1)	MW22-12-1	MW22-12-1
Anions and Nutrients											
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.445	0.484	0.451	0.688	0.851	0.420	0.470
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	1.13	0.96	1.16	0.68	0.67	0.50	0.47
Fluoride	mg/L	-	-	0.020 - 0.040	0.036	0.082	0.047	0.082	0.081	< 0.02	0.111
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0532|0.055	0.0570|0.069	0.0636|0.074	0.0592|< 0.1	0.0538|< 0.1	0.120|0.099	0.0738|0.058
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	0.41	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	5.81	6.27	6.50	7.16	6.80	7.89	6.03
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	23	17	17	24	22	24	17
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	0.069	< 0.05
Dissolved Metals											
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0109	0.0049	0.0022	0.0042	0.0043	0.0029	0.0027
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	0.00049	0.00020	0.00013	0.00016	0.00017	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00048	0.00117	0.00075	0.00103	0.00100	0.00115	0.00077
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0337	0.0349	0.0322	0.0363	0.0365	0.0362	0.0310
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.012	0.011	0.012	0.013	0.012	0.012	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.0000287	< 0.0000050	< 0.0000050	-	0.0000054	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	79.8	84.6	86.1	86.1	85.8	90.2	86.3
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	0.00095	< 0.00050	0.00212	0.00214	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00039	0.00030	< 0.00010	0.00030	0.00031	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00167	< 0.00020	0.00045	< 0.0002	< 0.0002	< 0.0002	0.00077
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**0.828**	**3.06**	**1.12**	**2.90**	**2.93**	**2.59**	**2.29**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	0.000091	< 0.000050	0.000073	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0062	0.0053	0.0060	0.0044	0.0045	0.0046	0.0039
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	15.6	16.3	15.3	17.0	16.7	16.0	15.0
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.150	0.155	0.150	0.170	0.172	0.160	0.155
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000024	< 0.000020	< 0.000020	-	-	0.000035	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00578	0.00456	0.00350	0.00466	0.00473	0.00353	0.00278
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	0.0120	0.0103	< 0.00050	0.00945	0.00957	0.00103	0.00273
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	0.069	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.22	1.17	1.20	1.16	1.18	1.16	1.06
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00112	0.00108	0.00112	0.00112	0.00107	0.00105	0.00092
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	8.34	8.31	7.89	8.34	8.61	8.73	7.96
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	3.60	3.46	3.58	3.47	3.46	3.26	3.02
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0990	0.105	0.103	0.107	0.107	0.103	0.0984
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00024	0.00040	< 0.00010	0.00059	0.00061	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00047	0.00046	< 0.00030	0.00067	0.00070	0.00045	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000047	0.000030	0.000026	0.000014	0.000012	0.000013	0.000013
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	0.00051	< 0.00050	0.00059	0.00059	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	**0.194**	**0.0622**	0.0012	0.0045	0.0044	0.0011	0.0033
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00049	0.00091	0.00058	0.00102	0.00100	0.00078	0.00074
Physical Tests											
Conductivity	uS/cm	-	-	2.0	523	512	507	512	510	507	479
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	297	303	324	286	296	332	310
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	264	278	278	285	283	291	277
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	294	310	316	290	297	326	305
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	30.9	52.8	14.1	40.8	33.8	104	7.1
pH	pH units	6.5 - 8.5	-	0.1	8.09	8.29	8.32	8.26	8.27	7.76	8.06
Polycyclic Aromatic Hydrocarbon											
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	< 0.015	0.038	0.131	0.015	0.016	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	< 0.010	0.014	0.044	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	0.011	0.024	0.087	0.015	0.016	< 0.01	0.011
Naphthalene	ug/L	7	7	0.050	< 0.050	< 0.050	0.281	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters											
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	-
Total Metals											
Aluminum, total	mg/L	-	-	0.003 - 0.06	0.511	0.674	0.254	0.542	0.633	1.19	0.159
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	0.00143	0.00095	0.00014	0.00053	0.00042	< 0.0001	0.00023
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00082	0.00125	0.00112	0.00116	0.00122	0.00121	0.00103
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0396	0.0414	0.0368	0.0402	0.0404	0.0423	0.0359
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	< 0.000020	0.000038	< 0.000020	-	-	0.000057	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	0.013	0.014	0.014	< 0.02	< 0.02	0.015	0.011
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.0000429	0.0000298	0.0000079	0.0000319	0.0000299	0.0000137	0.0000109
Calcium, total	mg/L	-	-	0.05 - 1	95.5	89.3	85.4	95.9	97.0	94.3	88.5
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000068	0.000079	0.000032	0.000064	0.000076	0.000138	0.000019
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.00283	0.00281	0.00078	0.00410	0.00459	0.00346	0.00113
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	0.00079	0.00073	0.00021	0.00059	0.00067	0.00082	0.00020
Copper, total	mg/L	0.005	-	0.0005 - 0.01	0.00132	0.00125	< 0.00050	0.00217	0.00151	0.00196	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	**1.76**	**3.70**	**2.46**	**3.64**	**3.84**	**4.42**	**3.08**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.000416	0.000468	0.000118	0.000506	0.000509	0.000800	0.000125
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0056	0.0061	0.0065	0.0054	0.0057	0.0064	0.0049
Magnesium, total	mg/L	-	-	0.005 - 0.1	17.9	17.9	16.1	17.6	17.9	18.8	15.7
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.178	0.174	0.158	0.189	0.195	0.206	0.166
Mercury, total	mg/L	0.0002	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	0.000025	0.000026	-	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.00631	0.00457	0.00357	0.00462	0.00442	0.00282	0.00294
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.0164	0.0128	< 0.00050	0.00935	0.00936	0.00289	0.00344
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0532|0.055	0.0570|0.069	0.0636|0.074	0.0592|< 0.1	0.0538|< 0.1	0.120|0.099	0.0738|0.058
Potassium, total	mg/L	-	-	0.05 - 1	1.47	1.37	1.38	1.27	1.32	1.52	1.16
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00197	0.00225	0.00153	0.00207	0.00236	0.00307	0.00124
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	-	-
Silicon, total	mg/L	-	-	0.1 - 2	9.25	9.40	8.87	9.18	9.55	10.5	8.58
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	0.000021	0.000012	< 0.000010	-	-	0.000026	-
Sodium, total	mg/L	-	-	0.05 - 1	4.02	3.15	3.73	3.51	3.53	3.17	2.99
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.104	0.106	0.103	0.108	0.116	0.112	0.106
Sulfur, total	mg/L	-	-	0.5 - 10	< 0.50	< 0.50	< 0.50	< 1	< 1	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.0004	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	-	-	0.000013	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00022	0.00029	0.00013	< 0.0002	0.00026	0.00057	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00059	0.00059	0.00022	0.00078	0.00078	0.00016	0.00021
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.0324	0.0455	0.0168	0.0352	0.0408	0.0875	0.00978
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	0.00012	< 0.00010	< 0.00010	< 0.0002	< 0.0002	< 0.0001	0.00014
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.000096	0.000088	0.000042	0.000057	0.000061	0.000097	0.000026
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	0.00150	0.00212	0.00099	0.00190	0.00212	0.00347	0.00097
Zinc, total	mg/L	0.03	-	0.003 - 0.06	**0.253**	**0.0717**	0.0031	0.0224	0.0241	0.0080	0.0056
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00103	0.00139	0.00092	0.00116	0.00132	0.00179	0.00115
Volatile Organic Compounds											
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	< 0.50	< 0.50	**1.32**	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	< 0.40	< 0.40	2.10	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	< 0.30	< 0.30	0.96	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	< 0.50	< 0.50	3.06	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes											
SUM OF BTEX	ug/L	-	-	1.0	< 1.0	< 1.0	4.4	< 1	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/02/23	7/02/23	8/11/23	9/23/23	6/10/24	6/10/24	8/12/24	8/12/24	9/29/24
					MW22-12-4	MF-B (MW22-12-4)	MW22-12-4	MW22-12-4	MW22-12-4	DUP 04 (MW22-12-4)	MW22-12-4	MWBD2 (MW22-12-4)	MW22-12-4
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0404	0.0268	0.0355	0.0369	0.0391	0.169	0.0246	0.0384	0.0568
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.34	0.33	0.38	0.33	0.29	0.28	0.36	0.33	0.28
Fluoride	mg/L	-	-	0.020 - 0.040	0.090	0.080	0.080	0.150	0.156	0.151	0.097	0.087	0.230
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0326|0.127	0.0471|0.090	0.160|0.255	0.0458|0.063	0.0246|< 0.1	0.0233|0.068	0.0181|< 0.05	0.0144|< 0.05	0.158|0.274
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	1.43	1.52	1.56	1.43	1.37	1.50	1.28	1.09	1.04
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	4.99	4.44	4.67	4.86	6.31	6.14	5.52	5.86	6.15
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	15	12	20	12	14	15	19	15	20
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dissolved Metals													
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0018	< 0.0020	0.0012	0.0020	0.0022	0.0036	0.0018	0.0027	0.0018
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00067	0.00058	0.00068	0.00067	0.00064	0.00064	0.00075	0.00074	0.00066
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0171	0.0166	0.0167	0.0169	0.0176	0.0175	0.0182	0.0180	0.0166
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000040	< 0.000020	< 0.000020	-	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000050	< 0.0000050	-	-	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	88.3	88.8	82.1	93.2	68.0	89.9	98.8	97.7	96.0
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00070	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**1.35**	**1.30**	**1.44**	**1.37**	**1.42**	**1.46**	**1.41**	**1.40**	**1.40**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	0.000241	< 0.000050	< 0.000050	-	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0010	< 0.0020	0.0011	< 0.0010	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	12.3	12.1	12.5	13.8	13.1	13.4	13.1	13.3	12.2
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.284	0.271	0.295	0.268	0.298	0.308	0.291	0.289	0.287
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000026	< 0.000020	0.000036	-	0.000028	0.000021	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.000229	0.000221	0.000260	0.000282	0.000211	0.000284	0.000306	0.000270	0.000260
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.345	0.336	0.353	0.361	0.395	0.405	0.385	0.383	0.358
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00064	0.00058	0.00059	0.00064	0.00066	0.00067	0.00069	0.00065	0.00055
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000100	0.000350	0.000281	-	-	0.000081	0.000139	0.000230
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.83	4.51	4.91	4.96	5.17	5.22	5.39	5.36	5.11
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	1.18	1.16	1.28	1.18	1.33	1.32	1.24	1.26	1.16
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0725	0.0719	0.0715	0.0729	0.0573	0.0762	0.0718	0.0730	0.0683
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 1.00	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.00017	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00060	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000010	< 0.000020	0.000010	< 0.000010	-	0.000011	-	0.000011	-
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	< 0.0010	< 0.0020	< 0.0010	< 0.0010	< 0.001	< 0.001	0.0011	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00039	< 0.00060	0.00035	0.00033	0.00031	0.00039	0.00039	0.00039	0.00037
Physical Tests													
Conductivity	uS/cm	-	-	2.0	488	493	495	504	472	496	510	506	487
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	307	303	298	299	271	290	342	307	311
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	271	272	256	290	224	280	301	299	290
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	282	298	315	295	291	276	273	304	294
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	371	389	2000	75.8	119	38.6	6.4	6.0	186
pH	pH units	6.5 - 8.5	-	0.1	8.21	8.22	8.15	8.23	8.26	8.21	7.82	7.83	8.05
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	0.053	0.031	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	0.018	0.011	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	0.035	0.020	< 0.010	0.014	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	7	7	0.050	0.103	0.057	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-	-
Total Metals													
Aluminum, total	mg/L	-	-	0.003 - 0.06	1.69	1.16	2.22	0.680	0.487	0.443	0.163	0.148	1.20
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00138	0.00118	0.00171	0.00094	0.00086	0.00086	0.00074	0.00075	0.00144
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0279	0.0257	0.0318	0.0217	0.0220	0.0198	0.0183	0.0180	0.0278
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000075	0.000053	0.000081	0.000033	-	-	-	-	0.000086
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.0001	-	-	-	< 0.0001
Boron, total	mg/L	0.2	-	0.01 - 0.2	< 0.010	< 0.010	< 0.020	0.012	< 0.02	< 0.01	< 0.01	< 0.01	< 0.02
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.0000227	0.0000208	0.0000343	0.0000128	-	0.0000080	-	-	0.0000238
Calcium, total	mg/L	-	-	0.05 - 1	120	111	160	99.2	103	94.2	92.2	87.8	159
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000188	0.000138	0.000240	0.000089	0.000056	0.000047	0.000017	0.000015	0.000118
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.00355	0.00248	0.00523	0.00179	0.00130	0.00115	< 0.0005	< 0.0005	0.00324
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	**0.00119**	0.00080	**0.00170**	0.00046	0.00038	0.00034	0.00011	0.00011	**0.00105**
Copper, total	mg/L	0.005	-	0.0005 - 0.01	0.00267	0.00210	0.00368	0.00114	0.00148	0.00074	< 0.0005	< 0.0005	0.00161
Iron, total	mg/L	0.3	-	0.01 - 0.2	**3.49**	**2.89**	**4.67**	**2.38**	**2.20**	**1.98**	**1.64**	**1.58**	**3.50**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.00125	0.000914	0.00200	0.000528	0.000494	0.000389	0.000129	0.000128	0.00112
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0035	0.0030	0.0035	0.0021	< 0.002	0.0016	0.0011	0.0011	0.0031
Magnesium, total	mg/L	-	-	0.005 - 0.1	21.4	19.2	31.2	16.2	16.2	14.7	14.1	13.4	26.2
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.358	0.344	0.410	0.294	0.328	0.307	0.315	0.305	0.421
Mercury, total	mg/L	0.0002	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	0.0000073
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000028	0.000021	-	-	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.000280	0.000252	0.000328	0.000292	0.000283	0.000259	0.000256	0.000247	0.000256
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.00249	0.00173	0.00411	0.00136	0.00105	0.00099	< 0.0005	< 0.0005	0.00230
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0326|0.127	0.0471|0.090	0.160|0.255	0.0458|0.063	0.0246|< 0.1	0.0233|0.068	0.0181|< 0.05	0.0144|< 0.05	0.158|0.274
Potassium, total	mg/L	-	-	0.05 - 1	0.921	0.758	1.09	0.577	0.549	0.504	0.424	0.415	0.774
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00363	0.00279	0.00434	0.00191	0.00154	0.00146	0.00092	0.00081	0.00238
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.0001	-	-	-	< 0.0001
Silicon, total	mg/L	-	-	0.1 - 2	8.56	7.52	9.17	6.26	6.02	5.78	5.43	5.38	7.67
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	0.000018	0.000013	0.000027	0.000011	-	-	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	1.44	1.39	1.51	1.27	1.37	1.27	1.24	1.23	1.42
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.0901	0.0854	0.111	0.0801	0.0825	0.0724	0.0701	0.0704	0.114
Sulfur, total	mg/L	-	-	0.5 - 10	0.56	0.59	< 1.00	0.65	< 1	< 0.5	0.53	< 0.5	< 1
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.0002	< 0.0004
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	< 0.000010	< 0.000010	0.000036	< 0.000010	-	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00081	0.00054	0.00118	0.00030	0.00024	0.00026	< 0.0001	0.00013	0.00074
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00015	0.00011	0.00025	0.00023	< 0.0002	0.00016	< 0.0001	< 0.0001	< 0.0002
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.132	0.0908	0.207	0.0534	0.0426	0.0402	0.0159	0.0149	0.111
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0002
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.000142	0.000110	0.000250	0.000068	0.000061	0.000055	0.000026	0.000022	0.000186
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	0.00460	0.00327	**0.00653**	0.00197	0.00151	0.00142	0.00073	0.00064	0.00392
Zinc, total	mg/L	0.03	-	0.003 - 0.06	0.0050	0.0040	0.0246	0.0058	< 0.006	0.0050	< 0.003	< 0.003	< 0.006
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00145	0.00093	0.00140	0.00095	0.00087	0.00083	0.00059	0.00055	0.00139
Volatile Organic Compounds													
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	0.73	0.59	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	1.03	0.59	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	1.0	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/27/22	6/28/23	8/10/23	8/10/23	9/23/23	9/23/23	6/03/24	8/11/24	10/01/24
					MW22-13-1	MW22-13-1	MW22-13-1	DUP-04 (MW22-13-1)	MW22-13-01	DUP-03 (MW22-13-1)	MW22-13-1	MW22-13-1	MW22-13-1
Anions and Nutrients													
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.149	0.188	0.103	1.15	0.146	0.131	0.547	0.530	0.559
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.58	0.25	0.24	0.33	0.24	0.23	0.34	0.23	0.24
Fluoride	mg/L	-	-	0.020 - 0.040	0.125	0.096	0.092	0.026	0.111	0.112	< 0.02	< 0.02	0.068
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.191	0.129|0.115	0.101|0.138	0.173|0.177	0.0747|0.097	0.0766|0.096	0.138|0.194	0.153|0.160	0.126|0.168
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	7.61	7.41	6.94	5.58	6.38	6.39	1.73	0.97	0.91
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	3.42	3.94	2.09	6.44	2.62	3.10	18.2	21.8	16.9
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	47	20	16	39	< 10	< 10	53	51	50
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	0.056	0.067	0.120	0.072	0.059	0.165	0.170	0.157
Dissolved Metals													
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0043	0.0028	0.0013	0.0450	0.0028	0.0029	0.0204	0.0174	0.0148
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00154	0.00206	0.00160	0.00389	0.00176	0.00186	0.00678	0.00576	0.00558
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0362	0.0268	0.0230	0.0320	0.0238	0.0237	0.0311	0.0334	0.0290
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000026	0.000035	0.000021
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	0.013	< 0.010	< 0.010	< 0.010	< 0.010	0.017	0.018	0.015
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	73.2	70.8	69.8	76.0	76.0	77.5	92.7	100	91.8
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	0.000013	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	0.00070	< 0.00050	< 0.00050	0.00152	0.00148	0.00127
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00016	0.00014	0.00011
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00032	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**1.01**	**2.96**	**2.20**	**5.78**	**2.35**	**2.45**	**5.90**	**6.26**	**6.12**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	0.000051	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0040	0.0025	0.0038	0.0035	0.0033	0.0031	0.0053	0.0046	0.0037
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	15.6	15.0	16.3	11.8	17.2	17.5	11.8	13.1	12.2
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.126	0.164	0.111	0.274	0.122	0.123	0.379	0.411	0.385
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000032	0.000050	< 0.000020	< 0.000020	0.000024	0.000054	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.000816	0.00111	0.000659	0.000549	0.000706	0.000708	0.000436	0.000418	0.000383
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	0.056	0.067	0.120	0.072	0.059	0.165	0.170	0.157
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.967	0.775	0.551	0.848	0.611	0.628	1.11	1.15	1.07
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00098	0.00097	0.00069	0.00126	0.00082	0.00084	0.00103	0.00108	0.00103
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	0.000328	0.000361	0.000988	< 0.000050	0.000202	0.000599	0.000252	0.000175
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.46	6.86	6.64	7.78	6.68	6.47	8.45	8.93	8.61
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	2.53	13.4	2.39	4.75	3.99	3.92	12.3	12.2	10.6
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0784	0.0817	0.0760	0.0846	0.0808	0.0787	0.124	0.129	0.121
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	2.80	2.72	2.52	2.19	2.04	2.00	0.60	< 0.5	0.62
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00011	0.00011	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00024	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	0.00049	< 0.00030	0.00359	< 0.00030	< 0.00030	0.00418	0.00405	0.00369
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000246	0.000048	0.000037	0.000054	0.000034	0.000033	0.000029	0.000028	0.000025
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	0.00063	< 0.00050	0.00134	< 0.00050	< 0.00050	**0.00393**	**0.00426**	0.00345
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0013	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00031	0.00074	< 0.00030	0.00137	0.00038	0.00038	0.00390	**0.00435**	0.00377
Physical Tests													
Conductivity	uS/cm	-	-	2.0	461	485	477	487	485	482	502	553	483
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	271	284	268	266	282	284	296	331	324
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	247	238	241	238	261	266	280	304	279
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	314	339	282	285	266	261	332	381	335
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	138	132	131	70.1	13.0	12.4	6.8	4.0	5.4
pH	pH units	6.5 - 8.5	-	0.1	8.09	8.28	7.97	7.93	8.3	8.31	7.84	7.61	8.3
Polycyclic Aromatic Hydrocarbon													
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	0.0001	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	0.0008	0.4	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	< 0.015	< 0.015	0.018	0.015	< 0.015	0.032	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	0.011	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	< 0.010	0.011	0.018	0.015	< 0.01	0.021	0.011
Naphthalene	ug/L	7	7	0.050	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters													
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	0.16	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals													
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	1.72	1.91	2.08	0.150	0.175	0.206	0.0613	0.0899
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00239	0.00218	0.00461	0.00206	0.00205	0.00644	0.00539	0.00552
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0374	0.0358	0.0468	0.0253	0.0256	0.0325	0.0315	0.0309
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000060	0.000078	0.000073	< 0.000020	< 0.000020	0.000036	0.000023	0.000027
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	0.014	0.010	< 0.020	0.010	0.010	0.016	0.018	0.018
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	0.0000110	0.0000131	0.0000411	< 0.0000050	0.0000064	0.0000081	-	-
Calcium, total	mg/L	-	-	0.05 - 1	-	73.9	95.4	101	72.1	72.3	92.1	95.1	95.3
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000185	0.000232	0.000259	0.000023	0.000025	0.000026	0.000013	0.000013
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.00421	0.00459	0.00564	0.00055	0.00063	0.00221	0.00180	0.00168
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	**0.00103**	**0.00115**	**0.00145**	0.00012	0.00012	0.00030	0.00018	0.00019
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	0.00255	0.00303	0.00461	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**5.03**	**4.64**	**8.72**	**2.83**	**2.92**	**6.46**	**6.30**	**6.21**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.000783	0.00114	0.00168	0.000102	0.000112	0.000128	-	-
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0045	0.0058	0.0051	0.0034	0.0033	0.0048	0.0044	0.0042
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	16.7	21.2	14.8	16.2	16.0	12.9	13.4	12.6
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.205	0.161	0.318	0.135	0.135	0.410	0.424	0.416
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000022	< 0.000020	0.000095	0.000026	0.000030	0.000064	0.000068	0.000088
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.000998	0.000696	0.000554	0.000753	0.000771	0.000450	0.000469	0.000425
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	0.00253	0.00296	0.00358	< 0.00050	< 0.00050	0.00067	< 0.0005	< 0.0005
Phosphorus, total	mg/L	-	-	0.002 - 1	0.191	0.129|0.115	0.101|0.138	0.173|0.177	0.0747|0.097	0.0766|0.096	0.138|0.194	0.153|0.160	0.126|0.168
Potassium, total	mg/L	-	-	0.05 - 1	-	1.31	1.17	1.47	0.646	0.655	1.17	1.14	1.13
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00406	0.00443	0.00505	0.00115	0.00120	0.00144	0.00119	0.00123
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	< 0.000050	< 0.000050	< 0.000100	< 0.000050	< 0.000050	0.000061	0.000090	0.000077
Silicon, total	mg/L	-	-	0.1 - 2	-	10.1	10.7	11.9	7.01	7.21	9.19	8.63	8.50
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	< 0.000010	0.000013	0.000036	< 0.000010	< 0.000010	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	-	13.6	2.84	5.40	4.44	4.30	12.4	11.7	11.3
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.0821	0.0885	0.0955	0.0781	0.0806	0.124	0.128	0.119
Sulfur, total	mg/L	-	-	0.5 - 10	-	2.52	2.49	1.79	2.17	2.35	< 0.5	< 0.5	0.58
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	0.000010	0.000025	0.000030	< 0.000010	< 0.000010	-	0.000019	0.000012
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00058	0.00062	0.00072	< 0.00010	< 0.00010	0.00019	0.00016	0.00019
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00018	0.00028	< 0.00020	0.00016	0.00014	0.00014	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.103	0.114	0.120	0.00936	0.0106	0.0171	0.00758	0.00876
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.000132	0.000156	0.000194	0.000048	0.000048	0.000044	0.000031	0.000034
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	0.00473	0.00476	**0.00660**	0.00079	0.00084	0.00465	0.00456	0.00412
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	0.0051	0.0064	0.0082	< 0.0030	< 0.0030	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	0.00146	0.00112	0.00134	0.00059	0.00068	0.00381	**0.00436**	0.00384
Volatile Organic Compounds													
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes													
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	11/27/22 MW22-13-2	6/28/23 MW22-13-2	8/10/23 MW22-13-2	9/23/23 MW22-13-2	6/03/24 MW22-13-2	8/11/24 MW22-13-2	8/11/24 MWBD1 (MW22-13-2)	10/01/24 MW22-13-2	11/27/22 MW22-13-3	7/02/23 MW22-14-1	9/21/23 MW22-14-1	6/03/24 MW22-14-1	8/11/24 MW22-14-1	10/01/24 MW22-14-1
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.278	0.785	0.547	0.809	1.82	1.53	1.50	1.84	0.112	0.0905	< 0.0050	0.123	< 0.005	0.505
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	1.04	0.33	0.35	0.33	0.28	0.28	0.24	0.26	0.55	0.93	0.68	0.72	0.46	0.48
Fluoride	mg/L	-	-	0.020 - 0.040	0.057	0.028	0.033	0.043	< 0.02	< 0.02	< 0.02	0.034	0.136	0.082	0.111	0.039	0.026	0.182
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	0.102	< 0.020	< 0.02	< 0.02	< 0.02	0.051	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.243	0.160|0.400	0.231|0.192	0.141|0.136	0.226|0.243	0.217|0.207	0.204|0.235	0.217|0.280	0.310	0.0207|0.176	0.0462|0.059	0.0584|0.151	0.0319|0.110	0.0787|0.124
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	5.38	1.66	5.30	3.54	0.87	1.22	1.06	0.65	7.73	6.35	6.63	6.66	7.05	6.91
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	6.39	16.4	6.12	11.9	25.4	26.7	25.9	27.7	2.68	1.60	3.11	1.73	1.76	1.46
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2.0	< 2.0	4.3	< 2	< 2	< 2	-	< 2.0	3.4	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	57	60	42	33	73	68	74	73	38	< 10	14	12	< 10	18
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	0.125	0.159	0.225	0.220	0.234	0.258	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																		
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0059	0.0282	0.0502	0.0213	0.0664	0.0609	0.0646	0.0725	0.0036	0.0164	0.0018	< 0.001	0.0340	< 0.001
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	0.00080	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00010	0.00024	0.00049	0.00013	0.00090	0.00014
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00335	0.00289	0.00393	0.00338	0.00577	0.00622	0.00621	0.00658	0.00140	0.00020	0.00022	0.00015	0.00051	0.00014
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0420	0.0441	0.0317	0.0374	0.0298	0.0293	0.0288	0.0270	0.0341	0.0264	0.0256	0.0259	0.0220	0.0250
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000040	< 0.000020	< 0.000020	0.000030	0.000046	0.000042	0.000027	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.020	< 0.010	0.012	0.011	0.013	0.012	0.012	< 0.010	< 0.010	< 0.010	< 0.01	0.011	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000050	< 0.0000050	-	-	-	-	< 0.0000050	< 0.0000050	0.0000119	-	< 0.0001	0.0000071
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	80.4	97.6	75.9	88.5	93.3	103	105	97.2	72.8	80.6	80.4	77.5	50.7	80.4
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000020	0.000014	< 0.000010	0.000012	0.000013	0.000012	0.000012	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	0.00189	0.00082	0.00131	0.00352	0.00360	0.00370	0.00406	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00025	< 0.00020	< 0.00010	< 0.00010	0.00023	0.00021	0.00024	0.00022	< 0.00010	0.00036	0.00028	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00068	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00025	0.00030	0.00026	< 0.0002	0.00090	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**2.30**	**8.38**	**5.68**	**7.25**	**14.4**	**13.8**	**14.1**	**14.6**	**1.32**	0.016	0.012	0.025	< 0.01	< 0.01
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000100	0.000056	< 0.000050	-	-	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0049	0.0024	0.0034	0.0034	0.0018	0.0017	0.0017	0.0013	0.0044	0.0080	0.0089	0.0092	0.0044	0.0085
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	14.0	13.8	11.6	12.6	9.62	10.6	10.5	10.0	15.2	21.6	24.7	22.0	12.9	23.6
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.172	0.367	0.266	0.284	0.255	0.271	0.272	0.241	0.123	0.132	0.0673	0.0279	0.0110	0.0214
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	< 5e-005	< 5e-005	< 5e-005	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000022	< 0.000020	0.000029	< 0.000020	0.000049	0.000083	0.000159	0.000106	0.000042	< 0.000020	< 0.000020	-	0.000058	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00204	0.000456	0.000569	0.000341	0.000322	0.000222	0.000224	0.000226	0.000783	0.00172	0.00118	0.00106	**0.0844**	0.00114
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.00050	0.00085	0.00060	< 0.0005	0.00057	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.100	0.125	0.159	0.225	0.220	0.234	0.258	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.36	0.998	0.837	0.979	0.629	0.686	0.699	0.680	0.938	1.21	1.23	1.13	1.07	1.20
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00163	0.00144	0.00124	0.00149	0.00088	0.00090	0.00093	0.00093	0.00092	< 0.00020	0.00032	0.00025	0.00036	0.00033
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	< 0.000100	0.00144	0.000570	0.00114	0.000347	0.000227	0.000327	< 0.000050	0.000348	0.000379	0.000461	0.000526	0.000486
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.99	8.27	7.83	8.16	7.72	8.64	8.68	8.49	6.53	5.90	6.56	6.35	3.80	6.67
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	3.40	10.4	4.59	13.6	11.9	12.4	12.9	12.7	2.42	6.88	7.16	6.54	8.16	6.95
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0893	0.111	0.0864	0.0945	0.0871	0.0938	0.0927	0.0894	0.0773	0.136	0.129	0.127	0.0863	0.128
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.91	< 1.00	2.48	1.37	1.06	< 0.5	< 0.5	0.89	2.74	2.15	2.30	2.74	1.47	2.33
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000010	< 0.000010	-	-	-	-	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	0.00028	0.00031	0.00030	0.00033	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00016	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00026	0.00011	0.00033	0.00017	0.00157	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00060	0.00418	0.00369	0.00313	0.00937	0.00978	0.00947	0.0108	< 0.00030	0.00077	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.0001	0.00038	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000391	0.000066	0.000053	0.000053	0.000098	0.000078	0.000076	0.000096	0.000203	**0.00535**	0.00302	0.00277	0.00168	0.00287
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	0.00372	0.00134	0.00260	**0.00846**	**0.00840**	**0.00851**	**0.00922**	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00077	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0027	< 0.0020	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001	< 0.001	0.0010	< 0.0010	0.0015	< 0.001	0.0046	0.0017
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00075	0.00302	0.00136	0.00226	**0.00559**	**0.00553**	**0.00551**	**0.00591**	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																		
Conductivity	uS/cm	-	-	2.0	495	579	467	540	549	554	560	504	452	471	504	515	547	400
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	299	343	258	318	323	328	334	322	268	290	299	294	306	278
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	258	300	237	273	272	301	305	284	244	290	302	284	180	298
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	369	400	272	332	381	390	375	360	350	328	311	311	292	306
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	383	148	44.7	8.8	4.2	< 3	< 3	4.8	333	145	120	116	5.6	78.2
pH	pH units	6.5 - 8.5	-	0.1	7.89	8.13	7.87	8.14	7.65	7.28	7.35	8.09	8.04	7.91	7.85	7.87	7.85	7.89
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	-	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	-	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	-	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.02	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	< 0.015	0.037	< 0.015	0.019	0.019	0.029	-	0.286	0.108	0.016	0.046	0.036
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	< 0.010	0.013	< 0.01	< 0.01	< 0.01	0.010	-	0.079	0.027	< 0.01	0.015	0.012
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	0.014	0.024	< 0.01	0.019	0.019	0.019	-	0.207	0.081	0.016	0.031	0.024
Naphthalene	ug/L	7	7	0.050	-	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	-	0.644	0.160	< 0.05	0.058	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	-	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	-	-	0.1	-	< 0.1	< 0.1	0.14	-	-	-	-	-	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	-	< 0.1	< 0.1	< 0.1	-	-	-	-	-	< 0.1	< 0.1	-	-	-
Total Metals																		
Aluminum, total	mg/L	-	-	0.003 - 0.06	-	1.93	2.84	0.131	0.145	0.0702	0.0713	0.119	-	4.90	0.870	1.81	1.77	1.84
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	-	< 0.00020	< 0.00020	0.00015	< 0.0001	< 0.0001	< 0.0001	< 0.0001	-	0.00037	0.00082	0.00041	0.00126	0.00027
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	-	0.00402	0.00477	0.00323	0.00529	0.00560	0.00549	0.00652	-	0.00144	0.00047	0.00064	0.00092	0.00066
Barium, total	mg/L	-	-	0.0001 - 0.002	-	0.0593	0.0524	0.0382	0.0302	0.0275	0.0277	0.0286	-	0.0675	0.0340	0.0432	0.0374	0.0401
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	-	0.000097	0.000120	< 0.000020	0.000038	0.000039	0.000039	0.000040	-	0.000199	0.000036	0.000072	0.000063	0.000078
Bismuth, total	mg/L	-	-	0.00005 - 0.001	-	< 0.000100	< 0.000100	< 0.000050	-	-	-	-	-	< 0.000100	< 0.000050	< 0.0001	< 0.0001	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	-	< 0.020	< 0.020	0.010	0.011	0.013	0.014	0.014	-	< 0.020	< 0.010	< 0.02	< 0.02	< 0.01
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	-	0.0000242	0.0000458	0.0000074	0.0000051	-	-	0.0000073	-	0.0000316	0.0000320	0.000193	0.0000761	0.0000228
Calcium, total	mg/L	-	-	0.05 - 1	-	103	99.4	83.6	93.9	97.8	94.4	102	-	118	88.0	99.3	72.6	106
Cesium, total	mg/L	-	-	0.00001 - 0.0002	-	0.000238	0.000342	0.000024	0.000021	0.000014	0.000014	0.000019	-	0.000587	0.000109	0.000220	0.000195	0.000220
Chromium, total	mg/L	-	-	0.0005 - 0.01	-	0.00680	0.00778	0.00170	0.00403	0.00374	0.00384	0.00431	-	0.00980	0.00224	0.00401	0.00398	0.00453
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	-	**0.00146**	**0.00190**	0.00014	0.00032	0.00024	0.00025	0.00026	-	**0.00293**	0.00084	**0.00127**	**0.00113**	**0.00112**
Copper, total	mg/L	0.005	-	0.0005 - 0.01	-	0.00452	**0.00626**	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	-	**0.00684**	0.00193	0.00315	0.00327	0.00292
Iron, total	mg/L	0.3	-	0.01 - 0.2	-	**11.8**	**9.69**	**7.37**	**15.2**	**14.0**	**14.2**	**14.8**	-	**5.59**	**1.12**	**2.19**	**2.03**	**2.21**
Lead, total	mg/L	-	-	0.00005 - 0.001	-	0.00128	0.00222	0.000087	0.000063	-	-	-	-	0.00232	0.000566	0.00110	0.00100	0.000980
Lithium, total	mg/L	-	-	0.001 - 0.02	-	0.0061	0.0064	0.0034	0.0016	0.0017	0.0019	0.0017	-	0.0160	0.0102	0.0110	0.0077	0.0123
Magnesium, total	mg/L	-	-	0.005 - 0.1	-	15.5	16.2	12.1	10.2	10.4	10.5	10.2	-	30.7	25.9	29.4	18.9	28.9
Manganese, total	mg/L	-	-	0.0001 - 0.002	-	0.435	0.338	0.279	0.263	0.278	0.282	0.259	-	0.257	0.0925	0.103	0.0709	0.0837
Mercury, total	mg/L	0.0002	-	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	0.000130	-	0.000178	0.000117	0.000319	0.000322	0.000198	-	< 0.000020	< 0.000020	0.000022	0.000110	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	-	0.000473	0.000623	0.000394	0.000315	0.000246	0.000240	0.000226	-	0.00162	0.000989	0.00109	**0.0815**	0.00111
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	-	0.00350	0.00492	0.00058	0.00055	< 0.0005	< 0.0005	< 0.0005	-	0.00731	0.00208	0.00328	0.00312	0.00303
Phosphorus, total	mg/L	-	-	0.002 - 1	0.243	0.160|0.400	0.231|0.192	0.141|0.136	0.226|0.243	0.217|0.207	0.204|0.235	0.217|0.280	0.310	0.0207|0.176	0.0462|0.059	0.0584|0.151	0.0319|0.110	0.0787|0.124
Potassium, total	mg/L	-	-	0.05 - 1	-	1.65	1.72	0.966	0.670	0.665	0.683	0.719	-	2.72	1.43	1.78	1.60	1.72
Rubidium, total	mg/L	-	-	0.0002 - 0.004	-	0.00503	0.00667	0.00166	0.00110	0.00093	0.00088	0.00105	-	0.00846	0.00192	0.00360	0.00334	0.00345
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	-	< 0.000100	< 0.000100	0.000054	0.000114	0.000088	0.000074	0.000065	-	0.000268	0.000392	0.000243	0.000281	0.000533
Silicon, total	mg/L	-	-	0.1 - 2	-	12.0	13.6	8.29	7.98	8.42	8.38	8.08	-	16.6	8.23	10.1	7.70	10.1
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	-	0.000024	0.000051	< 0.000010	0.000010	-	-	-	-	0.000022	< 0.000010	0.000094	-	0.000012
Sodium, total	mg/L	-	-	0.05 - 1	-	10.8	5.68	12.3	12.2	12.3	12.2	12.5	-	7.66	6.46	7.17	8.19	7.42
Strontium, total	mg/L	-	-	0.0002 - 0.004	-	0.112	0.103	0.0940	0.0900	0.0939	0.0902	0.0891	-	0.162	0.136	0.148	0.105	0.143
Sulfur, total	mg/L	-	-	0.5 - 10	-	< 1.00	1.84	1.53	0.52	0.58	0.64	< 0.5	-	2.22	2.43	2.38	1.95	2.60
Tellurium, total	mg/L	-	-	0.0002 - 0.004	-	< 0.00040	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	-	< 0.00040	< 0.00020	< 0.0004	< 0.0004	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	-	< 0.000020	0.000065	< 0.000010	-	-	-	-	-	0.000022	0.000011	0.000025	0.000025	0.000026
Thorium, total	mg/L	-	-	0.0001 - 0.002	-	0.00061	0.00097	0.00013	0.00036	0.00032	0.00032	0.00040	-	0.00205	0.00040	0.00085	0.00066	0.00072
Tin, total	mg/L	-	-	0.0001 - 0.002	-	0.00036	0.00025	0.00024	0.00011	< 0.0001	< 0.0001	< 0.0001	-	0.00090	0.00066	0.00105	0.00305	0.00055
Titanium, total	mg/L	-	-	0.0003 - 0.006	-	0.107	0.159	0.0104	0.0162	0.0108	0.0113	0.0149	-	0.282	0.0594	0.129	0.109	0.127
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	-	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	-	< 0.00020	< 0.00010	< 0.0002	0.00034	< 0.0001
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	-	0.000188	0.000256	0.000068	0.000118	0.000077	0.000078	0.000092	-	**0.00639**	0.00331	0.00337	0.00197	0.00312
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	-	**0.00888**	**0.00836**	0.00308	**0.00921**	**0.00840**	**0.00863**	**0.0103**	-	**0.0109**	0.00243	0.00452	0.00469	0.00467
Zinc, total	mg/L	0.03	-	0.003 - 0.06	-	0.0139	0.0106	0.0031	< 0.003	< 0.003	< 0.003	0.0058	-	0.0145	0.0049	0.0104	0.0120	0.0101
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	-	0.00296	0.00161	0.00231	**0.00531**	**0.00547**	**0.00538**	**0.00614**	-	0.00137	0.00075	0.00086	0.00113	0.00214
Volatile Organic Compounds																		
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	-	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	-	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	**1.30**	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	**4.04**	**1.14**	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4	-	6.32	1.66	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	-	2.66	0.66	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	-	8.98	2.32	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	-	14.3	3.5	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/02/23 MW22-14-2	8/10/23 MW22-14-2	9/21/23 MW22-14-2	6/03/24 MW22-14-2	8/12/24 MW22-14-2	10/01/24 MW22-14-2	7/05/23 MW22-15-1	9/21/23 MW22-15-1	6/05/24 MW22-15-1	8/13/24 MW22-15-1	10/03/24 MW22-15-1
Anions and Nutrients															
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0059	0.0198	< 0.0050	0.0534	0.0970	0.0390	< 0.0050	0.0518	0.0560	0.0112	0.0326
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	-	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.61	-	0.79	0.83	0.71	0.68	0.72	0.71	0.41	0.47	0.44
Fluoride	mg/L	-	-	0.020 - 0.040	0.054	-	0.078	0.028	0.054	0.129	0.076	0.086	0.028	0.039	0.129
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	-	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	-	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0117|0.095	0.066|0.273	0.0147|0.079	0.0181|< 0.05	0.0434|< 0.05	0.0155|< 0.05	0.0554|0.074	0.0403|< 0.100	0.0452|< 0.1	0.0231|0.060	0.0077|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	3.97	-	2.67	4.77	4.60	4.49	3.68	3.85	2.13	4.09	3.98
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	2.70	2.04	2.33	2.45	4.02	4.53	2.72	1.91	1.53	2.42	2.42
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	11	25	< 10	10	13	11	19	12	11	13	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals															
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0020	0.0030	0.0027	0.0030	0.0046	0.0066	0.0040	0.0027	0.0026	0.0030	0.0026
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00014	0.00017	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00012	0.00019	0.00029	0.00016	0.00019	0.00020	0.00046	0.00034	0.00022	0.00039	0.00028
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0207	0.0317	0.0295	0.0200	0.0200	0.0209	0.0256	0.0307	0.0271	0.0320	0.0309
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.015	0.012	< 0.01	0.013	0.013
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	0.0000103	-	0.0000079
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	72.7	71.9	78.0	72.5	75.8	72.1	64.1	75.0	61.2	72.2	70.5
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	0.00092	0.00120	0.00097	0.00090	0.00088	0.00091	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	0.00091	0.00078	0.00079	0.00094	**0.00106**	0.00086	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	0.00037	0.00020	0.00034	0.00028
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00041	0.00028	0.00085	< 0.0002	0.00038	0.00038	0.00158	< 0.00020	< 0.0002	0.00274	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.011	0.112	0.112	0.241	0.178
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	-	0.000058	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0057	0.0079	0.0054	0.0047	0.0056	0.0050	0.0032	0.0037	0.0034	0.0031	0.0032
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	16.0	18.5	19.3	16.2	17.4	16.2	15.7	17.7	14.3	15.6	15.2
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00215	0.00875	0.00553	0.00069	0.00044	0.00077	0.00028	0.194	0.127	0.217	0.194
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	0.000090	0.000026	0.000040	0.000036	-	< 0.000020	0.000030	0.000023	0.000052	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.000257	0.000556	0.000412	0.000157	0.000144	0.000153	0.0137	0.00739	0.00742	0.00934	0.00817
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	0.00179	0.00308	0.00118	0.00069	0.00058
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.341	1.12	0.914	0.181	0.181	0.224	4.95	5.85	5.05	5.88	6.03
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00078	0.00160	0.00146	0.00032	0.00046	0.00046	0.00247	0.00240	0.00163	0.00174	0.00172
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000317	0.000258	0.000159	0.000317	0.000271	0.000169	< 0.000050	< 0.000050	-	-	0.000052
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.35	7.46	7.36	6.15	7.42	7.32	4.58	4.96	4.35	4.78	4.76
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	-	-	0.000013
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	4.63	5.18	5.26	3.89	4.54	5.18	3.84	3.68	4.89	5.34	5.44
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.105	0.114	0.118	0.0931	0.0983	0.0921	0.0717	0.0769	0.0647	0.0685	0.0654
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.32	1.17	0.87	1.88	1.66	1.55	1.52	1.03	0.98	1.22	1.40
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00021	< 0.00010	0.00033	0.00011	< 0.0001	< 0.0001	0.00013	0.00015	< 0.0001	0.00027	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	0.00010	< 0.0001	< 0.0001	< 0.0001	0.0149	0.0176	0.00843	0.0140	0.0136
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000566	0.000799	0.000682	0.000464	0.000479	0.000486	0.000601	0.000467	0.000274	0.000331	0.000344
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001	0.0011	0.0030	0.0010	0.0023	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests															
Conductivity	uS/cm	-	-	2.0	410	-	458	448	442	346	409	454	425	443	422
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	263	-	278	251	263	267	247	270	246	286	273
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	247	256	274	248	261	247	225	260	212	244	239
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	262	-	271	269	275	260	252	258	232	232	238
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	29.5	-	77.2	16.0	88.0	30.4	65.8	95.0	76.1	25.6	18.0
pH	pH units	6.5 - 8.5	-	0.1	7.93	-	7.88	7.94	7.98	7.95	8.17	8.07	8.17	8.2	8.05
Polycyclic Aromatic Hydrocarbon															
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	0.090	0.048	0.028	< 0.015	< 0.015	< 0.015	< 0.015	0.018	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	0.026	0.014	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	0.064	0.034	0.028	< 0.01	< 0.01	< 0.01	< 0.010	0.018	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	7	7	0.050	0.258	0.118	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters															
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	-	-	-	-	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	< 0.1	-	-	-	-	0.15	< 0.1	-	-	-
Total Metals															
Aluminum, total	mg/L	-	-	0.003 - 0.06	1.18	1.33	0.941	0.378	0.213	0.545	1.22	0.754	0.712	0.558	0.0301
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	< 0.00010	< 0.00010	0.00034	0.00020	< 0.0001	< 0.0001	0.00017	0.00063	0.00027	0.00019	< 0.0001
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00051	0.00066	0.00056	0.00025	0.00023	0.00032	0.00078	0.00071	0.00056	0.00046	0.00034
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0301	0.0428	0.0319	0.0230	0.0210	0.0245	0.0369	0.0390	0.0350	0.0342	0.0325
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000045	0.000042	0.000031	-	-	0.000022	0.000034	0.000048	0.000050	0.000030	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000100	< 0.0001	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	< 0.010	0.014	< 0.010	< 0.01	< 0.01	< 0.01	0.017	< 0.020	< 0.02	0.013	0.014
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.0000178	0.0000207	0.0000905	0.0000233	-	0.0000073	0.0000315	0.0000441	0.0000570	0.0000284	0.0000082
Calcium, total	mg/L	-	-	0.05 - 1	86.7	92.0	92.5	75.8	70.1	77.2	77.5	77.0	75.1	72.6	74.3
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000124	0.000158	0.000109	0.000051	0.000030	0.000066	0.000114	0.000079	0.000068	0.000048	-
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.00310	0.00385	0.00319	0.00179	0.00133	0.00182	0.00280	0.00338	0.00228	0.00189	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	0.00090	0.00089	0.00079	0.00085	0.00100	0.00076	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	0.00071	0.00085	0.00071	0.00022	0.00013	0.00025	**0.00116**	**0.00094**	0.00072	0.00061	0.00037
Copper, total	mg/L	0.005	-	0.0005 - 0.01	0.00221	0.00286	0.00299	0.00098	0.00072	0.00110	0.00311	0.00243	0.00311	0.00192	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	**1.30**	**1.65**	**1.24**	**0.461**	0.246	**0.515**	**1.39**	**1.10**	**1.13**	**0.828**	**0.305**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.000588	0.000801	0.000627	0.000223	0.000107	0.000237	0.000598	0.000604	0.000723	0.000452	-
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0076	0.0070	0.0068	0.0047	0.0056	0.0060	0.0050	0.0048	0.0036	0.0037	0.0038
Magnesium, total	mg/L	-	-	0.005 - 0.1	20.1	21.6	21.6	17.5	16.8	16.8	16.8	18.4	17.6	17.7	15.8
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.0380	0.0456	0.0393	0.0102	0.00545	0.0108	0.233	0.208	0.224	0.210	0.213
Mercury, total	mg/L	0.0002	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	0.000030	< 0.000020	-	-	-	0.000030	0.000058	0.000053	-	0.000092
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.000239	0.000507	0.000308	0.000139	0.000158	0.000154	0.0137	0.0113	0.00815	0.00916	0.00820
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.00152	0.00225	0.00301	0.00081	< 0.0005	0.00065	0.00370	0.0109	0.00304	0.00281	0.00065
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0117|0.095	0.066|0.273	0.0147|0.079	0.0181|< 0.05	0.0434|< 0.05	0.0155|< 0.05	0.0554|0.074	0.0403|< 0.100	0.0452|< 0.1	0.0231|0.060	0.0077|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	0.635	1.61	0.987	0.308	0.249	0.347	5.21	5.27	5.03	5.09	6.35
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00257	0.00406	0.00294	0.00113	0.00084	0.00136	0.00441	0.00394	0.00301	0.00269	0.00194
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	0.000312	0.000250	0.000131	0.000279	0.000219	0.000122	0.000056	< 0.000100	< 0.0001	-	-
Silicon, total	mg/L	-	-	0.1 - 2	9.32	10.1	8.82	6.92	7.44	8.02	6.82	6.50	5.82	5.50	4.70
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	< 0.000010	0.000013	0.000011	-	-	-	**0.000671**	**0.000599**	**0.00175**	**0.000576**	0.000026
Sodium, total	mg/L	-	-	0.05 - 1	4.76	5.70	4.64	4.01	4.25	5.80	4.07	4.11	5.70	5.39	5.40
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.106	0.125	0.121	0.0997	0.0937	0.0965	0.0797	0.0811	0.0760	0.0706	0.0676
Sulfur, total	mg/L	-	-	0.5 - 10	1.35	1.11	0.99	1.69	1.98	1.73	1.45	1.40	< 1	1.35	1.55
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	< 0.000010	0.000031	0.000019	-	-	0.000010	0.000023	< 0.000020	-	0.000012	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00058	0.00062	0.00046	0.00018	< 0.0001	0.00021	0.00039	0.00038	0.00041	0.00034	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00050	0.00010	0.00040	0.00026	< 0.0001	< 0.0001	0.00055	0.00138	0.00118	0.00070	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.0796	0.0902	0.0692	0.0264	0.0127	0.0311	0.0804	0.0509	0.0491	0.0475	0.00212
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.0234	0.0165	0.0151	0.0135	0.0154
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.000599	0.000912	0.000609	0.000510	0.000485	0.000501	0.000718	0.000713	0.000424	0.000392	0.000376
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	0.00292	0.00324	0.00243	0.00123	0.00096	0.00158	0.00268	0.00151	0.00145	0.00132	< 0.0005
Zinc, total	mg/L	0.03	-	0.003 - 0.06	0.0066	0.0057	0.0089	< 0.003	< 0.003	< 0.003	0.0050	0.0220	0.0082	0.0054	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00091	0.00104	0.00082	0.00035	0.00025	0.00053	0.00093	0.00057	< 0.0004	0.00040	< 0.0002
Volatile Organic Compounds															
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	**1.38**	**1.31**	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	1.91	1.89	0.45	< 0.4	< 0.4	< 0.4	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	0.81	0.88	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	2.72	2.77	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes															
SUM OF BTEX	ug/L	-	-	1.0	4.1	4.1	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/05/23	9/21/23	6/05/24	8/13/24	10/03/24	7/05/23	7/05/23	8/09/23	9/25/23	8/15/24	10/01/24
					MW22-15-3	MW22-15-3	MW22-15-3	MW22-15-3	MW22-15-3	MW22-16-1	DUPLICATE MF-D (MW22-16-1)	MW22-16-1	MW22-16-1	MW22-16-1	MW22-16-1
Anions and Nutrients															
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.100	0.140	0.571	0.101	0.0486	< 0.0050	< 0.0050	< 0.0050	0.175	3.18	0.0597
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	2.73	2.95	1.50	1.27	1.11	0.30	0.31	0.51	0.24	0.13	0.20
Fluoride	mg/L	-	-	0.020 - 0.040	0.052	0.067	< 0.02	0.027	0.085	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	0.029
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.02	0.100	0.053	< 0.020	< 0.020	0.027	< 0.020	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.0189|< 0.100	0.0874|0.207	< 0.1|3.38	0.150|< 0.05	0.0195|< 0.05	0.0307|< 0.050	0.0284|0.054	0.0487|< 0.050	0.0141|< 0.050	0.0041|< 0.05	0.0030|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	13.0	17.0	15.4	11.8	11.2	2.68	2.69	3.93	3.10	1.57	1.84
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	3.85	5.34	4.79	5.44	3.73	1.27	1.36	1.33	1.04	1.97	1.43
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	-	< 2	< 2	< 3	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	17	31	470	21	18	10	13	< 10	< 10	10	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Dissolved Metals															
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0017	0.0108	0.0122	0.0090	0.0123	0.0053	0.0049	0.0049	0.0044	0.0070	0.0047
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	0.00021	< 0.0001	0.00024	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00048	0.00055	0.00035	0.00041	0.00036	0.00025	0.00026	0.00024	0.00022	0.00025	0.00022
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0427	0.0431	0.0447	0.0482	0.0410	0.0420	0.0404	0.0411	0.0414	0.0270	0.0282
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	-	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.010	< 0.01	0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.0000074	0.0000238	0.0000893	-	0.0000565	0.0000201	0.0000180	0.0000175	0.0000158	0.0000108	0.0000100
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	85.7	89.2	76.4	87.5	85.6	31.8	31.4	35.8	36.9	33.2	35.2
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	-	0.000222	0.000224	0.000241	0.000284	0.000261	0.000316
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	0.00054
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00080	**0.00104**	0.00081	0.00088	0.00068	0.00043	0.00042	0.00025	0.00015	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00122	0.00132	0.00033	< 0.0002	0.00170	0.00174	0.00157	0.00138	0.00124	0.00205	0.00088
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	0.011	< 0.01
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0040	0.0037	0.0043	0.0040	0.0034	0.0099	0.0092	0.0077	0.0071	0.0039	0.0041
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	17.6	18.7	17.0	18.7	18.3	7.60	7.66	8.41	9.82	8.44	8.86
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.466	0.636	0.561	0.889	0.732	0.0140	0.0141	0.00837	0.00742	0.00048	0.00018
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000027	-	-	0.000020	< 0.000020	0.000125	< 0.000020	0.000068	0.000024
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00719	0.00675	0.00712	0.00718	0.00583	0.000634	0.000611	0.000572	0.000429	0.000501	0.000318
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	0.00065	0.00221	0.00456	0.00225	0.00322	0.00354	0.00347	0.00276	0.00197	0.00150	0.00166
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	6.78	7.94	7.02	7.68	8.09	3.77	3.62	3.22	2.86	1.54	1.66
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00093	0.00106	0.00085	0.00086	0.00083	0.0133	0.0131	0.0122	0.0117	0.00647	0.00688
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000050	< 0.000050	-	-	-	0.000087	0.000093	0.000106	0.000105	-	0.000069
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	6.41	6.99	6.12	6.88	7.10	3.99	3.97	4.19	4.12	4.09	4.19
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	0.000013
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	13.3	12.9	23.4	20.3	13.7	1.67	1.70	2.03	1.65	1.55	1.51
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0784	0.0808	0.0756	0.0809	0.0770	0.0272	0.0274	0.0294	0.0290	0.0266	0.0282
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	4.67	4.51	5.48	4.54	4.24	1.13	1.11	1.53	0.85	0.76	0.53
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	-	0.000040	0.000038	0.000030	0.000028	0.000029	0.000027
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00016	0.00028	0.00039	0.00031	0.00018	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00050	0.00016
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	**0.0335**	**0.0351**	0.0152	0.00666	0.00211	0.00123
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.00173	0.00139	0.00168	0.00146	0.00110	0.00132	0.00134	0.00160	0.00145	0.000937	0.00124
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	0.00050	< 0.0005	0.00053
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0014	0.0272	0.0092	0.0028	0.0059	0.0014	< 0.0010	< 0.0010	< 0.0010	0.0016	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003
Physical Tests															
Conductivity	uS/cm	-	-	2.0	545	583	586	564	540	213	212	238	270	197	224
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	308	334	327	319	322	117	116	127	148	110	156
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	286	300	261	295	289	111	110	124	132	118	124
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	342	360	332	340	308	120	120	134	148	108	124
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	142	178	34.9	15.2	19.6	12.9	17.0	46.0	30.6	< 3	7.4
pH	pH units	6.5 - 8.5	-	0.1	8.29	8.31	8.25	8.19	8.04	8.1	8.13	8.07	7.84	7.94	7.52
Polycyclic Aromatic Hydrocarbon															
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	-	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	-	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	< 0.015	-	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.103	0.048
Methylnaphthalene, 1-	ug/L	2	2	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	0.034	0.016
Methylnaphthalene, 2-	ug/L	2	2	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	0.013	< 0.010	0.069	0.032
Naphthalene	ug/L	7	7	0.050	< 0.050	-	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	0.086	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	-	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	-	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters															
Gross alpha	Bq/l	-	-	0.1	< 0.1	-	-	-	-	< 0.1	< 0.1	0.46	0.10	-	-
Gross beta	Bq/l	-	-	0.1	0.26	-	-	-	-	0.22	0.27	0.54	0.15	-	-
Total Metals															
Aluminum, total	mg/L	-	-	0.003 - 0.06	1.33	2.75	1.54	0.408	0.300	2.09	2.36	1.86	0.770	0.415	0.0660
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	< 0.00020	0.00087	0.00043	0.00010	0.00055	< 0.00010	0.00012	0.00017	0.00012	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00092	0.00184	0.00083	0.00054	0.00046	0.00179	0.00176	0.00136	0.00073	0.00051	0.00027
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0520	0.0685	0.0598	0.0476	0.0466	0.0694	0.0694	0.0665	0.0573	0.0314	0.0302
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000048	0.000126	0.000054	-	-	0.000064	0.000065	0.000046	0.000026	0.000024	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000100	< 0.000100	< 0.0001	-	-	0.000132	0.000147	0.000103	< 0.000050	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	< 0.020	< 0.020	< 0.02	0.012	0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.0000164	**0.000204**	0.000140	0.0000157	0.0000783	0.0000345	0.0000369	0.0000427	0.0000349	0.0000234	0.0000166
Calcium, total	mg/L	-	-	0.05 - 1	102	104	104	85.1	87.0	32.6	32.2	32.8	35.3	35.0	37.6
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000164	0.000286	0.000139	0.000038	0.000020	0.00110	0.00116	0.000917	0.000626	0.000477	0.000345
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.00290	0.00753	0.00414	0.00112	0.00080	0.0108	0.0123	0.0104	0.00452	0.00261	0.00080
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	**0.00167**	**0.00211**	**0.00218**	**0.00127**	0.00085	**0.00257**	**0.00302**	**0.00221**	**0.00109**	0.00073	0.00019
Copper, total	mg/L	0.005	-	0.0005 - 0.01	0.00248	**0.00654**	0.00334	0.00074	0.00068	**0.0152**	**0.0164**	**0.0132**	**0.00646**	0.00422	0.00128
Iron, total	mg/L	0.3	-	0.01 - 0.2	**1.64**	**3.52**	**1.79**	**0.441**	0.268	**2.42**	**2.71**	**2.33**	**0.958**	**0.539**	0.069
Lead, total	mg/L	-	-	0.00005 - 0.001	0.000764	0.00226	0.00104	0.000257	0.000185	0.00369	0.00399	0.00276	0.00122	0.000643	0.000066
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0056	0.0085	0.0056	0.0046	0.0043	0.0136	0.0137	0.0126	0.0095	0.0044	0.0045
Magnesium, total	mg/L	-	-	0.005 - 0.1	21.1	23.8	23.5	19.3	18.9	8.39	8.98	9.16	9.38	8.52	8.73
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.520	0.446	0.757	0.944	0.786	0.0478	0.0511	0.0424	0.0219	0.0173	0.00305
Mercury, total	mg/L	0.0002	-	0.0000050	< 0.0000050	0.0000106	0.0000152	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	< 0.000020	0.000029	0.000036	-	0.000048	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.00721	0.0111	0.00681	0.00727	0.00619	0.000676	0.000606	0.000685	0.000502	0.000395	0.000349
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.00260	0.0133	0.00703	0.00316	0.00509	0.0128	0.0134	0.0115	0.00564	0.00356	0.00198
Phosphorus, total	mg/L	-	-	0.002 - 1	0.0189|< 0.100	0.0874|0.207	< 0.1|3.38	0.150|< 0.05	0.0195|< 0.05	0.0307|< 0.050	0.0284|0.054	0.0487|< 0.050	0.0141|< 0.050	0.0041|< 0.05	0.0030|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	6.98	7.95	7.59	7.01	8.23	4.26	4.17	4.57	3.24	1.63	1.76
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00317	0.00520	0.00313	0.00129	0.00120	0.0172	0.0171	0.0166	0.0148	0.00754	0.00745
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	0.000114	< 0.000100	< 0.0001	0.000064	-	0.000104	0.000110	0.000096	0.000090	0.000103	0.000054
Silicon, total	mg/L	-	-	0.1 - 2	9.31	11.8	9.29	7.52	7.03	7.64	8.22	6.97	5.58	4.69	4.06
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	< 0.000020	0.000048	-	-	-	**0.00270**	**0.00264**	**0.00211**	**0.000885**	**0.000729**	**0.000135**
Sodium, total	mg/L	-	-	0.05 - 1	13.9	24.5	21.5	19.4	19.1	1.90	1.91	3.53	1.53	1.51	1.47
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.0880	0.0957	0.0895	0.0806	0.0782	0.0320	0.0317	0.0318	0.0315	0.0287	0.0273
Sulfur, total	mg/L	-	-	0.5 - 10	4.71	6.32	5.45	5.06	5.00	1.20	1.17	1.94	0.99	0.61	0.55
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00040	< 0.0004	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	0.000035	0.000038	0.000027	0.000022	-	0.000078	0.000080	0.000074	0.000045	0.000040	0.000030
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00036	0.00102	0.00038	0.00013	< 0.0001	0.00052	0.00057	0.00044	0.00019	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00050	0.00293	0.00152	0.00054	0.00056	0.00023	0.00022	0.00058	0.00022	0.00024	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.0758	0.146	0.0850	0.0202	0.0124	0.129	0.149	0.124	0.0545	0.0294	0.00421
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	< 0.00020	< 0.00020	< 0.0002	< 0.0001	< 0.0001	**0.0340**	0.0234	0.0210	0.00794	0.00253	0.00166
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.00193	0.00308	0.00197	0.00142	0.00125	0.00184	0.00168	0.00210	0.00190	0.00101	0.00136
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	0.00320	**0.00623**	0.00354	0.00096	0.00067	0.00569	**0.00632**	0.00526	0.00260	0.00169	0.00079
Zinc, total	mg/L	0.03	-	0.003 - 0.06	< 0.0060	**0.192**	**0.0328**	0.0112	0.0114	0.0097	0.0109	0.0092	0.0042	< 0.003	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00056	0.00136	0.00052	0.00033	0.00038	0.00070	0.00072	0.00069	0.00039	0.00020	< 0.0002
Volatile Organic Compounds															
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	*< 6.0*	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes															
SUM OF BTEX	ug/L	-	-	1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/05/23	9/25/23	8/15/24	10/01/24	7/04/23	8/09/23	8/09/23	9/24/23	6/05/24	6/05/24	8/13/24	10/03/24
					MW22-16-2	MW22-16-2	MW22-16-2	MW22-16-2	MW22-17-1	MW22-17-1	DUP-3 (MW22-17-1)	MW22-17-1	MW22-17-1	DUP-02 (MW22-17-1)	MW22-17-1	MW22-17-1
Anions and Nutrients																
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	< 0.0050	0.0204	3.01	0.0588	0.0156	0.0069	0.0212	0.0253	0.546	0.0342	0.0208	0.906
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.1	< 0.1	< 0.10	< 0.10	0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	1.44	0.59	< 0.1	0.24	0.12	0.19	0.22	0.13	< 0.1	0.11	< 0.1	< 0.1
Fluoride	mg/L	-	-	0.020 - 0.040	0.036	< 0.020	< 0.02	0.040	< 0.020	< 0.020	< 0.020	0.021	< 0.02	< 0.02	< 0.02	0.035
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	0.306	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.236|0.201	0.106|0.257	< 0.05|0.903	0.0674|0.104	0.254|0.640	0.163|0.280	0.0632|0.084	0.0147|< 0.050	< 0.002|< 0.05	0.0048|< 0.05	0.0055|< 0.05	0.0200|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	3.32	4.73	1.29	6.62	0.41	< 0.30	0.37	0.63	0.71	0.58	0.46	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	8.57	6.84	2.89	4.44	8.15	10.1	10.5	7.45	8.27	8.37	8.42	8.55
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2.0	< 2	< 2	< 2.0	4.3	4.9	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	57	29	30	12	40	47	35	19	23	30	31	26
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.100	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Dissolved Metals																
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0069	0.0052	0.0034	0.0088	0.0099	0.0076	0.0086	0.0051	0.0055	0.0056	0.0056	0.0082
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	0.00045	0.00045	0.00018	< 0.0001	< 0.00010	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00047	0.00019	0.00024	0.00013	0.00039	0.00036	0.00038	0.00037	0.00021	0.00023	0.00027	0.00025
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0377	0.0256	0.0361	0.0173	0.0271	0.0239	0.0249	0.0236	0.0238	0.0246	0.0333	0.0254
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000040	< 0.000040	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000100	< 0.000100	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.047	0.023	0.026	< 0.01	< 0.010	< 0.020	< 0.020	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.0000138	0.0000263	0.0000304	0.0000292	< 0.0000050	< 0.0000100	< 0.0000100	< 0.0000050	-	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	63.7	51.0	58.0	29.0	58.7	60.4	61.7	57.6	55.0	54.1	60.4	60.0
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	0.000012	< 0.000010	0.000011	0.000048	< 0.000010	< 0.000020	< 0.000020	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	0.00187	< 0.0005	< 0.0005	< 0.00050	< 0.00100	< 0.00100	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	**0.00149**	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	**0.00110**	0.00011	< 0.0001	< 0.0001	0.00070	0.00051	0.00051	0.00051	0.00044	0.00044	0.00042	0.00044
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00145	0.00171	0.00442	0.00066	0.00026	< 0.00040	< 0.00040	< 0.00020	< 0.0002	< 0.0002	0.00152	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	< 0.010	0.010	< 0.01	**0.401**	**0.569**	**0.593**	**0.436**	0.260	0.255	0.262	0.296
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	0.000120	-	< 0.000050	< 0.000100	< 0.000100	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0085	0.0067	0.0083	0.0034	0.0035	0.0034	0.0032	0.0034	0.0036	0.0039	0.0034	0.0034
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	15.8	9.84	13.6	6.84	11.0	11.2	11.2	12.2	10.1	10.4	11.4	10.9
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.530	0.0313	0.280	0.109	0.628	0.556	0.560	0.600	0.522	0.542	0.524	0.556
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000024	0.000034	0.000059	0.000082	< 0.000020	0.000029	0.000050	0.000021	0.000026	-	-	0.000021
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00511	0.00287	0.00462	0.00159	0.00199	0.00326	0.00321	0.00117	0.000808	0.000829	0.000830	0.000924
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	0.00363	0.00135	0.00209	0.00106	0.00212	0.00152	0.00152	0.00122	0.00107	0.00108	0.00111	0.00116
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.100	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	6.38	5.08	5.96	2.58	3.11	2.94	2.98	3.11	2.76	2.79	3.03	2.98
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00048	0.00133	0.00054	0.00170	0.00131	0.00114	0.00109	0.00087	0.00070	0.00059	0.00064	0.00066
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000127	0.000082	0.000087	0.000050	0.000051	0.000661	0.000607	0.000461	0.000272	0.000288	0.000078	0.000083
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	4.94	4.13	4.34	4.04	4.99	5.20	5.41	5.20	4.76	4.79	5.25	5.31
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000020	< 0.000020	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	6.01	3.84	16.5	7.99	1.69	3.37	3.38	1.77	1.12	1.41	1.11	1.24
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0710	0.0497	0.0617	0.0298	0.0502	0.0531	0.0522	0.0511	0.0472	0.0468	0.0513	0.0494
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	1.36	1.67	6.87	1.57	< 0.50	< 1.00	< 1.00	< 0.50	< 0.5	0.84	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000020	< 0.000020	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00022	0.00037	0.00084	0.00026	0.00013	< 0.00020	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00060	< 0.00060	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	0.00016	0.00012	< 0.0001	0.0152	0.0133	0.0127	0.00294	0.00169	0.00155	0.00121	0.00162
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	**0.0107**	**0.00711**	**0.0117**	0.00424	0.00136	0.00114	0.00114	0.00122	0.00137	0.00126	0.00136	0.00136
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	0.00061	< 0.00050	< 0.0005	< 0.0005	0.00098	< 0.00100	< 0.00100	0.00075	0.00059	0.00057	0.00058	0.00064
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0017	0.0018	0.0061	0.0013	0.0174	< 0.0020	< 0.0020	< 0.0010	< 0.001	< 0.001	0.0012	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00039	< 0.00030	< 0.0003	< 0.0003	0.00092	0.00081	0.00081	0.00080	0.00075	0.00076	0.00086	0.00088
Physical Tests																
Conductivity	uS/cm	-	-	2.0	455	324	143	260	359	362	357	373	347	354	342	326
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	274	175	76.8	226	214	246	240	226	197	201	227	228
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	224	168	201	100	192	197	200	194	179	178	198	195
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	334	192	116	169	211	261	227	222	198	204	205	220
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	406	279	784	738	348	778	244	19.6	3.1	3.1	< 3	13.9
pH	pH units	6.5 - 8.5	-	0.1	8.26	7.87	7.75	7.67	8.23	8.02	8.21	7.91	8.25	8.19	8.13	7.92
Polycyclic Aromatic Hydrocarbon																
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	< 0.010	< 0.01	< 0.01	< 0.034	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	< 0.015	0.118	0.066	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	< 0.010	0.043	0.026	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	< 0.010	0.075	0.040	0.011	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.012
Naphthalene	ug/L	7	7	0.050	-	< 0.050	0.123	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters																
Gross alpha	Bq/l	-	-	0.1	-	-	-	-	< 0.1	< 0.1	< 0.1	0.13	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	-	-	-	0.19	0.55	0.28	0.17	-	-	-	-
Total Metals																
Aluminum, total	mg/L	-	-	0.003 - 0.06	11.2	11.4	1.49	3.60	3.79	3.06	1.60	0.493	0.0446	0.0470	0.0227	0.143
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	0.00049	0.00097	0.00034	0.00022	0.00014	0.00027	0.00023	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00199	0.00168	0.00047	0.00064	0.00140	0.00094	0.00068	0.00049	0.00026	0.00023	0.00026	0.00031
Barium, total	mg/L	-	-	0.0001 - 0.002	0.136	0.132	0.0498	0.0527	0.0739	0.0473	0.0372	0.0292	0.0247	0.0248	0.0238	0.0263
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000568	0.000592	0.000086	0.000236	0.000161	0.000105	0.000052	< 0.000020	-	-	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	0.000310	0.000348	-	0.000148	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	0.061	0.033	0.024	0.017	0.016	0.011	0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.0000488	0.0000973	0.0000529	0.0000571	**0.000334**	0.000174	0.000152	0.0000286	0.0000510	-	-	0.0000232
Calcium, total	mg/L	-	-	0.05 - 1	94.8	66.9	66.4	37.0	181	89.6	73.8	59.4	57.9	55.8	56.7	62.6
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.00742	0.00800	0.000962	0.00287	0.000369	0.000321	0.000166	0.000052	-	-	-	0.000015
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.0384	0.0436	0.00521	0.0151	0.0124	0.00932	0.00479	0.00156	< 0.0005	< 0.0005	< 0.0005	0.00060
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	**0.00207**	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	**0.00973**	**0.00944**	**0.00134**	**0.00333**	**0.00491**	**0.00284**	**0.00171**	0.00090	0.00049	0.00049	0.00043	0.00056
Copper, total	mg/L	0.005	-	0.0005 - 0.01	**0.0179**	**0.0196**	0.00334	**0.00695**	**0.0295**	**0.0158**	**0.00823**	0.00242	0.00090	< 0.0005	< 0.0005	0.00108
Iron, total	mg/L	0.3	-	0.01 - 0.2	**14.1**	**15.5**	**1.95**	**4.76**	**5.57**	**4.57**	**2.68**	**1.06**	**0.309**	0.300	0.284	**0.491**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.00367	0.00380	0.000535	0.00110	0.00685	0.00286	0.00156	0.000466	-	-	-	0.000158
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0347	0.0370	0.0116	0.0146	0.0095	0.0076	0.0054	0.0045	0.0033	0.0034	0.0035	0.0040
Magnesium, total	mg/L	-	-	0.005 - 0.1	26.8	19.1	15.6	10.0	39.4	21.1	16.3	11.4	11.1	10.7	11.4	11.6
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.791	0.293	0.358	0.274	0.899	0.740	0.677	0.603	0.559	0.534	0.541	0.579
Mercury, total	mg/L	0.0002	-	0.0000050	< 0.0000050	0.0000053	0.0000415	0.0000056	0.0000131	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000052	0.000035	0.000250	-	< 0.000020	< 0.000020	0.000078	0.000028	0.000042	0.000031	-	0.000187
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.00496	0.00236	0.00405	0.00197	0.00129	0.00335	0.00333	0.00160	0.000816	0.000819	0.000811	0.00104
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	**0.0322**	**0.0324**	0.00613	0.0125	0.0145	0.00880	0.00522	0.00262	0.00123	0.00120	0.00116	0.00154
Phosphorus, total	mg/L	-	-	0.002 - 1	0.236|0.201	0.106|0.257	< 0.05|0.903	0.0674|0.104	0.254|0.640	0.163|0.280	0.0632|0.084	0.0147|< 0.050	< 0.002|< 0.05	0.0048|< 0.05	0.0055|< 0.05	0.0200|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	11.3	9.38	7.40	5.01	4.73	4.60	3.94	3.03	2.86	2.84	2.88	3.13
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.0343	0.0386	0.00505	0.0136	0.0121	0.00858	0.00479	0.00194	0.00072	0.00073	0.00068	0.00106
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	0.000167	0.000115	0.000074	0.000073	0.000062	0.000104	0.000079	0.000062	-	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	24.5	23.9	7.10	9.76	12.2	11.2	8.27	6.32	5.03	4.91	5.18	5.30
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	0.000060	**0.000103**	-	**0.000126**	**0.00165**	**0.00468**	**0.00298**	**0.000602**	0.000035	0.000031	0.000012	**0.000153**
Sodium, total	mg/L	-	-	0.05 - 1	6.50	3.28	18.4	9.96	2.09	4.28	4.24	1.61	1.15	1.12	1.11	1.29
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.0954	0.0608	0.0655	0.0369	0.126	0.0784	0.0655	0.0545	0.0489	0.0483	0.0498	0.0498
Sulfur, total	mg/L	-	-	0.5 - 10	1.31	1.61	6.73	1.90	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00040	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	0.000215	0.000245	0.000031	0.000086	0.000083	0.000058	0.000029	< 0.000010	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00213	0.00210	0.00033	0.00060	0.00175	0.00101	0.00060	0.00020	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00114	0.00227	0.00144	0.00062	0.00032	0.00046	0.00038	0.00031	0.00018	0.00017	< 0.0001	0.00022
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.742	0.828	0.112	0.268	0.187	0.224	0.120	0.0352	0.00271	0.00312	0.00122	0.00987
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	0.00074	0.00095	0.00024	0.00046	0.0115	0.0222	0.0187	0.00594	0.00165	0.00168	0.00114	0.00265
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	**0.0131**	**0.00874**	**0.0117**	**0.00582**	0.00276	0.00160	0.00139	0.00148	0.00134	0.00133	0.00128	0.00143
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	**0.0288**	**0.0315**	0.00410	**0.0110**	**0.0116**	**0.00819**	0.00475	0.00193	0.00074	0.00072	0.00068	0.00112
Zinc, total	mg/L	0.03	-	0.003 - 0.06	0.0287	**0.0380**	0.0068	0.0111	0.0229	0.0168	0.0098	0.0031	< 0.003	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00346	0.00232	0.00104	0.00311	0.00316	0.00251	0.00193	0.00125	0.00077	0.00076	0.00082	0.00096
Volatile Organic Compounds																
Acetone	ug/L	-	2700	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	< 2.0	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	< 4.5	< 1	< 1	< 1.0	< 1.0	**16.8**	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	< 0.40	< 0.4	< 0.4	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes																
SUM OF BTEX	ug/L	-	-	1.0	-	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/04/23	8/09/23	9/24/23	6/05/24	8/13/24	10/03/24	7/04/23	8/09/23	9/24/23	6/05/24	8/13/24	10/01/24
					MW22-17-2	MW22-17-2	MW22-17-2	MW22-17-2	MW22-17-2	MW22-17-2	MW22-18-1	MW22-18-1	MW22-18-1	MW22-18-1	MW22-18-1	MW22-18-1
Anions and Nutrients																
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	< 0.0050	0.0310	0.0564	0.308	0.0784	0.156	0.0140	0.0216	0.0359	0.0672	0.0771	0.373
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	0.17	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	2.82	1.47	1.42	0.82	0.68	0.41	0.74	0.34	0.32	3.51	0.35	0.39
Fluoride	mg/L	-	-	0.020 - 0.040	0.020	0.020	0.042	0.044	< 0.02	0.053	0.076	0.091	0.091	0.041	0.058	0.113
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	0.024	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.119|0.144	0.107|0.847	0.0596|0.597	0.0344|< 0.05	0.0347|< 0.1	0.0221|< 0.05	0.0349|0.060	0.0508|0.076	0.0188|< 0.050	0.0138|< 0.05	0.0482|< 0.05	0.0070|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.30	1.38	1.58	0.47	< 0.3	1.33	2.34	1.50	2.34	0.70	0.52
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	8.68	9.54	10.5	11.9	11.1	12.2	10.9	11.3	13.0	11.2	12.6	11.3
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	3.1	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	31	17	32	38	40	35	32	30	42	39	39	34
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0050	0.0062	0.0085	0.0083	0.0084	0.0086	0.0468	0.0091	0.0206	0.0103	0.0101	0.0076
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	0.00011	0.00012	< 0.0001	0.00013	0.00035	< 0.00010	< 0.00020	0.00046	0.00021	0.00017	0.00011
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00128	0.00180	0.00206	0.00165	0.00149	0.00184	0.00070	0.00085	0.00050	0.00117	0.00054	0.00047
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0196	0.0190	0.0193	0.0157	0.0176	0.0153	0.0337	0.0315	0.0290	0.0367	0.0400	0.0381
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-	0.000375	0.000396	0.000386	0.000360	**0.000510**	**0.000578**
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000100	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.067	0.074	0.071	0.052	0.063	0.063	0.011	< 0.020	< 0.010	0.011	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	0.0000203	0.0000212	0.0000141	0.0000441	0.0000565	0.0000116	< 0.0000100	0.0000191	-	0.0000108	0.0000202
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	62.4	58.7	55.4	47.6	54.0	53.4	27.8	24.8	30.0	27.2	31.2	29.2
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	0.000027	< 0.000020	0.000010	-	0.000010	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	0.00091	0.00108	0.00128	0.00102	0.00107	0.00112
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00021	0.00023	0.00020	0.00022	0.00022	0.00017	0.00022	< 0.00020	0.00019	0.00038	0.00014	0.00011
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00157	0.00052	0.00111	0.00041	0.00161	0.00036	0.00107	0.00086	0.00077	< 0.0002	0.00038	0.00031
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	0.064	0.127	0.175	0.173	0.153	0.251	**0.500**	**0.693**	**0.667**	**0.798**	**0.793**	**0.923**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	0.000264	< 0.000100	0.000087	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0014	0.0013	0.0018	0.0018	0.0011	0.0015	0.0167	0.0149	0.0166	0.0165	0.0149	0.0134
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	12.3	11.9	11.3	9.00	10.6	10.4	7.27	7.20	7.79	6.90	7.46	7.24
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.282	0.282	0.263	0.282	0.275	0.272	0.445	0.390	0.490	0.639	0.493	0.483
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 5e-005
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000037	0.000111	-	0.000025	0.000054	0.000049	0.000032	0.000032	< 0.000020	-	0.000036	0.000045
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00581	0.00660	0.00735	0.00691	0.00648	0.00515	0.00451	0.00511	0.00174	0.00546	0.00179	0.00120
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	0.00113	0.00244	0.00153	0.00160	0.00186	0.00208	0.00114	0.00133	0.00111	0.00205	0.00252	0.00127
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.100	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	2.64	2.47	2.71	2.47	2.67	2.68	2.10	2.08	1.99	2.27	1.67	1.70
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00099	0.00101	0.00103	0.00097	0.00105	0.00099	0.00304	0.00315	0.00280	0.00315	0.00233	0.00254
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000066	0.000070	0.000106	0.000101	0.000191	0.000050	0.000237	0.000269	0.000215	0.000144	0.000250	0.000059
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	5.58	6.20	6.11	6.21	6.30	6.52	15.4	14.8	15.9	15.2	16.3	16.6
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	0.000010	-	< 0.000010	< 0.000020	< 0.000010	-	0.000011	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	5.49	8.65	19.1	22.8	18.2	11.9	8.08	8.58	4.48	6.99	2.81	2.09
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0572	0.0569	0.0537	0.0466	0.0522	0.0474	0.172	0.180	0.164	0.182	0.160	0.150
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.50	< 0.50	0.80	< 0.5	< 0.5	0.98	< 1.00	< 0.50	1.38	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-	< 0.000010	< 0.000020	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00029	0.00026	0.00031	0.00027	0.00031	0.00031
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00111	0.00031	0.00078	0.00147	0.00098	0.00058	0.00019	< 0.00020	0.00110	0.00246	0.00093	0.00046
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	0.00041	0.00050	0.00045	0.00036	0.00214	0.00160	0.00191	0.00179	0.00182	0.00181
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	0.0226	0.0201	0.0221	0.0158	0.0169	0.0142	**0.0313**	**0.0361**	0.00914	0.0123	0.00299	0.00198
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.00186	0.00150	0.00172	0.00129	0.00152	0.00105	0.00285	0.00339	0.00181	0.00194	0.00154	0.00174
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	0.00053	0.00082	0.00092	0.00096	0.00098	**0.00437**	**0.00454**	**0.00484**	**0.00545**	**0.00544**	**0.00576**
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0012	0.0015	0.0032	0.0011	0.0044	0.0027	0.0012	< 0.0020	0.0024	0.0012	0.0021	0.0016
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00076	0.00085	0.00121	0.00164	0.00152	0.00150	0.00280	0.00248	0.00306	0.00320	0.00330	0.00329
Physical Tests																
Conductivity	uS/cm	-	-	2.0	389	379	409	381	360	331	207	211	220	223	190	185
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	245	230	244	218	237	232	116	115	117	115	107	110
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	206	196	185	156	178	176	99.4	91.6	107	96.3	109	103
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	251	230	252	234	230	234	148	164	164	172	150	138
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	307	71.2	457	39.5	107	7.5	37.1	102	12.6	8.5	29.8	< 3
pH	pH units	6.5 - 8.5	-	0.1	8.37	8.34	8.07	8.36	8.19	8.06	8.12	8.07	7.99	7.98	7.95	7.54
Polycyclic Aromatic Hydrocarbon																
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	0.012	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	7	7	0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters																
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-	2.30	2.50	2.10	-	-	-
Gross beta	Bq/l	-	-	0.1	0.14	< 0.1	0.16	-	-	-	1.01	1.15	1.05	-	-	-
Total Metals																
Aluminum, total	mg/L	-	-	0.003 - 0.06	1.69	2.79	2.27	0.308	0.517	0.152	1.68	0.890	0.293	0.0773	0.0618	0.0547
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	< 0.00020	< 0.00010	0.00030	0.00040	< 0.0002	0.00014	0.00013	0.00018	0.00055	0.00037	0.00021	0.00022
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00186	0.00317	0.00327	0.00178	0.00160	0.00234	0.00130	0.00100	0.00090	0.00102	0.00055	0.00061
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0321	0.0361	0.0382	0.0191	0.0217	0.0175	0.0526	0.0468	0.0393	0.0378	0.0383	0.0408
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000061	0.000098	0.000104	0.000025	-	-	0.000674	0.000535	0.000373	0.000381	0.000554	0.000567
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000100	< 0.000050	< 0.000100	-	< 0.0001	-	0.000090	0.000061	< 0.000050	-	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	0.072	0.089	0.076	0.056	0.072	0.077	0.014	0.010	0.011	0.010	< 0.01	< 0.01
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.0000223	0.0000511	0.0000952	0.0000572	0.0000726	0.0000223	0.0000203	0.0000471	0.0000444	0.0000204	0.0000206	0.0000384
Calcium, total	mg/L	-	-	0.05 - 1	93.3	149	133	54.1	60.0	58.6	29.9	26.6	28.1	29.2	29.7	30.1
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000157	0.000261	0.000158	0.000031	0.000050	0.000012	0.000190	0.000106	0.000048	0.000018	0.000016	0.000016
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.0037	0.00802	0.00588	0.00100	0.00153	0.00063	0.00227	0.00309	0.00151	0.00140	0.00130	0.00140
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	**0.00143**	**0.00249**	**0.00212**	0.00046	0.00059	0.00032	0.00078	0.00090	0.00048	0.00038	0.00018	0.00016
Copper, total	mg/L	0.005	-	0.0005 - 0.01	**0.00566**	**0.00604**	**0.00638**	0.00161	0.00247	0.00083	**0.00984**	**0.00546**	0.00240	0.00080	0.00060	0.00088
Iron, total	mg/L	0.3	-	0.01 - 0.2	**2.24**	**4.44**	**3.44**	**0.583**	**0.800**	**0.602**	**1.96**	**1.79**	**0.894**	**0.860**	**0.986**	**0.985**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.00124	0.00237	0.00212	0.000321	0.000491	0.000159	0.00251	0.000842	0.000314	0.000161	0.000099	0.000144
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0037	0.0060	0.0050	0.0015	< 0.002	0.0018	0.0185	0.0195	0.0178	0.0151	0.0147	0.0156
Magnesium, total	mg/L	-	-	0.005 - 0.1	19.6	31.6	31.9	11.2	12.4	11.6	7.80	7.67	7.21	7.32	7.59	7.55
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.328	0.463	0.420	0.290	0.331	0.314	0.478	0.492	0.465	0.644	0.535	0.525
Mercury, total	mg/L	0.0002	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000044	0.000071	0.000071	0.000045	0.000064	0.000023	< 0.000020	< 0.000020	0.000021	0.000026	0.000113	0.000028
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.00546	0.00592	0.00756	0.00761	0.00716	0.00533	0.00504	0.00349	0.00478	0.00436	0.00196	0.00130
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.00378	0.00618	0.00586	0.00245	0.00308	0.00140	0.00244	0.00557	0.00258	0.00240	0.00284	0.00164
Phosphorus, total	mg/L	-	-	0.002 - 1	0.119|0.144	0.107|0.847	0.0596|0.597	0.0344|< 0.05	0.0347|< 0.1	0.0221|< 0.05	0.0349|0.060	0.0508|0.076	0.0188|< 0.050	0.0138|< 0.05	0.0482|< 0.05	0.0070|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	2.78	3.48	3.24	2.65	2.93	2.72	2.59	2.38	2.71	2.20	1.66	1.85
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00414	0.00687	0.00430	0.00160	0.00190	0.00122	0.00461	0.00428	0.00450	0.00311	0.00238	0.00290
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	< 0.000100	0.000073	< 0.000100	0.000088	0.000134	0.000068	0.000257	0.000167	0.000221	0.000071	-	-
Silicon, total	mg/L	-	-	0.1 - 2	8.47	11.0	10.2	7.01	7.92	6.54	18.6	17.3	15.3	15.4	16.4	15.8
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	**0.000102**	0.000057	**0.000234**	0.000060	0.000033	0.000019	**0.000522**	**0.00191**	**0.000218**	0.000074	0.000035	0.000023
Sodium, total	mg/L	-	-	0.05 - 1	5.27	10.2	19.4	24.0	18.7	11.3	9.11	5.88	6.51	5.96	2.84	2.36
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.0785	0.119	0.107	0.0542	0.0576	0.0532	0.195	0.185	0.189	0.183	0.160	0.149
Sulfur, total	mg/L	-	-	0.5 - 10	< 1.00	< 0.50	< 1.00	0.60	< 1	< 0.5	1.10	0.64	0.88	1.00	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00020	< 0.00040	< 0.0002	< 0.0004	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	0.000034	0.000087	0.000034	-	-	-	0.000014	0.000019	< 0.000010	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00061	0.00084	0.00105	0.00018	0.00089	0.00010	0.00127	0.00099	0.00045	0.00037	0.00038	0.00034
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00150	0.00023	0.00146	0.00278	0.00155	0.00080	0.00049	0.00082	0.00224	0.00345	0.00137	0.00081
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.122	0.261	0.266	0.0240	0.0374	0.0143	0.0280	0.0414	0.0142	0.00668	0.00535	0.00431
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	0.0198	0.0184	0.0197	0.0174	0.0167	0.0150	**0.0359**	0.0247	0.0277	0.0108	0.00291	0.00237
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.00213	0.00197	0.00229	0.00149	0.00158	0.00123	0.00457	0.00249	0.00337	0.00189	0.00143	0.00185
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	0.00457	**0.00890**	**0.00778**	0.00178	0.00232	0.00152	**0.00717**	**0.00703**	0.00511	0.00585	**0.00613**	**0.00634**
Zinc, total	mg/L	0.03	-	0.003 - 0.06	0.0065	0.0128	0.0108	0.0048	0.0094	< 0.003	0.0053	0.0064	0.0032	< 0.003	< 0.003	0.0043
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00140	0.00195	0.00187	0.00173	0.00188	0.00167	0.00101	0.00180	0.00214	0.00282	0.00306	0.00328
Volatile Organic Compounds																
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																
SUM OF BTEX	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/04/23	8/09/23	9/24/23	6/05/24	8/13/24	10/01/24	7/03/23	8/10/23	9/21/23	6/04/24	8/11/24	10/02/24
					MW22-18-2	MW22-18-2	MW22-18-2	MW22-18-2	MW22-18-2	MW22-18-2	MW22-19-1	MW22-19-1	MW22-19-1	MW22-19-1	MW22-19-1	MW22-19-1
Anions and Nutrients																
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0185	0.0181	0.0253	0.0146	0.0279	0.516	< 0.0050	0.0168	0.0243	0.0553	0.0168	0.0236
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	0.18	0.12	0.29	0.34	0.20	0.24	0.48	0.75	0.21	0.31	0.24	0.38
Fluoride	mg/L	-	-	0.020 - 0.040	0.027	< 0.020	0.033	< 0.02	< 0.02	0.038	< 0.020	0.030	0.031	< 0.02	< 0.02	0.039
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	< 0.020	0.039	0.581	0.101	< 0.02	0.156	0.112	0.068	0.210	0.194	0.189	0.209
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.169|0.325	0.808|1.74	0.0140|< 0.050	0.0329|< 0.1	0.0168|< 0.05	0.0080|< 0.05	0.0584|0.116	0.543|1.47	0.647|2.54	0.0533|< 0.1	0.0952|< 0.05	0.0291|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	0.98	1.48	3.63	1.75	1.05	1.10	9.34	14.0	4.69	6.71	6.85	3.93
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	14.2	12.5	13.2	19.8	31.2	17.9	3.42	2.62	3.22	2.50	3.16	2.52
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 3.0	< 2.0	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	48	68	31	60	78	50	< 10	37	11	15	< 10	14
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals																
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.429	0.206	0.403	0.674	1.04	0.600	0.182	0.0018	0.0021	0.0017	0.0221	0.0022
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	0.00030	0.00037	0.00013	0.00038	0.00013	0.00014
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00059	0.00066	0.00046	0.00066	0.00093	0.00059	0.00059	0.00039	0.00029	0.00016	0.00020	0.00021
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0124	0.0262	0.0205	0.0104	0.0140	0.0136	0.0159	0.0163	0.0136	0.0141	0.0160	0.0149
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	0.000069	0.000164	0.000070	0.000073	0.000114	0.000090	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.0000318	0.0000345	0.0000341	0.0000246	0.0000290	0.0000283	0.0000151	0.0000082	0.0000140	0.0000151	0.0000096	0.0000219
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	8.59	18.2	11.7	5.49	6.56	8.66	90.0	83.6	92.0	81.7	91.6	89.3
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	0.000067	0.000067	0.000154	0.000074	0.000129	0.000137	0.000033	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	0.00131	0.00113	0.00116	0.00109	0.00171	0.00160	0.00078	< 0.00050	0.00072	0.00066	0.00081	0.00091
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	0.00055	0.00067	0.00080	0.00081
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	**0.00177**	**0.00156**	**0.00274**	**0.00209**	0.00089	**0.00106**	**0.00147**	**0.00204**	0.00044	0.00015	0.00015	0.00010
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	**0.0126**	**0.0190**	**0.0202**	**0.0169**	**0.0168**	**0.0118**	0.00344	0.00143	0.00200	0.00081	0.00126	0.00105
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**0.339**	**0.318**	0.287	**0.482**	**0.741**	**0.446**	0.281	0.014	< 0.010	< 0.01	0.027	< 0.01
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	0.000173	< 0.000050	0.000054	-	0.000088	-	0.000354	< 0.000050	< 0.000050	-	0.000071	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0025	0.0057	0.0042	0.0024	0.0033	0.0028	0.0113	0.0092	0.0164	0.0023	0.0021	0.0024
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	1.93	2.64	2.16	1.29	1.38	1.66	16.8	15.8	17.9	14.4	16.5	17.1
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0698	0.308	0.104	0.0136	0.0206	0.0402	0.0916	0.0851	0.0393	0.00303	0.00360	0.00222
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	0.0000087	-	< 5e-005	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	0.000029	0.000135	< 0.000020	-	0.000031	0.000062	0.000020	0.000110	0.000020	0.000045	0.000054	0.000048
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00155	0.00937	0.00485	0.00102	0.000773	0.00126	0.00516	0.00308	0.00124	0.00108	0.00110	0.000422
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	0.00492	0.00369	0.0106	0.00516	0.00566	0.00624	0.00179	0.00245	0.00116	0.00095	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.81	3.23	3.08	1.20	1.29	1.43	1.12	1.07	1.05	0.762	0.791	0.928
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00696	0.0112	0.0108	0.00494	0.00652	0.00691	0.00258	0.00264	0.00199	0.00135	0.00164	0.00150
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000077	0.000086	0.000059	0.000090	0.000158	0.000100	0.000859	0.00109	0.000439	0.000575	0.000772	0.000342
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	5.80	6.80	6.69	4.55	5.97	6.84	4.73	5.08	6.16	5.06	5.61	6.17
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	**0.000129**	0.000030	**0.000138**	**0.000106**	0.000065	0.000060	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	1.62	2.40	2.68	0.892	1.06	1.24	13.6	10.7	5.58	16.8	14.7	6.47
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0411	0.0980	0.0739	0.0292	0.0319	0.0379	0.0956	0.0848	0.0920	0.0746	0.0795	0.0776
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.50	0.82	0.61	< 0.5	< 0.5	3.38	4.08	2.32	2.74	2.17	1.48
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	0.000020	0.000023	0.000019	0.000018	0.000015	0.000012	< 0.000010	0.000016	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00058	0.00056	0.00050	0.00042	0.00059	0.00064	0.00012	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00047	< 0.00010	< 0.00010	0.00010	0.00013	< 0.0001	0.00021	< 0.00010	0.00015	0.00067	0.00053	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	0.00265	0.00180	0.00372	0.00517	0.00889	0.00426	0.00942	< 0.00030	< 0.00030	< 0.0003	0.00088	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	**0.0326**	0.0110	**0.0763**	0.0204	0.00921	0.0107	**0.0898**	**0.0576**	**0.0306**	0.00490	0.00411	0.00579
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000577	0.00102	0.000758	0.000630	0.000893	0.000681	**0.0408**	**0.0468**	**0.0129**	0.00216	0.00129	0.00137
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	0.00055	0.00114	0.00060	0.00050	0.00068	0.00062	0.00111	0.00073	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0043	0.0028	0.0051	0.0041	0.0029	0.0022	0.0055	0.0016	0.0021	0.0034	0.0023	0.0019
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00063	0.00086	0.00066	0.00052	0.00073	0.00072	0.00068	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests																
Conductivity	uS/cm	-	-	2.0	71.9	115	112	50.2	42.8	63.1	498	517	502	508	536	492
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	38.1	60.2	50.1	22.4	16.3	29.9	295	334	292	283	305	302
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	29.4	56.3	38.1	19.0	22.1	28.4	294	274	303	263	297	293
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	72	103	91	75	81	66	388	390	319	304	324	283
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	336	758	< 3.0	13.7	< 3	3.0	1020	3260	444	65.3	16.8	23.4
pH	pH units	6.5 - 8.5	-	0.1	7.28	6.79	6.87	6.97	6.66	6.69	8.11	7.94	7.94	7.95	7.89	7.97
Polycyclic Aromatic Hydrocarbon																
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	-	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.0050*	*< 0.0050*	-	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.010*	*< 0.010*	-	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.235	0.113	-	0.047	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.071	0.039	-	0.015	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.164	0.074	-	0.032	< 0.01	< 0.01
Naphthalene	ug/L	7	7	0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	0.565	0.214	-	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	-	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	0.013	-	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	-	< 0.01	< 0.01	< 0.01
Radiological Parameters																
Gross alpha	Bq/l	-	-	0.1	0.24	0.56	0.31	-	-	-	1.30	0.90	-	-	-	-
Gross beta	Bq/l	-	-	0.1	0.14	0.51	0.26	-	-	-	0.40	0.32	-	-	-	-
Total Metals																
Aluminum, total	mg/L	-	-	0.003 - 0.06	4.42	11.8	0.543	1.02	1.13	0.757	2.13	19.0	5.02	0.552	0.101	0.252
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	< 0.00020	< 0.00020	< 0.00010	0.00021	0.00013	0.00013	0.00038	< 0.00050	0.00027	0.00114	0.00013	0.00061
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00220	0.00419	0.00057	0.00075	0.00096	0.00070	0.00106	0.00624	0.00333	0.00030	0.00022	0.00026
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0632	0.153	0.0252	0.0169	0.0144	0.0149	0.0294	0.141	0.0472	0.0198	0.0156	0.0188
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000424	0.000985	0.000082	0.000104	0.000121	0.000099	0.000097	0.00106	0.000274	0.000061	-	0.000024
Bismuth, total	mg/L	-	-	0.00005 - 0.001	0.000110	0.000200	< 0.000050	< 0.0001	-	-	< 0.000100	< 0.000250	< 0.000100	< 0.0001	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	< 0.020	< 0.020	0.010	< 0.02	< 0.01	< 0.01	< 0.020	< 0.050	0.024	< 0.02	< 0.01	< 0.01
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.000107	**0.000205**	0.0000466	0.0000306	0.0000294	0.0000343	0.0000356	**0.000320**	0.000177	0.0000363	0.0000098	0.0000394
Calcium, total	mg/L	-	-	0.05 - 1	12.2	21.4	13.3	7.22	6.63	8.20	108	550	417	90.4	81.2	91.3
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000998	0.00188	0.000206	0.000159	0.000136	0.000152	0.000228	0.00198	0.000353	0.000067	0.000012	0.000035
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.00691	0.0171	0.00136	0.00177	0.00200	0.00192	0.00517	0.0502	0.0157	0.00168	0.00100	0.00146
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	0.00073	0.00060	0.00066	0.00071
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	**0.00521**	**0.0102**	**0.00282**	**0.00156**	**0.00091**	**0.00108**	**0.00306**	**0.0180**	**0.00756**	0.00074	0.00026	0.00041
Copper, total	mg/L	0.005	-	0.0005 - 0.01	**0.0396**	**0.0857**	**0.0228**	**0.0203**	**0.0168**	**0.0127**	**0.00842**	**0.0679**	**0.0218**	0.00360	0.00153	0.00215
Iron, total	mg/L	0.3	-	0.01 - 0.2	**5.30**	**14.1**	**0.445**	**0.858**	**0.844**	**0.575**	**2.65**	**27.4**	**9.18**	**0.585**	0.123	0.299
Lead, total	mg/L	-	-	0.00005 - 0.001	0.00405	0.00815	0.000153	0.000270	0.000160	0.000101	0.00138	0.0156	0.00536	0.000679	0.000088	0.000259
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0121	0.0296	0.0046	0.0030	0.0035	0.0034	0.0152	0.0347	0.0130	0.0026	0.0025	0.0026
Magnesium, total	mg/L	-	-	0.005 - 0.1	4.23	9.15	2.36	1.65	1.50	1.66	23.4	126	92.6	17.2	16.3	17.3
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.163	0.485	0.119	0.0219	0.0258	0.0418	0.154	0.945	0.561	0.0210	0.00754	0.0153
Mercury, total	mg/L	0.0002	-	0.0000050	0.0000065	< 0.0000050	< 0.0000050	0.0000079	0.0000090	0.0000074	< 0.0000050	0.0000121	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000037	< 0.000020	< 0.000020	-	-	< 0.0002	< 0.000020	0.000027	< 0.000020	0.000031	-	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.00209	0.00503	0.00549	0.00136	0.000824	0.00113	0.00578	0.00239	0.00119	0.00118	0.00117	0.000914
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.00976	0.0161	0.0116	0.00650	0.00590	0.00631	0.00464	**0.0339**	0.0118	0.00187	0.00051	0.00094
Phosphorus, total	mg/L	-	-	0.002 - 1	0.169|0.325	0.808|1.74	0.0140|< 0.050	0.0329|< 0.1	0.0168|< 0.05	0.0080|< 0.05	0.0584|0.116	0.543|1.47	0.647|2.54	0.0533|< 0.1	0.0952|< 0.05	0.0291|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	3.21	6.42	3.24	1.44	1.32	1.41	1.90	5.07	1.95	0.929	0.807	0.983
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.0166	0.0314	0.0115	0.00584	0.00647	0.00732	0.00609	0.0311	0.00755	0.00229	0.00179	0.00205
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	< 0.000100	0.000101	0.000092	0.000111	0.000143	0.000114	0.000770	0.00123	0.000312	0.000518	0.000524	0.000352
Silicon, total	mg/L	-	-	0.1 - 2	14.1	27.7	7.17	5.43	6.10	6.79	8.92	40.5	15.0	6.14	5.70	5.91
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	**0.00955**	**0.0213**	**0.000604**	**0.000922**	**0.000223**	**0.000330**	< 0.000020	**0.000127**	0.000036	-	-	-
Sodium, total	mg/L	-	-	0.05 - 1	2.40	4.97	2.42	1.02	1.11	1.32	14.1	15.2	3.92	16.6	15.0	14.2
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.107	0.258	0.0792	0.0384	0.0340	0.0375	0.104	0.374	0.295	0.0823	0.0737	0.0766
Sulfur, total	mg/L	-	-	0.5 - 10	< 1.00	< 1.00	1.16	< 1	< 0.5	< 0.5	3.86	3.69	2.16	2.34	2.79	2.02
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	< 0.00040	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.00040	< 0.00100	< 0.00040	< 0.0004	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	0.000073	0.000122	0.000026	0.000025	0.000015	0.000017	< 0.000020	0.000292	0.000098	-	-	0.000011
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00381	0.00637	0.00060	0.00057	0.00054	0.00062	0.00087	0.00940	0.00318	0.00033	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00089	0.00096	0.00010	0.00034	0.00015	0.00015	0.00057	0.00304	0.00110	0.00207	0.00036	0.00084
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.163	0.389	0.0101	0.0227	0.0120	0.00857	0.150	1.39	0.659	0.0266	0.00799	0.0171
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	**0.0580**	**0.0667**	**0.0867**	0.0265	0.00955	0.0108	**0.0955**	**0.0341**	**0.0315**	0.00777	0.00464	0.00469
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.00159	0.00238	0.000929	0.000800	0.000921	0.000729	**0.0509**	**0.0190**	**0.0111**	0.00303	0.00120	0.00101
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	**0.00968**	**0.0272**	0.00092	0.00121	0.00084	0.00091	0.00556	**0.0496**	**0.0183**	0.00124	0.00055	0.00091
Zinc, total	mg/L	0.03	-	0.003 - 0.06	0.0275	**0.0530**	0.0054	< 0.006	0.0050	< 0.003	0.0147	**0.0897**	0.0295	0.0149	< 0.003	0.0049
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00079	0.00095	0.00069	0.00048	0.00062	0.00072	0.00098	0.00364	0.00240	< 0.0004	0.00022	0.00048
Volatile Organic Compounds																
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	**1.36**	**0.83**	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	**4.61**	**1.99**	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	6.14	4.28	0.99	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	2.84	1.83	0.65	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	8.98	6.11	1.64	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes																
SUM OF BTEX	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	15.0	8.9	1.6	< 1	< 1	< 1

Notes:

Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)

O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition

< Indicates parameter was below laboratory equipment detection limit.

> Indicates parameter detected above equipment analytical range.

- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/03/23	6/04/24	8/11/24	7/03/23	7/03/23	8/10/23	9/21/23	9/21/23	6/04/24	8/15/24	8/15/24	10/02/24	10/02/24
					MW22-19-2	MW22-19-2	MW22-19-2	MW22-20-1	MF-C (MW22-20-1)	MW22-20-1	MW22-20-01	DUP 2 (MW22-20-1)	MW22-20-1	MW22-20-1	MWBD4 (MW22-20-1)	MW22-20-1	MW DUP-04 (MW22-20-1)
Anions and Nutrients																	
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	-	-	0.0250	0.227	0.246	0.251	0.257	0.266	0.365	0.343	0.296	0.357	0.476
Bromide	mg/L	-	-	0.10 - 0.20	-	-	< 0.1	< 0.10	< 0.10	0.13	< 0.20	< 0.20	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	-	-	0.25	4.04	4.09	4.14	5.02	5.06	3.14	3.27	3.21	3.16	3.24
Fluoride	mg/L	-	-	0.020 - 0.040	-	-	< 0.02	0.116	0.128	0.115	0.150	0.150	0.154	0.078	0.078	0.127	0.128
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	-	-	0.118	0.020	< 0.020	< 0.020	< 0.040	< 0.040	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.020	< 0.020	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.210	-	0.832|0.275	0.174|0.127	0.110|0.131	0.131|0.128	0.134|0.129	0.137|0.128	0.126|0.169	0.118|0.129	0.116|0.146	0.128|0.159	0.129|0.148
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	-	-	0.86	15.8	16.4	14.2	10.4	10.3	0.31	< 0.3	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	-	4.68	4.65	4.65	5.09	5.02	10.2	9.56	2.51	3.25	3.60	2.97	3.50
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	-	< 2	< 2	< 2.0	< 2.0	< 2.0	11.3	12.7	< 2	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	-	-	65	21	11	23	30	28	15	11	15	13	< 10
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	0.105	0.110	0.103	0.122	0.142	0.120	0.147	0.147
Dissolved Metals																	
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0036	0.0258	0.0043	0.0014	0.0011	0.0141	0.0024	0.0022	0.0018	0.0252	< 0.001	0.0012	0.0021
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	0.00020	0.00012	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00024	0.00018	0.00026	0.00123	0.00171	0.00088	0.00042	0.00041	0.00036	0.00021	0.00020	0.00020	0.00023
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.00988	0.00752	0.0104	0.0307	0.0317	0.0344	0.0389	0.0383	0.0471	0.0416	0.0394	0.0412	0.0461
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.086	0.014	0.022	0.043	0.036	0.038	0.034	0.033	0.034	0.04	0.04	0.039	0.04
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	0.000151	0.0000172	0.0000149	0.0000065	0.0000075	< 0.0000050	< 0.0000050	< 0.0000050	-	0.0000108	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	78.8	69.0	78.9	75.0	74.1	71.7	79.9	79.8	78.8	79.9	78.9	80.9	81.9
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	-	-	0.000016	0.000020	0.000010	< 0.000010	< 0.000010	-	0.000016	0.000011	0.000012	0.000012
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	0.00068	0.00086	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	0.00052	**0.00103**	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00020	0.00012	< 0.0001	**0.00093**	0.00088	0.00059	0.00027	0.00027	0.00017	0.00010	< 0.0001	< 0.0001	0.00013
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	0.00159	0.00237	0.00286	0.00136	0.00029	< 0.00020	< 0.00020	< 0.00020	0.00063	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	< 0.010	0.066	0.012	**1.27**	**1.01**	**3.84**	**4.17**	**4.27**	**4.54**	**3.82**	**3.81**	**3.70**	**3.67**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	< 0.0010	< 0.001	< 0.001	0.0124	0.0119	0.0118	0.0127	0.0125	0.0094	0.0093	0.0094	0.0088	0.0086
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	14.7	12.6	15.7	17.4	17.0	17.0	18.3	18.0	18.7	20.1	20.4	19.8	19.6
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.0853	0.00270	0.00068	0.171	0.162	0.242	0.388	0.383	0.306	0.185	0.180	0.161	0.173
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	-	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	-	0.000026	0.000062	0.000040	< 0.000020	0.000048	-	< 0.000020	-	0.000028	0.000026	-	0.000026
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.00519	0.000768	0.00123	0.00442	0.00413	0.00531	0.00375	0.00384	0.000994	0.000666	0.000690	0.000622	0.000691
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	0.00182	0.00063	0.00060	0.00139	0.00128	0.00314	0.00055	0.00055	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	0.105	0.110	0.103	0.122	0.142	0.120	0.147	0.147
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	1.48	1.13	1.45	3.64	3.52	3.34	3.22	3.14	3.40	3.25	3.16	3.48	3.46
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00106	0.00061	0.00063	0.00314	0.00313	0.00265	0.00234	0.00240	0.00254	0.00246	0.00240	0.00238	0.00234
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	0.000108	0.000108	0.000178	< 0.000050	< 0.000050	< 0.000050	0.000061	0.000066	0.000122	0.000153	0.000068	0.000066	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	3.75	3.60	4.70	8.47	8.22	9.26	9.55	9.43	9.02	9.21	9.15	9.24	9.36
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	2.47	1.44	1.63	39.5	38.4	34.4	38.0	39.5	18.4	18.4	18.7	18.2	19.0
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.0730	0.0568	0.0670	0.314	0.303	0.322	0.427	0.440	0.457	0.439	0.430	0.469	0.514
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	< 0.50	< 0.5	< 0.5	8.72	7.91	5.76	2.73	2.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	0.00041	0.00037	0.00036	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	0.00132	< 0.0003	< 0.00030	< 0.00030	0.00052	< 0.00030	< 0.00030	< 0.0003	0.00153	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	0.00013	< 0.0001	< 0.0001	0.0282	0.0279	0.0178	0.00804	0.00804	0.00307	0.00136	0.00139	0.00123	0.00140
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000241	0.000207	0.000224	0.00299	0.00301	0.00211	0.00124	0.00125	0.000447	0.000312	0.000287	0.000396	0.000434
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0049	0.0047	0.0026	0.0038	0.0025	**0.0322**	< 0.0010	< 0.0010	0.0035	0.0015	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	0.00037	0.00040	0.00035	0.00072	0.00075	0.00175	0.00192	0.00194	0.00153	0.00191	0.00189	0.00184	0.00182
Physical Tests																	
Conductivity	uS/cm	-	-	2.0	466	-	473	592	587	619	655	656	570	574	576	540	543
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	279	-	294	326	333	333	357	354	319	339	345	336	326
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	257	224	262	259	255	249	275	273	274	282	281	284	285
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	315	-	282	365	366	369	381	381	312	310	336	332	310
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	274	-	142	78.1	74.5	62.9	16.4	7.4	18.9	11.1	10.1	6.5	10.6
pH	pH units	6.5 - 8.5	-	0.1	8.3	-	8.01	8.15	8.14	8.01	7.9	8.21	8.19	7.68	7.66	8.13	8.08
Polycyclic Aromatic Hydrocarbon																	
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	-	-	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	-	-	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	-	-	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	-	-	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	-	-	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	-	-	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	-	-	*< 0.005*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	-	-	*< 0.01*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	-	-	0.052	0.192	0.142	< 0.015	< 0.015	< 0.015	< 0.015	0.019	0.018	< 0.015	0.037
Methylnaphthalene, 1-	ug/L	2	2	0.010	-	-	0.017	0.059	0.044	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	0.013
Methylnaphthalene, 2-	ug/L	2	2	0.010	-	-	0.035	0.133	0.098	< 0.010	0.013	0.012	< 0.01	0.019	0.018	0.014	0.024
Naphthalene	ug/L	7	7	0.050	-	-	0.109	0.510	0.362	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	-	-	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	-	-	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters																	
Gross alpha	Bq/l	-	-	0.1	-	-	-	< 0.1	< 0.1	0.17	< 0.1	< 0.1	-	-	-	-	-
Gross beta	Bq/l	-	-	0.1	-	-	-	0.13	0.11	0.23	0.31	< 0.1	-	-	-	-	-
Total Metals																	
Aluminum, total	mg/L	-	-	0.003 - 0.06	4.76	-	5.95	1.71	1.29	0.418	0.357	0.354	0.220	< 0.003	0.0555	0.0519	0.0265
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	0.00023	-	< 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00014	0.00017	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00222	-	0.00251	0.00201	0.00339	0.00120	0.00058	0.00062	0.00048	0.00022	0.00024	0.00022	0.00021
Barium, total	mg/L	-	-	0.0001 - 0.002	0.0426	-	0.0480	0.0441	0.0404	0.0373	0.0470	0.0488	0.0511	0.0418	0.0429	0.0405	0.0392
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000216	-	0.000256	0.000107	0.000098	0.000034	< 0.000020	0.000022	0.000020	-	-	-	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	0.000110	-	< 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	0.143	-	< 0.05	0.046	0.046	0.042	0.038	0.038	0.038	0.036	0.035	0.043	0.045
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	0.000123	-	0.0000829	0.0000621	0.0000488	0.0000130	0.0000115	0.0000136	0.0000212	-	-	-	-
Calcium, total	mg/L	-	-	0.05 - 1	114	-	154	81.2	79.4	87.6	72.8	73.0	80.3	86.7	88.6	84.8	85.0
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.000472	-	0.000570	0.000295	0.000232	0.000081	0.000061	0.000068	0.000045	0.000012	0.000020	0.000018	0.000014
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.00993	-	0.0141	0.00596	0.00410	0.00186	0.00182	0.00195	0.00132	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	-	0.00090	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	**0.00377**	-	**0.00481**	**0.00216**	**0.00170**	0.00087	0.00064	0.00072	0.00034	< 0.0001	0.00013	0.00012	< 0.0001
Copper, total	mg/L	0.005	-	0.0005 - 0.01	**0.0115**	-	**0.0151**	**0.0109**	**0.00668**	0.00171	0.00159	0.00160	0.00118	0.00114	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	**6.09**	-	**8.45**	**4.63**	**4.32**	**4.40**	**4.59**	**4.56**	**5.07**	**4.07**	**4.17**	**4.23**	**3.87**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.00324	-	0.00459	0.00119	0.000945	0.000330	0.000261	0.000275	0.000172	-	-	-	-
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0077	-	0.0075	0.0157	0.0145	0.0113	0.0137	0.0133	0.0088	0.0090	0.0096	0.0099	0.0097
Magnesium, total	mg/L	-	-	0.005 - 0.1	24.8	-	33.3	19.8	20.2	18.3	15.5	15.4	20.2	20.6	20.9	20.6	20.7
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.241	-	0.252	0.212	0.203	0.258	0.531	0.508	0.326	0.180	0.186	0.179	0.166
Mercury, total	mg/L	0.0002	-	0.0000050	-	-	0.0000249	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	-	-	< 0.0004	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000022	-	0.000020	0.000024	-
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.00685	-	0.00176	0.00450	0.00387	0.00580	0.00564	0.00556	0.00112	0.000709	0.000629	0.000829	0.000594
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	0.00937	-	0.0103	0.00577	0.00440	0.00455	0.00201	0.00246	0.00189	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, total	mg/L	-	-	0.002 - 1	0.210	-	0.832|0.275	0.174|0.127	0.110|0.131	0.131|0.128	0.134|0.129	0.137|0.128	0.126|0.169	0.118|0.129	0.116|0.146	0.128|0.159	0.129|0.148
Potassium, total	mg/L	-	-	0.05 - 1	2.74	-	2.83	4.26	4.09	3.53	3.33	3.27	3.46	3.18	3.27	3.53	3.52
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.00830	-	0.00925	0.00718	0.00624	0.00357	0.00303	0.00319	0.00308	0.00256	0.00249	0.00284	0.00271
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	0.000172	-	< 0.00025	0.000054	0.000052	< 0.000050	< 0.000050	< 0.000050	-	-	-	-	-
Silicon, total	mg/L	-	-	0.1 - 2	13.4	-	16.0	12.4	11.8	10.3	9.91	10.2	9.78	9.13	9.51	9.10	9.08
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	0.000021	-	-	**0.000462**	**0.000244**	0.000077	0.000071	0.000081	0.000049	-	-	0.000011	-
Sodium, total	mg/L	-	-	0.05 - 1	3.44	-	2.09	41.3	36.8	35.6	47.6	44.3	19.0	21.3	21.3	17.2	17.1
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.102	-	0.122	0.311	0.304	0.328	0.464	0.492	0.477	0.453	0.467	0.406	0.410
Sulfur, total	mg/L	-	-	0.5 - 10	< 1.00	-	< 2.5	9.45	7.63	5.75	4.21	3.98	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00040	-	< 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	0.000066	-	0.000102	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00134	-	0.00216	0.00086	0.00075	0.00031	0.00018	0.00018	0.00014	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	0.00158	-	0.00170	0.00041	0.00038	0.00014	0.00027	0.00036	0.00068	0.00014	< 0.0001	< 0.0001	< 0.0001
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.279	-	0.371	0.0923	0.0648	0.0214	0.0210	0.0228	0.0132	< 0.0003	0.00418	0.00313	0.00153
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	< 0.00020	-	< 0.0005	**0.0331**	0.0244	0.0225	0.0147	0.0146	0.00370	0.00142	0.00144	0.00121	0.00134
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.000442	-	0.000573	0.00358	0.00315	0.00242	0.00250	0.00253	0.000573	0.000313	0.000338	0.000346	0.000356
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	**0.0104**	-	**0.0133**	0.00408	0.00324	0.00104	0.00100	0.00101	0.00061	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, total	mg/L	0.03	-	0.003 - 0.06	0.0245	-	**0.0326**	0.0170	0.0131	**0.0436**	0.0083	0.0104	0.0093	< 0.003	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00316	-	0.00307	0.00119	0.00118	0.00107	0.00192	0.00176	0.00145	0.00199	0.00205	0.00194	0.00182
Volatile Organic Compounds																	
Acetone	ug/L	-	2700	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	-	-	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	-	-	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	-	-	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	-	-	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	-	-	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	-	-	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	-	-	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	-	-	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	-	-	< 0.5	0.64	0.57	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	-	-	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	-	-	< 0.4	1.54	1.42	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	-	-	< 0.3	0.69	0.62	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	-	-	< 0.5	2.23	2.04	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	-	-	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1
Ungrouped Analytes																	
SUM OF BTEX	ug/L	-	-	1.0	-	-	< 1	2.9	2.6	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	PWQO	O.Reg 153 (2011) Table 1 Groundwater	Report Result Limits	7/03/23	8/10/23	9/21/23	6/04/24	8/15/24	10/02/24
					MW22-20-2	MW22-20-2	MW22-20-2	MW22-20-2	MW22-20-2	MW22-20-2
Anions and Nutrients										
Ammonia, total (as N)	mg/L	-	-	0.005 - 0.05	0.0646	0.0453	0.0553	0.105	1.78	0.0883
Bromide	mg/L	-	-	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1
Chloride	mg/L	-	790	0.10 - 0.20	1.05	0.39	< 0.10	0.13	0.34	0.43
Fluoride	mg/L	-	-	0.020 - 0.040	0.035	< 0.020	0.020	0.037	0.024	0.051
Nitrate (as N)	mg/L	-	-	0.020 - 0.040	0.038	0.160	< 0.020	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	-	-	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	-	-	0.002 - 1	0.160|0.552	0.0726|0.066	0.0603|< 0.100	0.0801|< 0.25	0.0452|< 0.5	0.0724|< 0.05
Sulfate (as SO4)	mg/L	-	-	0.30 - 0.60	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	-	-	0.50 - 2.50	10.1	15.0	17.6	11.0	11.7	11.7
Biochemical oxygen demand [BOD]	mg/L	-	-	2 - 5	< 3.0	< 2.0	< 2.0	2.2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	-	-	10	57	67	58	56	34	34
Phosphorus, Dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Dissolved Metals										
Aluminum, dissolved	mg/L	-	-	0.001 - 0.005	0.0064	0.0123	0.0161	0.0094	0.0042	0.0072
Antimony, dissolved	mg/L	0.02	0.0015	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.1	0.013	0.0001 - 0.0005	0.00182	0.00123	0.00103	0.00118	0.00205	0.00148
Barium, dissolved	mg/L	-	0.61	0.0001 - 0.0005	0.0598	0.0322	0.0271	0.0321	0.0405	0.0350
Beryllium, dissolved	mg/L	-	0.0005	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	-	-	-
Bismuth, dissolved	mg/L	-	-	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-
Boron, dissolved	mg/L	0.2	1.7	0.01 - 0.05	0.014	< 0.010	< 0.010	< 0.01	0.017	0.012
Cadmium, dissolved	mg/L	0.0002	0.0005	0.000005 - 0.000025	< 0.0000050	0.0000051	0.0000054	-	-	-
Calcium, dissolved	mg/L	-	-	0.05 - 0.25	122	101	96.5	117	116	112
Cesium, dissolved	mg/L	-	-	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-
Chromium, dissolved	mg/L	-	0.011	0.0005 - 0.0025	< 0.00050	0.00059	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.001	0.025	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0009	0.0038	0.0001 - 0.0005	0.00020	0.00033	0.00022	0.00023	0.00027	0.00024
Copper, dissolved	mg/L	0.005	0.005	0.0002 - 0.001	< 0.00020	< 0.00020	0.00060	0.00072	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.3	-	0.01 - 0.05	**1.02**	**1.88**	**1.87**	**2.56**	**3.28**	**2.79**
Lead, dissolved	mg/L	-	0.0019	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	-	-	-
Lithium, dissolved	mg/L	-	-	0.001 - 0.005	0.0036	0.0028	0.0016	0.0028	0.0040	0.0032
Magnesium, dissolved	mg/L	-	-	0.005 - 0.025	11.6	10.2	10.3	10.7	12.2	11.4
Manganese, dissolved	mg/L	-	-	0.0001 - 0.0005	0.140	0.121	0.110	0.129	0.155	0.123
Mercury, dissolved	mg/L	0.0002	0.0001	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000500	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	-	0.12	0.000020 - 0.000080	< 0.000020	0.000040	0.000024	-	0.000027	-
Molybdenum, dissolved	mg/L	0.04	0.023	0.00005 - 0.00025	0.000682	0.00109	0.000344	0.000331	0.000568	0.000291
Nickel, dissolved	mg/L	0.025	0.014	0.0005 - 0.0025	0.00051	0.00510	0.00097	0.00085	0.00093	0.00069
Phosphorus, dissolved	mg/L	-	-	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	-	-	0.05 - 0.25	0.503	0.289	0.234	0.328	0.533	0.434
Rubidium, dissolved	mg/L	-	-	0.0002 - 0.001	0.00157	0.00053	0.00046	0.00051	0.00089	0.00064
Selenium, dissolved	mg/L	0.1	0.005	0.00005 - 0.00025	< 0.000050	0.000072	0.000059	-	0.000072	-
Silicon, dissolved	mg/L	-	-	0.05 - 0.25	8.02	7.35	6.30	8.98	11.1	10.2
Silver, dissolved	mg/L	0.0001	0.0003	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	-	-	-
Sodium, dissolved	mg/L	-	490	0.05 - 0.25	5.32	3.66	3.21	4.32	5.40	4.98
Strontium, dissolved	mg/L	-	-	0.0002 - 0.001	0.188	0.146	0.132	0.162	0.178	0.167
Sulfur, dissolved	mg/L	-	-	0.5 - 2.5	0.66	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	-	-	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.0003	0.0005	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	-	-	-
Thorium, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	-	-	0.0001 - 0.0005	< 0.00010	0.00015	0.00015	< 0.0001	0.00012	< 0.0001
Titanium, dissolved	mg/L	-	-	0.0003 - 0.00207	< 0.00030	< 0.00030	0.00031	0.00032	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.03	-	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.005	0.0089	0.00001 - 0.00005	0.000348	0.000079	0.000045	0.000045	0.000042	0.000035
Vanadium, dissolved	mg/L	0.006	0.0039	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.03	0.16	0.001 - 0.005	0.0028	0.0194	0.0084	0.0020	0.0026	< 0.001
Zirconium, dissolved	mg/L	0.004	-	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003
Physical Tests										
Conductivity	uS/cm	-	-	2.0	627	591	521	567	594	564
Alkalinity, total (as CaCO3)	mg/L	-	-	2.0	375	330	314	334	342	354
Hardness (as CaCO3), dissolved	mg/L	-	-	0.50	352	294	283	336	340	327
Solids, total dissolved [TDS]	mg/L	-	-	13 - 40	505	356	305	358	359	379
Solids, total suspended [TSS]	mg/L	-	-	3 - 15	1360	46.9	60.0	75.3	36.5	9.3
pH	pH units	6.5 - 8.5	-	0.1	7.74	7.59	8.13	7.89	7.2	7.78
Polycyclic Aromatic Hydrocarbon										
Acenaphthene	ug/L	-	4.1	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	-	1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.0008	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benz(a)anthracene	ug/L	0.0004	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(a)pyrene	ug/L	-	0.01	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	-	0.1	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.00002	0.2	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Benzo(k)fluoranthene	ug/L	0.0002	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Chrysene	ug/L	0.0001	0.1	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Dibenz(a,h)anthracene	ug/L	0.002	0.2	0.0050	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.005*	*< 0.005*	*< 0.005*
Fluoranthene	ug/L	0.0008	0.4	0.010	*< 0.010*	*< 0.010*	*< 0.010*	*< 0.01*	*< 0.01*	*< 0.01*
Indeno(1,2,3-c,d)pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	-	2	0.015	0.169	< 0.015	0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	2	2	0.010	0.054	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	2	2	0.010	0.115	0.014	0.015	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	7	7	0.050	0.417	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.03	0.1	0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	-	0.2	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.2	120	0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01
Radiological Parameters										
Gross alpha	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-
Gross beta	Bq/l	-	-	0.1	< 0.1	< 0.1	< 0.1	-	-	-
Total Metals										
Aluminum, total	mg/L	-	-	0.003 - 0.06	19.9	0.944	1.17	1.85	8.50	0.287
Antimony, total	mg/L	0.02	-	0.0001 - 0.002	< 0.00050	0.00029	< 0.00020	< 0.0005	< 0.001	0.00013
Arsenic, total	mg/L	0.1	-	0.0001 - 0.002	0.00655	0.00168	0.00132	0.00138	0.00377	0.00160
Barium, total	mg/L	-	-	0.0001 - 0.002	0.205	0.0436	0.0401	0.0457	0.106	0.0387
Beryllium, total	mg/L	-	-	0.00002 - 0.0004	0.000896	0.000035	0.000043	< 0.0001	0.000277	-
Bismuth, total	mg/L	-	-	0.00005 - 0.001	< 0.000250	< 0.000050	< 0.000100	< 0.00025	< 0.0005	-
Boron, total	mg/L	0.2	-	0.01 - 0.2	0.067	< 0.010	< 0.020	< 0.05	< 0.1	0.015
Cadmium, total	mg/L	0.0002	-	0.000005 - 0.0001	**0.000205**	0.0000571	0.0000439	0.0000300	0.000142	-
Calcium, total	mg/L	-	-	0.05 - 1	207	119	101	119	164	119
Cesium, total	mg/L	-	-	0.00001 - 0.0002	0.00210	0.000120	0.000155	0.000215	0.00102	0.000035
Chromium, total	mg/L	-	-	0.0005 - 0.01	0.0512	0.00329	0.00312	0.00446	0.0204	0.00095
Chromium, hexavalent [Cr VI], total	mg/L	0.001	-	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0009	-	0.0001 - 0.002	**0.0134**	**0.00094**	0.00086	**0.00119**	**0.00505**	0.00040
Copper, total	mg/L	0.005	-	0.0005 - 0.01	**0.0354**	0.00181	0.00194	0.00340	**0.0128**	< 0.0005
Iron, total	mg/L	0.3	-	0.01 - 0.2	**30.6**	**3.17**	**3.39**	**4.76**	**14.7**	**3.20**
Lead, total	mg/L	-	-	0.00005 - 0.001	0.0135	0.000564	0.000623	0.00104	0.00483	0.000148
Lithium, total	mg/L	-	-	0.001 - 0.02	0.0384	0.0034	0.0036	0.0056	0.0113	0.0042
Magnesium, total	mg/L	-	-	0.005 - 0.1	36.1	12.1	11.2	13.8	22.7	12.0
Manganese, total	mg/L	-	-	0.0001 - 0.002	0.720	0.150	0.141	0.166	0.346	0.134
Mercury, total	mg/L	0.0002	-	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-
Methylmercury (as MeHg), total	ug/L	-	-	0.00002 - 0.0002	0.000021	< 0.000020	< 0.000020	-	0.000108	0.000029
Molybdenum, total	mg/L	0.04	-	0.00005 - 0.001	0.000719	0.00169	0.000350	0.000384	0.000596	0.000339
Nickel, total	mg/L	0.025	-	0.0005 - 0.01	**0.0349**	0.0104	0.00317	0.00370	0.0147	0.00143
Phosphorus, total	mg/L	-	-	0.002 - 1	0.160|0.552	0.0726|0.066	0.0603|< 0.100	0.0801|< 0.25	0.0452|< 0.5	0.0724|< 0.05
Potassium, total	mg/L	-	-	0.05 - 1	5.04	0.612	0.516	0.792	2.59	0.550
Rubidium, total	mg/L	-	-	0.0002 - 0.004	0.0378	0.00220	0.00242	0.00368	0.0152	0.00116
Selenium, total	mg/L	0.1	-	0.00005 - 0.001	0.000252	0.000081	< 0.000100	< 0.00025	< 0.0005	-
Silicon, total	mg/L	-	-	0.1 - 2	41.8	9.68	8.49	11.9	27.2	10.2
Silver, total	mg/L	0.0001	-	0.00001 - 0.0002	0.000093	0.000033	< 0.000020	-	< 0.0001	0.000012
Sodium, total	mg/L	-	-	0.05 - 1	7.48	4.49	2.97	4.24	6.33	5.38
Strontium, total	mg/L	-	-	0.0002 - 0.004	0.274	0.157	0.143	0.168	0.218	0.166
Sulfur, total	mg/L	-	-	0.5 - 10	< 2.50	< 0.50	< 1.00	< 2.5	< 5	< 0.5
Tellurium, total	mg/L	-	-	0.0002 - 0.004	< 0.00100	< 0.00020	< 0.00040	< 0.001	< 0.002	< 0.0002
Thallium, total	mg/L	0.0003	-	0.00001 - 0.0002	0.000119	< 0.000010	< 0.000020	-	< 0.0001	-
Thorium, total	mg/L	-	-	0.0001 - 0.002	0.00456	0.00017	< 0.00020	< 0.0005	0.00157	< 0.0001
Tin, total	mg/L	-	-	0.0001 - 0.002	< 0.00050	0.00051	0.00036	< 0.0005	< 0.001	0.00016
Titanium, total	mg/L	-	-	0.0003 - 0.006	0.847	0.0450	0.0528	0.0900	0.392	0.0136
Tungsten, total	mg/L	0.03	-	0.0001 - 0.002	< 0.00050	< 0.00010	< 0.00020	< 0.0005	< 0.001	< 0.0001
Uranium, total	mg/L	0.005	-	0.00001 - 0.0002	0.00251	0.000335	0.000363	0.000410	0.00147	0.000088
Vanadium, total	mg/L	0.006	-	0.0005 - 0.01	**0.0491**	0.00241	0.00283	0.00469	**0.0208**	0.00084
Zinc, total	mg/L	0.03	-	0.003 - 0.06	**0.0698**	**0.0383**	0.0172	< 0.015	**0.0454**	< 0.003
Zirconium, total	mg/L	0.004	-	0.0002 - 0.004	0.00290	0.00056	0.00056	< 0.001	0.00205	0.00039
Volatile Organic Compounds										
Acetone	ug/L	-	2700	20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	200	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	60	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.9	0.89	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	-	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	15	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	-	-	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	-	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	700	-	2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2
Dibromochloromethane	ug/L	40	2	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	5	0.2	0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	2.5	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	-	590	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	200	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	100	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	40	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	-	-	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	200	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	100	5	1 - 23	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.7	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	-	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	-	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	7	-	0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	8	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	-	5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	-	-	20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	400	400	20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	-	640	20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	200	15	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Styrene	ug/L	4	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	20	1.1	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	70	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	50	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.8	0.8	0.50	0.73	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	10	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	800	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	20	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	-	150	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	600	0.5	0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	-	-	0.40	1.60	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	40	-	0.30	0.80	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	-	72	0.50	2.40	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	-	-	1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1
Ungrouped Analytes										
SUM OF BTEX	ug/L	-	-	1.0	3.1	< 1.0	< 1.0	< 1	< 1	< 1

Notes:
Provincial Water Quality Objectives (PWQO - July 1994, reprinted February 1999)
O.Reg 153 (2011) Table 1 Standards for Groundwater in full depth background site condition
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	REPORT RESULT LIMIT	6/27/23	6/28/23	7/03/23	7/04/23	8/08/23	8/14/23	9/23/23	9/25/23	9/26/23
			MF-FB1	TRAVEL BLANK	TRIP BLANK	MF-FB2	TRAVEL BLANK	EQUIPMENT BLANK	TRIP BLANK	EQUIPMENT BLANK	TRIP BLANK
Anions and Nutrients											
Ammonia, total (as N)	mg/L	0.0050 - 0.0250	0.0385	< 0.0050	< 0.0050	< 0.0050	< 0.0050|< 0.0050	< 0.0050	< 0.0050	0.539	< 0.0050
Bromide	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10|< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chloride	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10|< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoride	mg/L	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020|< 0.020	0.049	< 0.020	< 0.020	< 0.020
Nitrate (as N)	mg/L	0.020	0.035	< 0.020	< 0.020	< 0.020	0.041|< 0.020	0.034	< 0.020	< 0.020	< 0.020
Nitrite (as N)	mg/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phosphorus, Total	mg/L	0.0020 - 0.050	< 0.0020|< 0.050	< 0.0020|< 0.050	< 0.0020|< 0.050	< 0.0020|< 0.050	< 0.0020|< 0.0020|< 0.050|< 0.050	< 0.0020|< 0.050	< 0.0020|< 0.050	< 0.0020|0.169	< 0.0020|< 0.050
Sulfate (as SO4)	mg/L	0.30	1.05	< 0.30	< 0.30	< 0.30	< 0.30|< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Carbon, dissolved organic [DOC]	mg/L	0.50	1.52	< 0.50	< 0.50	< 0.50	0.52|0.51	< 0.50	< 0.50	< 0.50	< 0.50
Biochemical oxygen demand [BOD]	mg/L	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0|< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chemical oxygen demand [COD]	mg/L	10	< 10	< 10	< 10	< 10	< 10|< 10	< 10	< 10	< 10	< 10
Phosphorus, Dissolved	mg/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Dissolved Metals											
Aluminum, dissolved	mg/L	0.0010	< 0.0010	< 0.0010	< 0.0010	0.0012	< 0.0010|< 0.0010	0.0049	< 0.0010	< 0.0010	< 0.0010
Antimony, dissolved	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Arsenic, dissolved	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Barium, dissolved	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	0.00048	< 0.00010	0.00011	< 0.00010
Beryllium, dissolved	mg/L	0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020|< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020
Bismuth, dissolved	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050|< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Boron, dissolved	mg/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Cadmium, dissolved	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050|< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Calcium, dissolved	mg/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	0.082	< 0.050	< 0.050	< 0.050
Cesium, dissolved	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010|< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Chromium, dissolved	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050|< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050|< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Cobalt, dissolved	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Copper, dissolved	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	0.00060	< 0.00020|< 0.00020	0.00027	< 0.00020	0.00057	< 0.00020
Iron, dissolved	mg/L	0.010	< 0.010	< 0.010	< 0.010	0.011	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Lead, dissolved	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050|< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Lithium, dissolved	mg/L	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010|< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Magnesium, dissolved	mg/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050|< 0.0050	0.0103	< 0.0050	< 0.0050	< 0.0050
Manganese, dissolved	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	0.00012	< 0.00010|< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Mercury, dissolved	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050|< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Methylmercury (as MeHg), dissolved	ug/L	0.000020	0.000040	< 0.000020	< 0.000020	< 0.000020	< 0.000020|< 0.000020	0.000096	< 0.000020	< 0.000020	< 0.000020
Molybdenum, dissolved	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050|< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Nickel, dissolved	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050|< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Phosphorus, dissolved	mg/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Potassium, dissolved	mg/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Rubidium, dissolved	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020|< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Selenium, dissolved	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050|< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Silicon, dissolved	mg/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Silver, dissolved	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010|< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Sodium, dissolved	mg/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	0.101	< 0.050	0.199	< 0.050
Strontium, dissolved	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020|< 0.00020	0.00022	< 0.00020	< 0.00020	< 0.00020
Sulfur, dissolved	mg/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tellurium, dissolved	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020|< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Thallium, dissolved	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010|< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Thorium, dissolved	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Tin, dissolved	mg/L	0.00010	0.00016	< 0.00010	< 0.00010	0.00015	< 0.00010|< 0.00010	0.00017	< 0.00010	< 0.00010	< 0.00010
Titanium, dissolved	mg/L	0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030|< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030
Tungsten, dissolved	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Uranium, dissolved	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010|< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Vanadium, dissolved	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050|< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Zinc, dissolved	mg/L	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010|< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Zirconium, dissolved	mg/L	0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030|< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030
Physical Tests											
Conductivity	uS/cm	2.0	4.4	< 2.0	< 2.0	< 2.0	< 2.0|< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Alkalinity, total (as CaCO3)	mg/L	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0|< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Hardness (as CaCO3), dissolved	mg/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Solids, total dissolved [TDS]	mg/L	10	< 10	< 10	< 10	< 10	< 10|< 10	< 10	< 10	< 10	< 10
Solids, total suspended [TSS]	mg/L	3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0|< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
pH	pH units	0.10	5.51	5.20	5.60	5.57	5.34|5.40	5.62	5.88	5.91	5.50
Polycyclic Aromatic Hydrocarbon											
Acenaphthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benz(a)anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(a)pyrene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050|< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Benzo(b+j)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(g,h,i)perylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(k)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenz(a,h)anthracene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050|< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methylnaphthalene, 1+2-	ug/L	0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015|< 0.015	0.050	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	0.014	< 0.010	< 0.010	< 0.010
Methylnaphthalene, 2-	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	0.036	< 0.010	< 0.010	< 0.010
Naphthalene	ug/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	0.096	< 0.050	< 0.050	< 0.050
Phenanthrene	ug/L	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020|< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Radiological Parameters											
Gross alpha	Bq/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1|< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Gross beta	Bq/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1|< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Metals											
Aluminum, total	mg/L	0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030|< 0.0030	0.0072	< 0.0030	1.22	< 0.0030
Antimony, total	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	0.00016	< 0.00010
Arsenic, total	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	0.00022	< 0.00010
Barium, total	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	0.00059	< 0.00010	0.0152	< 0.00010
Beryllium, total	mg/L	0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020|< 0.000020	< 0.000020	< 0.000020	0.000060	< 0.000020
Bismuth, total	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050|< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Boron, total	mg/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Cadmium, total	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050|< 0.0000050	< 0.0000050	< 0.0000050	0.0000180	< 0.0000050
Calcium, total	mg/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	0.150	< 0.050	10.2	< 0.050
Cesium, total	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010|< 0.000010	< 0.000010	< 0.000010	0.000829	< 0.000010
Chromium, total	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050|< 0.00050	< 0.00050	< 0.00050	0.00460	< 0.00050
Chromium, hexavalent [Cr VI], total	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050|< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Cobalt, total	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	0.00092	< 0.00010
Copper, total	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050|< 0.00050	< 0.00050	< 0.00050	0.00281	< 0.00050
Iron, total	mg/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010|< 0.010	< 0.010	< 0.010	1.63	< 0.010
Lead, total	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050|< 0.000050	< 0.000050	< 0.000050	0.000425	< 0.000050
Lithium, total	mg/L	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010|< 0.0010	< 0.0010	< 0.0010	0.0040	< 0.0010
Magnesium, total	mg/L	0.0050	0.0056	< 0.0050	< 0.0050	0.0088	< 0.0050|< 0.0050	0.0176	< 0.0050	2.67	< 0.0050
Manganese, total	mg/L	0.00010	0.00015	< 0.00010	< 0.00010	0.00014	< 0.00010|< 0.00010	0.00012	< 0.00010	0.0335	< 0.00010
Mercury, total	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050|< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Methylmercury (as MeHg), total	ug/L	0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020|< 0.000020	< 0.000020	< 0.000020	< 0.000020	< 0.000020
Molybdenum, total	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050|< 0.000050	< 0.000050	< 0.000050	0.000447	< 0.000050
Nickel, total	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050|< 0.00050	< 0.00050	< 0.00050	0.00319	< 0.00050
Phosphorus, total	mg/L	0.0020 - 0.050	< 0.0020|< 0.050	< 0.0020|< 0.050	< 0.0020|< 0.050	< 0.0020|< 0.050	< 0.0020|< 0.0020|< 0.050|< 0.050	< 0.0020|< 0.050	< 0.0020|< 0.050	< 0.0020|0.169	< 0.0020|< 0.050
Potassium, total	mg/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	< 0.050	< 0.050	1.20	< 0.050
Rubidium, total	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020|< 0.00020	< 0.00020	< 0.00020	0.00410	< 0.00020
Selenium, total	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050|< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Silicon, total	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10|< 0.10	< 0.10	< 0.10	2.78	< 0.10
Silver, total	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010|< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Sodium, total	mg/L	0.050	0.187	< 0.050	< 0.050	< 0.050	< 0.050|< 0.050	0.084	< 0.050	0.658	< 0.050
Strontium, total	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020|< 0.00020	0.00028	< 0.00020	0.00981	< 0.00020
Sulfur, total	mg/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tellurium, total	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020|< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Thallium, total	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010|< 0.000010	< 0.000010	< 0.000010	0.000020	< 0.000010
Thorium, total	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	0.00032	< 0.00010
Tin, total	mg/L	0.00010	0.00036	< 0.00010	< 0.00010	0.00019	< 0.00010|< 0.00010	< 0.00010	< 0.00010	0.00037	< 0.00010
Titanium, total	mg/L	0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030|< 0.00030	< 0.00030	< 0.00030	0.0921	< 0.00030
Tungsten, total	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010|< 0.00010	< 0.00010	< 0.00010	0.00012	< 0.00010
Uranium, total	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010|< 0.000010	< 0.000010	< 0.000010	0.00146	< 0.000010
Vanadium, total	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050|< 0.00050	< 0.00050	< 0.00050	0.00334	< 0.00050
Zinc, total	mg/L	0.0030	0.0061	< 0.0030	< 0.0030	< 0.0030	< 0.0030|< 0.0030	0.0030	< 0.0030	0.0042	< 0.0030
Zirconium, total	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020|< 0.00020	< 0.00020	< 0.00020	0.00057	< 0.00020
Volatile Organic Compounds											
Acetone	ug/L	20	< 20	< 20	< 20	< 20	< 20|< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromodichloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromoform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromomethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbon Disulfide	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0|< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon Tetrachloride	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20|< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Chlorobenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chloroethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chloroform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chloromethane	ug/L	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0|< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibromoethane, 1,2-	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20|< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dichlorobenzene, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichlorobenzene, 1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichlorobenzene, 1,4-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichlorodifluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichloroethane, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichloroethane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichloroethylene, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichloroethylene, cis+trans-1,2-	ug/L	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71|< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichloroethylene, trans-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichloromethane	ug/L	1 - 4	1.6	< 1.0	< 1.0	2.8	< 1.0|< 1.0	< 1.0	< 4.0	< 1.0	< 3.1
Dichloropropane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichloropropylene, cis+trans-1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichloropropylene, cis-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30|< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Dichloropropylene, trans-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30|< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Ethylbenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexane, n-	ug/L	0.50 - 1.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 1.50	< 0.50	1.20
Hexanone, 2-	ug/L	20	< 20	< 20	< 20	< 20	< 20|< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	20	< 20	< 20	< 20	< 20	< 20|< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	20	< 20	< 20	< 20	< 20	< 20|< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Styrene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethane, 1,1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethane, 1,1,2,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Toluene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloroethane, 1,1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloroethane, 1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichlorofluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Vinyl Chloride	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Xylene, m+p-	ug/L	0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40|< 0.40	0.97	< 0.40	< 0.40	< 0.40
Xylene, o-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30|< 0.30	0.49	< 0.30	< 0.30	< 0.30
Xylenes, Total	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50|< 0.50	1.46	< 0.50	< 0.50	< 0.50
Trihalomethanes [THMs], total	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0|< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ungrouped Analytes											
SUM OF BTEX	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0|< 1.0	1.5	< 1.0	< 1.0	< 1.0

Notes:
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checcked by:

Parameter	Unit	REPORT RESULT LIMIT	8/15/24	10/01/24	6/03/24	6/06/24	6/11/24	8/14/24	8/11/24	9/30/24	10/04/24
			Equipment Blank	Equipment Blank	FB-01	TB-01	TRAVEL BLANK	Travel Blank	Trip Blank	Trip Blank	TRIP BLANK
Anions and Nutrients											
Ammonia, total (as N)	mg/L	0.0050 - 0.0250	0.791	< 0.005	0.0189	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Bromide	mg/L	0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoride	mg/L	0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Nitrate (as N)	mg/L	0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	0.0020 - 0.050	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05
Sulfate (as SO4)	mg/L	0.30	< 0.3	< 0.3	0.60	< 0.3	1.76	< 0.3	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	0.50	0.75	0.64	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Biochemical oxygen demand [BOD]	mg/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	10	11	< 10	10	< 10	< 10	< 10	< 10	< 10	< 10
Phosphorus, Dissolved	mg/L	0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dissolved Metals											
Aluminum, dissolved	mg/L	0.0010	0.0010	< 0.001	< 0.001	0.0016	< 0.001	< 0.001	< 0.001	0.0010	< 0.001
Antimony, dissolved	mg/L	0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium, dissolved	mg/L	0.00010	0.00157	0.00013	0.00010	0.00017	0.00011	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Beryllium, dissolved	mg/L	0.000020	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005
Bismuth, dissolved	mg/L	0.000050	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005
Boron, dissolved	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.0000050	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006
Calcium, dissolved	mg/L	0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cesium, dissolved	mg/L	0.000010	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005
Chromium, dissolved	mg/L	0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.00020	0.00445	0.00035	0.00088	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead, dissolved	mg/L	0.000050	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005
Lithium, dissolved	mg/L	0.0010	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium, dissolved	mg/L	0.0050	< 0.005	< 0.005	0.0142	0.0063	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Manganese, dissolved	mg/L	0.00010	0.00010	< 0.0001	0.00011	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Mercury, dissolved	mg/L	0.0000050	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006
Methylmercury (as MeHg), dissolved	ug/L	0.000020	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005
Molybdenum, dissolved	mg/L	0.000050	0.000058	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005
Nickel, dissolved	mg/L	0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Rubidium, dissolved	mg/L	0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium, dissolved	mg/L	0.000050	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005
Silicon, dissolved	mg/L	0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Silver, dissolved	mg/L	0.000010	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005
Sodium, dissolved	mg/L	0.050	0.096	0.133	0.120	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Strontium, dissolved	mg/L	0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Sulfur, dissolved	mg/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.000010	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005
Thorium, dissolved	mg/L	0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	0.00010	0.00048	0.00066	0.00011	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.00010	0.00096	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.000010	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005
Vanadium, dissolved	mg/L	0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.0010	0.0012	0.0014	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests											
Conductivity	uS/cm	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Alkalinity, total (as CaCO3)	mg/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Hardness (as CaCO3), dissolved	mg/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Solids, total dissolved [TDS]	mg/L	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Solids, total suspended [TSS]	mg/L	3.0	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
pH	pH units	0.10	6.05	5.89	5.93	5.38	5.42	5.42	5.66	5.52	5.69
Polycyclic Aromatic Hydrocarbon											
Acenaphthene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	0.015	0.939	0.047	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	0.010	0.320	0.015	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	0.010	0.619	0.032	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	0.050	1.15	0.053	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters											
Gross alpha	Bq/l	0.1	-	-	-	-	-	-	-	-	-
Gross beta	Bq/l	0.1	-	-	-	-	-	-	-	-	-
Total Metals											
Aluminum, total	mg/L	0.0030	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Antimony, total	mg/L	0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Barium, total	mg/L	0.00010	0.00023	0.00019	0.00022	0.00012	0.00012	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Beryllium, total	mg/L	0.000020	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005
Bismuth, total	mg/L	0.000050	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005
Boron, total	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, total	mg/L	0.0000050	0.0000051	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006
Calcium, total	mg/L	0.050	0.061	< 0.05	0.072	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cesium, total	mg/L	0.000010	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005
Chromium, total	mg/L	0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper, total	mg/L	0.00050	< 0.0005	< 0.0005	0.00075	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead, total	mg/L	0.000050	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005
Lithium, total	mg/L	0.0010	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium, total	mg/L	0.0050	0.0104	< 0.005	0.0277	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Manganese, total	mg/L	0.00010	0.00021	0.00014	0.00021	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Mercury, total	mg/L	0.0000050	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006	< 5e-006
Methylmercury (as MeHg), total	ug/L	0.000020	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005	< 2e-005
Molybdenum, total	mg/L	0.000050	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005
Nickel, total	mg/L	0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, total	mg/L	0.0020 - 0.050	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05	< 0.002|< 0.05
Potassium, total	mg/L	0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Rubidium, total	mg/L	0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium, total	mg/L	0.000050	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005	< 5e-005
Silicon, total	mg/L	0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Silver, total	mg/L	0.000010	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005
Sodium, total	mg/L	0.050	0.154	0.129	0.128	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Strontium, total	mg/L	0.00020	< 0.0002	0.00026	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Sulfur, total	mg/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.000010	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005
Thorium, total	mg/L	0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, total	mg/L	0.00010	0.00038	0.00073	0.00018	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, total	mg/L	0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, total	mg/L	0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	0.000010	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005	< 1e-005
Vanadium, total	mg/L	0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, total	mg/L	0.0030	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Volatile Organic Compounds											
Acetone	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	1.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	1 - 4	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	0.50 - 1.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	0.40	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	1.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Ungrouped Analytes											
SUM OF BTEX	ug/L	1.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

Notes:
< Indicates parameter was below laboratory equipment detection limit.
> Indicates parameter detected above equipment analytical range.
- Chemical not analyzed or criteria not defined.

Parameter	Unit	REPORT RESULT LIMIT	8/09/23		9/24/23		6/05/24		8/08/23		6/28/23		9/30/24		9/30/24	
			MW22-01-1	DUP-02 (MW22-01-1)	MW22-01-1	DUP 4 (MW22-01-1)	MW22-01-2	DUP-01 (MW22-01-2)	MW22-06-1	DUP-01 (MW22-06-1)	MW22-06-2	DUP (MW22-06-2)	MW22-08-1	MW DUP 2 (MW22-08-1)	MW22-08-2	MW DUP 3 MW22-08-2
Anions and Nutrients																
Ammonia, total (as N)	mg/L	0.005 - 0.05	0.0350	0.0337	0.0735	0.0670	0.554	0.0206	< 0.0050	0.0114	< 0.0050	< 0.0050	0.413	0.442	0.0712	0.128
Bromide	mg/L	0.10 - 0.20	0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	0.11	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	0.10 - 0.20	0.25	0.28	0.28	0.31	0.31	0.28	0.44	0.32	0.24	0.30	0.23	0.20	0.17	0.20
Fluoride	mg/L	0.020 - 0.040	0.053	0.060	0.090	0.110	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	0.024	0.823	0.723	0.522	0.628
Nitrate (as N)	mg/L	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	0.039	0.158	0.030	0.027	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	0.002 - 1	0.190|0.228	0.216|0.170	0.0398|0.053	0.0450|0.074	0.0468|< 0.1	0.0598|< 0.1	0.0072|< 0.050	0.0039|< 0.050	0.0043|< 0.050	0.0038|< 0.050	0.143|0.199	0.125|0.166	0.0628|< 0.1	0.0781|< 0.1
Sulfate (as SO4)	mg/L	0.30 - 0.60	5.17	5.15	5.45	4.89	6.19	6.17	1.48	1.36	1.50	1.56	< 0.3	< 0.3	0.56	0.57
Carbon, dissolved organic [DOC]	mg/L	0.50 - 2.50	0.97	1.28	1.88	1.49	0.78	1.00	1.29	2.35	1.66	1.27	6.34	7.43	7.72	7.72
Biochemical oxygen demand [BOD]	mg/L	2 - 5	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	10	10	15	< 10	< 10	14	< 10	< 10	< 10	10	10	16	17	22	23
Phosphorus, Dissolved	mg/L	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	0.132	0.150	0.132	0.132
Metals																
Aluminum, dissolved	mg/L	0.001 - 0.005	0.0024	0.0016	0.0012	0.0011	0.0016	0.0011	0.0010	0.0015	0.0017	0.0012	0.0015	0.0011	0.0020	0.0026
Antimony, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00010	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.0001 - 0.0005	0.00025	0.00027	0.00029	0.00028	< 0.0001	0.00013	0.00017	0.00017	0.00017	0.00018	0.0145	0.0155	0.0224	0.0220
Barium, dissolved	mg/L	0.0001 - 0.0005	0.0202	0.0208	0.0230	0.0232	0.0136	0.0135	0.0106	0.0111	0.0128	0.0115	0.0368	0.0363	0.0312	0.0315
Beryllium, dissolved	mg/L	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	0.01 - 0.05	0.010	0.010	0.013	0.012	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	0.095	0.091	0.043	0.050
Cadmium, dissolved	mg/L	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Calcium, dissolved	mg/L	0.05 - 0.25	73.0	71.3	71.4	70.8	64.8	65.1	66.0	62.8	60.0	59.5	63.9	65.0	76.7	75.6
Cesium, dissolved	mg/L	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Chromium, dissolved	mg/L	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0001 - 0.0005	0.00010	0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00020	0.00021	0.00015	0.00014
Copper, dissolved	mg/L	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00028	0.00027	0.00036	0.00023	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.01 - 0.05	0.485	0.461	0.637	0.619	0.092	0.091	< 0.010	< 0.010	< 0.010	< 0.010	1.34	1.47	1.17	1.26
Lead, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Lithium, dissolved	mg/L	0.001 - 0.005	0.0035	0.0035	0.0039	0.0044	0.0032	0.0033	0.0014	0.0015	0.0012	0.0014	0.0048	0.0048	0.0042	0.0047
Magnesium, dissolved	mg/L	0.005 - 0.025	16.5	16.6	17.6	17.8	15.1	15.4	11.3	11.0	12.2	11.4	18.9	18.8	18.6	17.4
Manganese, dissolved	mg/L	0.0001 - 0.0005	0.0406	0.0410	0.0462	0.0453	0.0392	0.0394	0.00140	0.00150	0.00106	0.00056	0.156	0.166	0.191	0.189
Mercury, dissolved	mg/L	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	0.000020 - 0.000080	< 0.000020	0.000022	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000022	-	0.000021	0.000022
Molybdenum, dissolved	mg/L	0.00005 - 0.00025	0.000580	0.000560	0.000471	0.000481	0.000751	0.000735	0.000216	0.000198	0.000083	0.000203	0.00658	0.00643	0.00581	0.00603
Nickel, dissolved	mg/L	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	0.05 - 0.25	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	0.132	0.150	0.132	0.132
Potassium, dissolved	mg/L	0.05 - 0.25	1.71	1.73	1.90	1.92	1.87	1.88	0.642	0.648	0.582	0.729	1.81	1.84	1.30	1.28
Rubidium, dissolved	mg/L	0.0002 - 0.001	0.00213	0.00200	0.00172	0.00162	0.00387	0.00404	0.00111	0.00107	0.00132	0.00116	0.00052	0.00052	0.00038	0.00035
Selenium, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	0.000055	0.000076	0.000070	0.000062	0.000087	0.000139	-	0.000241
Silicon, dissolved	mg/L	0.05 - 0.25	5.46	5.48	5.74	5.88	4.24	4.23	4.48	4.38	3.85	4.26	7.96	8.28	7.82	7.82
Silver, dissolved	mg/L	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	0.05 - 0.25	2.76	2.78	3.54	3.64	1.96	2.09	1.09	1.09	1.08	1.15	22.2	21.6	12.4	11.7
Strontium, dissolved	mg/L	0.0002 - 0.001	0.0996	0.100	0.114	0.112	0.0610	0.0570	0.0525	0.0532	0.0492	0.0514	0.426	0.410	0.352	0.340
Sulfur, dissolved	mg/L	0.5 - 2.5	1.89	2.03	1.51	1.66	2.46	2.58	0.54	0.78	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00027	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.00001 - 0.00005	0.00157	0.00166	0.00123	0.00127	0.00277	0.00271	0.000228	0.000235	0.000229	0.000206	0.000066	0.000090	0.000430	0.000420
Vanadium, dissolved	mg/L	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.0003 - 0.0015	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Physical Tests																
Conductivity	uS/cm	2	438	431	470	469	420	421	362	361	345	346	495	488	518	505
Alkalinity, total (as CaCO3)	mg/L	2	270	255	254	266	244	240	208	203	203	196	299	361	304	408
Hardness (as CaCO3), dissolved	mg/L	0.5	250	246	251	250	224	226	211	202	200	196	237	240	268	260
Solids, total dissolved [TDS]	mg/L	13 - 40	256	264	251	248	234	236	222	210	217	216	306	305	305	312
Solids, total suspended [TSS]	mg/L	3 - 15	362	462	37.4	30.4	73.9	67.9	< 3.0	< 3.0	10.9	< 3.0	175	39.3	17.3	14.3
pH	pH units	0.1	8.11	8.07	7.97	8.03	8.1	8.11	8.23	8.25	8.08	8.2	8.08	7.96	7.96	7.81
Polycyclic Aromatic Hydrocarbon																
Acenaphthene	ug/L	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	0.015	0.036	0.017	0.019	0.020	< 0.015	< 0.015	0.043	0.035	< 0.015	< 0.015	0.030	0.038	0.017	0.026
Methylnaphthalene, 1-	ug/L	0.010	0.012	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	0.013	0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	0.010	0.024	0.017	0.019	0.020	< 0.01	< 0.01	0.030	0.025	< 0.010	< 0.010	0.030	0.038	0.017	0.026
Naphthalene	ug/L	0.050	0.090	0.060	0.086	0.087	< 0.05	< 0.05	0.088	0.074	< 0.050	< 0.050	0.060	0.078	< 0.05	< 0.05
Phenanthrene	ug/L	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters																
Gross alpha	Bq/l	0.1	0.50	0.25	< 0.1	< 0.1	-	-	< 0.1	0.26	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	0.1	0.80	0.10	< 0.1	0.12	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-
Total Metals																
Aluminum, total	mg/L	0.003 - 0.06	2.26	1.68	0.180	0.386	0.821	0.800	0.0247	0.0218	0.0619	0.0077	0.925	0.310	0.953	0.968
Antimony, total	mg/L	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0002	0.00024	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0002	< 0.0002
Arsenic, total	mg/L	0.0001 - 0.002	0.00087	0.00073	0.00028	0.00037	0.00037	0.00042	0.00018	0.00018	0.00025	0.00019	0.0168	0.0166	0.00744	0.00781
Barium, total	mg/L	0.0001 - 0.002	0.0370	0.0316	0.0229	0.0262	0.0209	0.0213	0.0112	0.0108	0.0132	0.0116	0.0461	0.0411	0.0433	0.0435
Beryllium, total	mg/L	0.00002 - 0.0004	0.000091	0.000063	< 0.000020	< 0.000020	-	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000034	-	0.000042	-
Bismuth, total	mg/L	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.0001	< 0.0001
Boron, total	mg/L	0.01 - 0.2	0.013	0.012	0.011	0.012	< 0.02	< 0.02	< 0.010	< 0.010	< 0.010	< 0.010	0.109	0.105	0.054	0.051
Cadmium, total	mg/L	0.000005 - 0.0001	0.0000275	0.0000194	< 0.0000050	< 0.0000050	0.0000183	0.0000183	0.0000122	0.0000071	< 0.0000050	< 0.0000050	0.0000100	-	0.0000140	0.0000100
Calcium, total	mg/L	0.05 - 1	117	108	70.5	73.2	72.7	77.4	58.2	59.4	56.4	57.8	70.3	66.5	84.1	87.3
Cesium, total	mg/L	0.00001 - 0.0002	0.000159	0.000120	0.000016	0.000035	0.000096	0.000094	< 0.000010	< 0.000010	< 0.000010	< 0.000010	0.000123	0.000036	0.000121	0.000123
Chromium, total	mg/L	0.0005 - 0.01	0.00458	0.00353	< 0.00050	0.00083	0.00188	0.00197	< 0.00050	< 0.00050	0.00062	< 0.00050	0.00200	0.00074	0.00172	0.00175
Chromium, hexavalent [Cr VI], total	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0001 - 0.002	0.00135	0.00099	0.00017	0.00027	0.00065	0.00064	< 0.00010	< 0.00010	0.00025	< 0.00010	0.00075	0.00039	0.00060	0.00063
Copper, total	mg/L	0.0005 - 0.01	0.00372	0.00297	< 0.00050	0.00057	0.00146	0.00202	< 0.00050	< 0.00050	0.00091	< 0.00050	0.00107	< 0.0005	0.00140	0.00160
Iron, total	mg/L	0.01 - 0.2	3.31	2.54	0.787	1.07	1.28	1.29	0.040	0.032	0.097	< 0.010	2.73	1.94	1.37	1.50
Lead, total	mg/L	0.00005 - 0.001	0.00153	0.00111	0.000131	0.000271	0.000546	0.000586	< 0.000050	< 0.000050	< 0.000050	< 0.000050	0.000473	0.000155	0.000435	0.000459
Lithium, total	mg/L	0.001 - 0.02	0.0067	0.0054	0.0041	0.0046	0.0036	0.0036	0.0016	0.0019	0.0012	0.0018	0.0068	0.0057	0.0062	0.0061
Magnesium, total	mg/L	0.005 - 0.1	31.6	27.6	16.5	17.4	17.8	18.5	11.1	11.2	12.4	10.8	20.6	19.8	19.1	20.4
Manganese, total	mg/L	0.0001 - 0.002	0.146	0.117	0.0490	0.0589	0.0903	0.0971	0.00601	0.00587	0.0174	0.00200	0.197	0.182	0.211	0.211
Mercury, total	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000024	-	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000034	0.000039	0.000114	0.000146
Molybdenum, total	mg/L	0.00005 - 0.001	0.000548	0.000528	0.000509	0.000474	0.000779	0.000826	0.000178	0.000181	0.000081	0.000191	0.00704	0.00682	0.00432	0.00421
Nickel, total	mg/L	0.0005 - 0.01	0.00286	0.00214	< 0.00050	0.00054	0.00182	0.00188	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00157	0.00064	0.00197	0.00191
Phosphorus, total	mg/L	0.002 - 1	0.190|0.228	0.216|0.170	0.0398|0.053	0.0450|0.074	0.0468|< 0.1	0.0598|< 0.1	0.0072|< 0.050	0.0039|< 0.050	0.0043|< 0.050	0.0038|< 0.050	0.143|0.199	0.125|0.166	0.0628|< 0.1	0.0781|< 0.1
Potassium, total	mg/L	0.05 - 1	2.56	2.39	1.80	1.90	2.13	2.22	0.729	0.721	0.621	0.728	2.06	1.91	1.48	1.48
Rubidium, total	mg/L	0.0002 - 0.004	0.00512	0.00438	0.00206	0.00230	0.00531	0.00542	0.00123	0.00116	0.00149	0.00111	0.00242	0.00107	0.00226	0.00221
Selenium, total	mg/L	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.0001	< 0.0001	0.000060	0.000067	0.000095	0.000057	-	-	< 0.0001	< 0.0001
Silicon, total	mg/L	0.1 - 2	9.67	8.40	5.93	6.59	5.57	5.67	4.37	4.44	3.96	4.38	10.1	8.83	8.71	8.91
Silver, total	mg/L	0.00001 - 0.0002	0.000015	0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, total	mg/L	0.05 - 1	3.52	3.41	2.82	3.05	1.92	2.03	1.30	1.28	1.20	1.16	20.0	20.6	17.1	17.9
Strontium, total	mg/L	0.0002 - 0.004	0.134	0.125	0.104	0.115	0.0674	0.0706	0.0510	0.0510	0.0496	0.0492	0.455	0.432	0.310	0.319
Sulfur, total	mg/L	0.5 - 10	2.19	2.18	2.02	1.97	1.83	2.27	0.74	0.62	0.63	0.55	< 0.5	< 0.5	< 1	< 1
Tellurium, total	mg/L	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0004	< 0.0004	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0004	< 0.0004
Thallium, total	mg/L	0.00001 - 0.0002	0.000030	0.000024	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000010	< 0.000010	0.000010	-	-	-
Thorium, total	mg/L	0.0001 - 0.002	0.00121	0.00090	0.00011	0.00023	0.00028	0.00026	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00042	0.00014	0.00030	0.00027
Tin, total	mg/L	0.0001 - 0.002	0.00016	0.00013	< 0.00010	0.00012	0.00035	0.00094	0.00018	0.00013	0.00021	0.00010	0.00013	< 0.0001	< 0.0002	< 0.0002
Titanium, total	mg/L	0.0003 - 0.006	0.229	0.170	0.0160	0.0339	0.0559	0.0557	0.00144	0.00159	0.00370	0.00040	0.0508	0.0171	0.0377	0.0400
Tungsten, total	mg/L	0.0001 - 0.002	0.00057	0.00073	< 0.00010	0.00021	< 0.0002	< 0.0002	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0002	< 0.0002
Uranium, total	mg/L	0.00001 - 0.0002	0.00210	0.00193	0.00152	0.00147	0.00264	0.00271	0.000236	0.000236	0.000239	0.000242	0.000206	0.000152	0.00108	0.00112
Vanadium, total	mg/L	0.0005 - 0.01	0.00562	0.00408	< 0.00050	0.00092	0.00200	0.00190	< 0.00050	< 0.00050	< 0.00050	< 0.00050	0.00212	0.00081	0.00219	0.00232
Zinc, total	mg/L	0.003 - 0.06	0.0066	0.0051	< 0.0030	< 0.0030	< 0.006	0.0091	0.0042	< 0.0030	0.0036	0.0031	0.0031	< 0.003	< 0.006	< 0.006
Zirconium, total	mg/L	0.0002 - 0.004	0.00185	0.00161	0.00022	0.00045	< 0.0004	< 0.0004	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00096	0.00038	0.00098	0.00093
Volatile Organic Compounds																
Acetone	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	1 - 23	< 1.0	20.9	< 1.0	< 1.0	< 1	< 1	5.9	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	0.40	0.96	0.87	0.41	0.65	< 0.4	< 0.4	< 0.40	< 0.40	< 0.40	< 0.40	0.57	0.49	0.40	< 0.4
Xylene, o-	ug/L	0.30	0.40	0.35	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	0.50	1.36	1.22	< 0.50	0.65	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	0.57	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes																
SUM OF BTEX	ug/L	1.0	1.4	1.2	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1

Notes:
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	REPORT RESULT LIMIT	6/27/23		9/20/23		8/14/24		9/29/24		6/10/24		7/02/23		6/10/24		8/12/24	
			MW22-11-1	MF-A (MW22-11-1)	MW22-11-1	DUP 1 (MW22-11-1)	MW22-11-1	MWBD3 (MW22-11-1)	MW22-11-1	MW DUP 1 (MW22-11-1)	MW22-12-1	DUP 03 (MW22-12-1)	MW22-12-4	MF-B (MW22-12-4)	MW22-12-4	DUP 04 (MW22-12-4)	MW22-12-4	MWBD2 (MW22-12-4)
Anions and Nutrients																		
Ammonia, total (as N)	mg/L	0.005 - 0.05	0.443	0.437	0.518	0.484	1.18	3.62	0.563	0.493	0.688	0.851	0.0404	0.0268	0.0391	0.169	0.0246	0.0384
Bromide	mg/L	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	0.10 - 0.20	0.14	0.11	0.37	< 0.10	0.22	0.11	< 0.1	< 0.1	0.68	0.67	0.34	0.33	0.29	0.28	0.36	0.33
Fluoride	mg/L	0.020 - 0.040	< 0.020	< 0.020	0.026	< 0.020	< 0.02	< 0.02	0.028	0.027	0.082	0.081	0.090	0.080	0.156	0.151	0.097	0.087
Nitrate (as N)	mg/L	0.020 - 0.040	0.023	< 0.020	0.664	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	0.002 - 1	0.0584|< 0.050	0.0648|< 0.050	0.0590|< 0.100	0.0601|0.061	0.0653|0.066	0.0562|0.066	0.0605|0.072	0.0545|< 0.1	0.0592|< 0.1	0.0538|< 0.1	0.0326|0.127	0.0471|0.090	0.0246|< 0.1	0.0233|0.068	0.0181|< 0.05	0.0144|< 0.05
Sulfate (as SO4)	mg/L	0.30 - 0.60	< 0.30	< 0.30	0.52	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	1.43	1.52	1.37	1.50	1.28	1.09
Carbon, dissolved organic [DOC]	mg/L	0.50 - 2.50	39.7	38.4	37.6	31.1	37.8	38.1	39.9	38.7	7.16	6.80	4.99	4.44	6.31	6.14	5.52	5.86
Biochemical oxygen demand [BOD]	mg/L	2 - 5	9.6	12.3	< 2.0	2.5	2.2	2.3	< 2	< 2	< 2	< 2	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	10	113	116	87	92	94	90	94	92	24	22	15	12	14	15	19	15
Phosphorus, Dissolved	mg/L	0.05 - 0.25	< 0.050	< 0.100	< 0.100	< 0.100	< 0.1	< 0.1	0.056	< 0.1	< 0.05	< 0.05	< 0.050	< 0.100	< 0.05	< 0.05	< 0.05	< 0.05
Metals																		
Aluminum, dissolved	mg/L	0.001 - 0.005	0.104	0.0995	0.105	0.101	0.0997	0.102	0.0978	0.0957	0.0042	0.0043	0.0018	< 0.0020	0.0022	0.0036	0.0018	0.0027
Antimony, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002	0.00016	0.00017	< 0.00010	< 0.00020	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.0001 - 0.0005	0.00138	0.00129	0.00119	0.00110	0.00131	0.00125	0.00134	0.00125	0.00103	0.00100	0.00067	0.00058	0.00064	0.00064	0.00075	0.00074
Barium, dissolved	mg/L	0.0001 - 0.0005	0.0154	0.0142	0.0116	0.0109	0.00952	0.00981	0.0103	0.00992	0.0363	0.0365	0.0171	0.0166	0.0176	0.0175	0.0182	0.0180
Beryllium, dissolved	mg/L	0.00002 - 0.0001	0.000026	< 0.000040	< 0.000040	< 0.000040	-	-	0.000044	0.000043	-	-	< 0.000020	< 0.000040	-	-	-	-
Bismuth, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000100	< 0.0001	< 0.0001	-	< 0.0001	-	-	< 0.000050	< 0.000100	-	-	-	-
Boron, dissolved	mg/L	0.01 - 0.05	< 0.010	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.01	< 0.02	0.013	0.012	< 0.010	< 0.020	< 0.01	< 0.01	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.000005 - 0.000025	< 0.0000050	< 0.0000100	< 0.0000100	< 0.0000100	-	-	-	-	-	0.0000054	< 0.0000050	< 0.0000100	-	-	-	-
Calcium, dissolved	mg/L	0.05 - 0.25	59.2	58.2	63.7	65.3	60.5	60.9	64.5	64.1	86.1	85.8	88.3	88.8	68.0	89.9	98.8	97.7
Cesium, dissolved	mg/L	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	-	-	-	-	< 0.000010	< 0.000020	-	-	-	-
Chromium, dissolved	mg/L	0.0005 - 0.0025	0.00053	< 0.00100	< 0.00100	< 0.00100	< 0.001	< 0.001	0.00052	< 0.001	0.00212	0.00214	< 0.00050	< 0.00100	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0001 - 0.0005	0.00059	0.00059	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00011	< 0.0002	0.00030	0.00031	< 0.00010	< 0.00020	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Copper, dissolved	mg/L	0.0002 - 0.001	0.00031	< 0.00040	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.0002	< 0.0002	0.00070	< 0.0002
Iron, dissolved	mg/L	0.01 - 0.05	1.79	1.70	1.80	1.85	1.70	1.67	1.65	1.71	2.90	2.93	1.35	1.30	1.42	1.46	1.41	1.40
Lead, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	< 0.000100	< 0.000100	< 0.000100	< 0.0001	< 0.0001	-	< 0.0001	-	-	< 0.000050	0.000241	-	-	-	-
Lithium, dissolved	mg/L	0.001 - 0.005	< 0.0010	< 0.0020	< 0.0020	< 0.0020	< 0.002	< 0.002	< 0.001	< 0.002	0.0044	0.0045	0.0010	< 0.0020	< 0.001	< 0.001	< 0.001	< 0.001
Magnesium, dissolved	mg/L	0.005 - 0.025	9.53	9.10	10.1	9.94	9.34	9.22	9.13	9.31	17.0	16.7	12.3	12.1	13.1	13.4	13.1	13.3
Manganese, dissolved	mg/L	0.0001 - 0.0005	0.162	0.150	0.138	0.135	0.131	0.133	0.132	0.132	0.170	0.172	0.284	0.271	0.298	0.308	0.291	0.289
Mercury, dissolved	mg/L	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 5e-005	< 5e-005	-	< 5e-005	-	-	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	0.000020 - 0.000080	< 0.000020	< 0.000020	0.000029	0.000038	-	-	-	-	-	-	< 0.000020	< 0.000020	0.000036	-	0.000028	0.000021
Molybdenum, dissolved	mg/L	0.00005 - 0.00025	0.000136	0.000135	< 0.000100	< 0.000100	< 0.0001	< 0.0001	0.000053	< 0.0001	0.00466	0.00473	0.000229	0.000221	0.000211	0.000284	0.000306	0.000270
Nickel, dissolved	mg/L	0.0005 - 0.0025	< 0.00050	< 0.00100	< 0.00100	< 0.00100	< 0.001	< 0.001	< 0.0005	< 0.001	0.00945	0.00957	< 0.00050	< 0.00100	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	0.05 - 0.25	< 0.050	< 0.100	< 0.100	< 0.100	< 0.1	< 0.1	0.056	< 0.1	< 0.05	< 0.05	< 0.050	< 0.100	< 0.05	< 0.05	< 0.05	< 0.05
Potassium, dissolved	mg/L	0.05 - 0.25	0.127	0.110	< 0.100	< 0.100	< 0.1	< 0.1	0.088	< 0.1	1.16	1.18	0.345	0.336	0.395	0.405	0.385	0.383
Rubidium, dissolved	mg/L	0.0002 - 0.001	0.00026	< 0.00040	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004	0.00112	0.00107	0.00064	0.00058	0.00066	0.00067	0.00069	0.00065
Selenium, dissolved	mg/L	0.00005 - 0.00025	0.000107	0.000142	0.000556	0.000461	0.000167	0.000222	0.000438	0.000483	-	-	< 0.000050	< 0.000100	-	-	0.000081	0.000139
Silicon, dissolved	mg/L	0.05 - 0.25	3.47	3.17	3.44	3.40	3.41	3.48	3.73	3.49	8.34	8.61	4.83	4.51	5.17	5.22	5.39	5.36
Silver, dissolved	mg/L	0.00001 - 0.0001	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	-	-	-	-	< 0.000010	< 0.000020	-	-	-	-
Sodium, dissolved	mg/L	0.05 - 0.25	1.65	1.52	1.64	1.64	1.29	1.32	1.41	1.29	3.47	3.46	1.18	1.16	1.33	1.32	1.24	1.26
Strontium, dissolved	mg/L	0.0002 - 0.001	0.0542	0.0504	0.0514	0.0503	0.0492	0.0504	0.0505	0.0499	0.107	0.107	0.0725	0.0719	0.0573	0.0762	0.0718	0.0730
Sulfur, dissolved	mg/L	0.5 - 2.5	< 0.50	< 1.00	< 1.00	< 1.00	< 1	< 1	< 0.5	< 1	< 0.5	< 0.5	< 0.50	< 1.00	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	0.0002 - 0.001	< 0.00020	< 0.00040	< 0.00040	< 0.00040	< 0.0004	< 0.0004	< 0.0002	< 0.0004	< 0.0002	< 0.0002	< 0.00020	< 0.00040	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.00001 - 0.00005	< 0.000010	< 0.000020	< 0.000020	< 0.000020	-	-	-	-	-	-	< 0.000010	< 0.000020	-	-	-	-
Thorium, dissolved	mg/L	0.0001 - 0.0005	0.00020	0.00020	0.00022	< 0.00020	0.00022	0.00024	0.00027	0.00026	< 0.0001	< 0.0001	< 0.00010	< 0.00020	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	0.0001 - 0.0005	0.00028	0.00026	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002	0.00059	0.00061	< 0.00010	< 0.00020	< 0.0001	< 0.0001	0.00017	< 0.0001
Titanium, dissolved	mg/L	0.0003 - 0.00207	0.00338	0.00347	0.00406	0.00356	0.00334	0.00370	0.00394	0.00362	0.00067	0.00070	< 0.00030	< 0.00060	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.0001 - 0.0005	0.00114	0.00105	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0001	< 0.0002	< 0.0001	< 0.0001	< 0.00010	< 0.00020	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Uranium, dissolved	mg/L	0.00001 - 0.00005	0.000067	0.000066	0.000071	0.000072	0.000071	0.000071	0.000076	0.000079	0.000014	0.000012	0.000010	< 0.000020	-	0.000011	-	0.000011
Vanadium, dissolved	mg/L	0.0005 - 0.0025	0.00154	0.00148	0.00162	0.00153	0.00150	0.00158	0.00167	0.00169	0.00059	0.00059	< 0.00050	< 0.00100	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.001 - 0.005	0.0016	< 0.0020	< 0.0020	< 0.0020	< 0.002	< 0.002	0.0017	< 0.002	0.0045	0.0044	< 0.0010	< 0.0020	< 0.001	< 0.001	0.0011	< 0.001
Zirconium, dissolved	mg/L	0.0003 - 0.0015	0.00100	0.00095	0.00117	0.00104	0.00115	0.00117	0.00130	0.00124	0.00102	0.00100	0.00039	< 0.00060	0.00031	0.00039	0.00039	0.00039
Physical Tests																		
Conductivity	uS/cm	2	336	337	329	355	337	339	328	323	512	510	488	493	472	496	510	506
Alkalinity, total (as CaCO3)	mg/L	2	217	216	201	214	248	213	264	211	286	296	307	303	271	290	342	307
Hardness (as CaCO3), dissolved	mg/L	0.5	187	183	201	204	190	190	199	198	285	283	271	272	224	280	301	299
Solids, total dissolved [TDS]	mg/L	13 - 40	256	256	238	253	253	266	248	254	290	297	282	298	291	276	273	304
Solids, total suspended [TSS]	mg/L	3 - 15	16.1	17.3	20.6	18.4	5.3	5.3	10.3	10.1	40.8	33.8	371	389	119	38.6	6.4	6
pH	pH units	0.1	8.15	8.18	8.23	7.82	7.68	7.87	7.92	7.97	8.26	8.27	8.21	8.22	8.26	8.21	7.82	7.83
Polycyclic Aromatic Hydrocarbon																		
Acenaphthene	ug/L	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	0.015	0.044	0.040	0.058	0.063	0.020	0.022	0.033	0.018	0.015	0.016	0.053	0.031	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	0.010	0.013	0.012	0.015	0.015	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.018	0.011	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	0.010	0.031	0.028	0.043	0.048	0.020	0.022	0.033	0.018	0.015	0.016	0.035	0.020	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/L	0.050	0.084	0.086	0.092	0.101	< 0.05	< 0.05	0.064	< 0.05	< 0.05	< 0.05	0.103	0.057	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters																		
Gross alpha	Bq/l	0.1	0.36	0.56	0.59	0.56	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	0.1	0.13	0.13	0.13	0.15	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-
Total Metals																		
Aluminum, total	mg/L	0.003 - 0.06	0.431	0.369	0.272	0.265	0.234	0.227	0.176	0.172	0.542	0.633	1.69	1.16	0.487	0.443	0.163	0.148
Antimony, total	mg/L	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0002	0.00053	0.00042	< 0.00010	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.0001 - 0.002	0.00152	0.00150	0.00133	0.00132	0.00140	0.00139	0.00139	0.00137	0.00116	0.00122	0.00138	0.00118	0.00086	0.00086	0.00074	0.00075
Barium, total	mg/L	0.0001 - 0.002	0.0174	0.0169	0.0139	0.0131	0.0116	0.0113	0.0113	0.0112	0.0402	0.0404	0.0279	0.0257	0.0220	0.0198	0.0183	0.0180
Beryllium, total	mg/L	0.00002 - 0.0004	0.000042	0.000047	< 0.000040	0.000044	0.000035	0.000038	0.000041	0.000044	-	-	0.000075	0.000053	-	-	-	-
Bismuth, total	mg/L	0.00005 - 0.001	0.000066	< 0.000050	< 0.000100	< 0.000050	-	-	-	< 0.0001	< 0.0001	< 0.0001	< 0.000050	< 0.000050	< 0.0001	-	-	-
Boron, total	mg/L	0.01 - 0.2	0.011	0.010	< 0.020	< 0.010	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.010	< 0.010	< 0.02	< 0.01	< 0.01	< 0.01
Cadmium, total	mg/L	0.000005 - 0.0001	0.0000078	0.0000055	0.0000168	0.0000073	0.0000051	-	-	-	0.0000319	0.0000299	0.0000227	0.0000208	-	0.0000080	-	-
Calcium, total	mg/L	0.05 - 1	67.2	63.3	66.3	62.8	71.5	70.7	66.1	67.9	95.9	97.0	120	111	103	94.2	92.2	87.8
Cesium, total	mg/L	0.00001 - 0.0002	0.000033	0.000027	< 0.000020	0.000018	0.000013	0.000012	-	-	0.000064	0.000076	0.000188	0.000138	0.000056	0.000047	0.000017	0.000015
Chromium, total	mg/L	0.0005 - 0.01	0.00124	0.00114	< 0.00100	0.00091	0.00080	0.00077	0.00069	< 0.001	0.00410	0.00459	0.00355	0.00248	0.00130	0.00115	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0001 - 0.002	0.00083	0.00081	0.00026	0.00026	0.00022	0.00023	0.00018	< 0.0002	0.00059	0.00067	0.00119	0.00080	0.00038	0.00034	0.00011	0.00011
Copper, total	mg/L	0.0005 - 0.01	0.00185	0.00161	0.00106	0.00081	0.00096	0.00102	< 0.0005	0.00100	0.00217	0.00151	0.00267	0.00210	0.00148	0.00074	< 0.0005	< 0.0005
Iron, total	mg/L	0.01 - 0.2	2.29	2.27	2.26	2.18	1.92	1.93	1.79	1.89	3.64	3.84	3.49	2.89	2.20	1.98	1.64	1.58
Lead, total	mg/L	0.00005 - 0.001	0.000220	0.000174	0.000162	0.000150	0.000108	0.000112	0.000066	< 0.0001	0.000506	0.000509	0.00125	0.000914	0.000494	0.000389	0.000129	0.000128
Lithium, total	mg/L	0.001 - 0.02	0.0016	0.0012	< 0.0020	0.0012	< 0.001	< 0.001	0.0011	< 0.002	0.0054	0.0057	0.0035	0.0030	< 0.002	0.0016	0.0011	0.0011
Magnesium, total	mg/L	0.005 - 0.1	10.4	10.4	9.78	9.68	10.7	10.5	9.64	9.74	17.6	17.9	21.4	19.2	16.2	14.7	14.1	13.4
Manganese, total	mg/L	0.0001 - 0.002	0.178	0.176	0.150	0.146	0.144	0.141	0.137	0.140	0.189	0.195	0.358	0.344	0.328	0.307	0.315	0.305
Mercury, total	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	< 5e-005	-	-	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), total	ug/L	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000200	< 0.000020	-	0.000030	-	-	0.000025	0.000026	< 0.000020	< 0.000020	0.000028	0.000021	-	-
Molybdenum, total	mg/L	0.00005 - 0.001	0.000169	0.000130	0.000122	0.000111	0.000084	0.000074	0.000056	< 0.0001	0.00462	0.00442	0.000280	0.000252	0.000283	0.000259	0.000256	0.000247
Nickel, total	mg/L	0.0005 - 0.01	0.00071	0.00066	< 0.00100	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.001	0.00935	0.00936	0.00249	0.00173	0.00105	0.00099	< 0.0005	< 0.0005
Phosphorus, total	mg/L	0.002 - 1	0.0584|< 0.050	0.0648|< 0.050	0.0590|< 0.100	0.0601|0.061	0.0653|0.066	0.0562|0.066	0.0605|0.072	0.0545|< 0.1	0.0592|< 0.1	0.0538|< 0.1	0.0326|0.127	0.0471|0.090	0.0246|< 0.1	0.0233|0.068	0.0181|< 0.05	0.0144|< 0.05
Potassium, total	mg/L	0.05 - 1	0.234	0.214	0.166	0.155	0.127	0.125	0.107	0.100	1.27	1.32	0.921	0.758	0.549	0.504	0.424	0.415
Rubidium, total	mg/L	0.0002 - 0.004	0.00078	0.00065	0.00047	0.00048	0.00039	0.00038	0.00028	< 0.0004	0.00207	0.00236	0.00363	0.00279	0.00154	0.00146	0.00092	0.00081
Selenium, total	mg/L	0.00005 - 0.001	0.000070	0.000052	< 0.000100	0.000088	0.000087	0.000110	0.000086	< 0.0001	< 0.0001	< 0.0001	< 0.000050	< 0.000050	< 0.0001	-	-	-
Silicon, total	mg/L	0.1 - 2	4.21	4.03	3.97	3.99	4.03	3.97	3.76	3.73	9.18	9.55	8.56	7.52	6.02	5.78	5.43	5.38
Silver, total	mg/L	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000020	< 0.000010	-	-	-	-	-	-	0.000018	0.000013	-	-	-	-
Sodium, total	mg/L	0.05 - 1	1.74	1.76	1.74	1.63	1.47	1.44	1.37	1.42	3.51	3.53	1.44	1.39	1.37	1.27	1.24	1.23
Strontium, total	mg/L	0.0002 - 0.004	0.0553	0.0539	0.0533	0.0539	0.0569	0.0578	0.0522	0.0532	0.108	0.116	0.0901	0.0854	0.0825	0.0724	0.0701	0.0704
Sulfur, total	mg/L	0.5 - 10	< 0.50	< 0.50	< 1.00	< 0.50	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	0.56	0.59	< 1	< 0.5	0.53	< 0.5
Tellurium, total	mg/L	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00040	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0004	< 0.0004	< 0.0004	< 0.00020	< 0.00020	< 0.0004	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000020	< 0.000010	-	-	-	-	-	-	< 0.000010	< 0.000010	-	-	-	-
Thorium, total	mg/L	0.0001 - 0.002	0.00032	0.00031	0.00030	0.00030	0.00032	0.00030	0.00028	0.00026	< 0.0002	0.00026	0.00081	0.00054	0.00024	0.00026	< 0.0001	0.00013
Tin, total	mg/L	0.0001 - 0.002	0.00036	0.00033	< 0.00020	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0002	0.00078	0.00078	0.00015	0.00011	< 0.0002	0.00016	< 0.0001	< 0.0001
Titanium, total	mg/L	0.0003 - 0.006	0.0214	0.0181	0.0142	0.0134	0.0125	0.0120	0.00846	0.00819	0.0352	0.0408	0.132	0.0908	0.0426	0.0402	0.0159	0.0149
Tungsten, total	mg/L	0.0001 - 0.002	0.00202	0.00183	0.00090	0.00069	0.00079	0.00079	0.00080	0.00038	< 0.0002	< 0.0002	< 0.00010	< 0.00010	< 0.0002	< 0.0001	< 0.0001	< 0.0001
Uranium, total	mg/L	0.00001 - 0.0002	0.000093	0.000091	0.000088	0.000089	0.000090	0.000085	0.000089	0.000085	0.000057	0.000061	0.000142	0.000110	0.000061	0.000055	0.000026	0.000022
Vanadium, total	mg/L	0.0005 - 0.01	0.00235	0.00224	0.00210	0.00212	0.00226	0.00222	0.00200	0.00199	0.00190	0.00212	0.00460	0.00327	0.00151	0.00142	0.00073	0.00064
Zinc, total	mg/L	0.003 - 0.06	0.0032	< 0.0030	< 0.0060	< 0.0030	< 0.003	< 0.003	< 0.003	< 0.006	0.0224	0.0241	0.0050	0.0040	< 0.006	0.0050	< 0.003	< 0.003
Zirconium, total	mg/L	0.0002 - 0.004	0.00141	0.00122	0.00117	0.00123	0.00142	0.00135	0.00130	0.00117	0.00116	0.00132	0.00145	0.00093	0.00087	0.00083	0.00059	0.00055
Volatile Organic Compounds																		
Acetone	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	1 - 23	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	0.50	0.61	0.57	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.50	0.51	0.50	0.65	0.54	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	0.40	0.73	0.72	1.41	1.02	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	0.73	0.59	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	0.30	< 0.30	< 0.30	0.56	0.36	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	0.50	0.73	0.72	1.97	1.38	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.03	0.59	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1	< 1	< 1	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes																		
SUM OF BTEX	ug/L	1.0	1.2	1.2	2.6	1.9	< 1	< 1	< 1	< 1	< 1	< 1	1.0	< 1.0	< 1	< 1	< 1	< 1

Notes:
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Unit	REPORT RESULT LIMIT	8/10/23		9/23/23		8/11/24		7/05/23		8/09/23		6/05/24	
			MW22-13-1	DUP-04 (MW22-13-1)	MW22-13-01	DUP-03 (MW22-13-1)	MW22-13-2	MWBD1 (MW22-13-2)	MW22-16-1	DUPLICATE MF-D (MW22-16-1)	MW22-17-1	DUP-3 (MW22-17-1)	MW22-17-1	DUP-02 (MW22-17-1)
Anions and Nutrients														
Ammonia, total (as N)	mg/L	0.005 - 0.05	0.103	1.15	0.146	0.131	1.53	1.50	< 0.0050	< 0.0050	0.0069	0.0212	0.546	0.0342
Bromide	mg/L	0.10 - 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	0.10	< 0.1	< 0.1
Chloride	mg/L	0.10 - 0.20	0.24	0.33	0.24	0.23	0.28	0.24	0.30	0.31	0.19	0.22	< 0.1	0.11
Fluoride	mg/L	0.020 - 0.040	0.092	0.026	0.111	0.112	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Nitrate (as N)	mg/L	0.020 - 0.040	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	0.306	< 0.02	< 0.02
Nitrite (as N)	mg/L	0.010 - 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Phosphorus, Total	mg/L	0.002 - 1	0.101 | 0.138	0.173 | 0.177	0.0747 | 0.097	0.0766 | 0.096	0.217 | 0.207	0.204 | 0.235	0.0307 | < 0.050	0.0284 | 0.054	0.163 | 0.280	0.0632 | 0.084	< 0.002 | < 0.05	0.0048 | < 0.05
Sulfate (as SO4)	mg/L	0.30 - 0.60	6.94	5.58	6.38	6.39	1.22	1.06	2.68	2.69	< 0.30	0.37	0.71	0.58
Carbon, dissolved organic [DOC]	mg/L	0.50 - 2.50	2.09	6.44	2.62	3.10	26.7	25.9	1.27	1.36	10.1	10.5	8.27	8.37
Biochemical oxygen demand [BOD]	mg/L	2 - 5	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2.0	< 2.0	4.3	4.9	< 2	< 2
Chemical oxygen demand [COD]	mg/L	10	16	39	< 10	< 10	68	74	10	13	47	35	23	30
Phosphorus, Dissolved	mg/L	0.05 - 0.25	0.067	0.120	0.072	0.059	0.220	0.234	< 0.050	< 0.050	< 0.100	< 0.100	< 0.05	< 0.05
Metals														
Aluminum, dissolved	mg/L	0.001 - 0.005	0.0013	0.0450	0.0028	0.0029	0.0609	0.0646	0.0053	0.0049	0.0076	0.0086	0.0055	0.0056
Antimony, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00020	< 0.00020	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.0001 - 0.0005	0.00160	0.00389	0.00176	0.00186	0.00622	0.00621	0.00025	0.00026	0.00036	0.00038	0.00021	0.00023
Barium, dissolved	mg/L	0.0001 - 0.0005	0.0230	0.0320	0.0238	0.0237	0.0293	0.0288	0.0420	0.0404	0.0239	0.0249	0.0238	0.0246
Beryllium, dissolved	mg/L	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	0.000046	0.000042	< 0.000020	< 0.000020	< 0.000040	< 0.000040	-	-
Bismuth, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000100	< 0.000100	-	-
Boron, dissolved	mg/L	0.01 - 0.05	< 0.010	< 0.010	< 0.010	< 0.010	0.013	0.012	< 0.010	< 0.010	< 0.020	< 0.020	< 0.01	< 0.01
Cadmium, dissolved	mg/L	0.000005 - 0.000025	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	0.0000201	0.0000180	< 0.0000100	< 0.0000100	-	-
Calcium, dissolved	mg/L	0.05 - 0.25	69.8	76.0	76.0	77.5	103	105	31.8	31.4	60.4	61.7	55.0	54.1
Cesium, dissolved	mg/L	0.00001 - 0.00005	< 0.000010	0.000013	< 0.000010	< 0.000010	0.000013	0.000012	0.000222	0.000224	< 0.000020	< 0.000020	-	-
Chromium, dissolved	mg/L	0.0005 - 0.0025	< 0.00050	0.00070	< 0.00050	< 0.00050	0.00360	0.00370	< 0.00050	< 0.00050	< 0.00100	< 0.00100	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00021	0.00024	0.00043	0.00042	0.00051	0.00051	0.00044	0.00044
Copper, dissolved	mg/L	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	0.00174	0.00157	< 0.00040	< 0.00040	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.01 - 0.05	2.20	5.78	2.35	2.45	13.8	14.1	< 0.010	< 0.010	0.569	0.593	0.260	0.255
Lead, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	0.000051	< 0.000050	< 0.000050	-	-	< 0.000050	< 0.000050	< 0.000100	< 0.000100	-	-
Lithium, dissolved	mg/L	0.001 - 0.005	0.0038	0.0035	0.0033	0.0031	0.0017	0.0017	0.0099	0.0092	0.0034	0.0032	0.0036	0.0039
Magnesium, dissolved	mg/L	0.005 - 0.025	16.3	11.8	17.2	17.5	10.6	10.5	7.60	7.66	11.2	11.2	10.1	10.4
Manganese, dissolved	mg/L	0.0001 - 0.0005	0.111	0.274	0.122	0.123	0.271	0.272	0.0140	0.0141	0.556	0.560	0.522	0.542
Mercury, dissolved	mg/L	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 5e-005	< 5e-005	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), dissolved	ug/L	0.000020 - 0.000080	0.000032	0.000050	< 0.000020	< 0.000020	0.000083	0.000159	0.000020	< 0.000020	0.000029	0.000050	0.000026	-
Molybdenum, dissolved	mg/L	0.00005 - 0.00025	0.000659	0.000549	0.000706	0.000708	0.000222	0.000224	0.000634	0.000611	0.00326	0.00321	0.000808	0.000829
Nickel, dissolved	mg/L	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.00354	0.00347	0.00152	0.00152	0.00107	0.00108
Phosphorus, dissolved	mg/L	0.05 - 0.25	0.067	0.120	0.072	0.059	0.220	0.234	< 0.050	< 0.050	< 0.100	< 0.100	< 0.05	< 0.05
Potassium, dissolved	mg/L	0.05 - 0.25	0.551	0.848	0.611	0.628	0.686	0.699	3.77	3.62	2.94	2.98	2.76	2.79
Rubidium, dissolved	mg/L	0.0002 - 0.001	0.00069	0.00126	0.00082	0.00084	0.00090	0.00093	0.0133	0.0131	0.00114	0.00109	0.00070	0.00059
Selenium, dissolved	mg/L	0.00005 - 0.00025	0.000361	0.000988	< 0.000050	0.000202	0.000347	0.000227	0.000087	0.000093	0.000661	0.000607	0.000272	0.000288
Silicon, dissolved	mg/L	0.05 - 0.25	6.64	7.78	6.68	6.47	8.64	8.68	3.99	3.97	5.20	5.41	4.76	4.79
Silver, dissolved	mg/L	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	< 0.000010	< 0.000010	< 0.000020	< 0.000020	-	-
Sodium, dissolved	mg/L	0.05 - 0.25	2.39	4.75	3.99	3.92	12.4	12.9	1.67	1.70	3.37	3.38	1.12	1.41
Strontium, dissolved	mg/L	0.0002 - 0.001	0.0760	0.0846	0.0808	0.0787	0.0938	0.0927	0.0272	0.0274	0.0531	0.0522	0.0472	0.0468
Sulfur, dissolved	mg/L	0.5 - 2.5	2.52	2.19	2.04	2.00	< 0.5	< 0.5	1.13	1.11	< 1.00	< 1.00	< 0.5	0.84
Tellurium, dissolved	mg/L	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00040	< 0.00040	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	0.000040	0.000038	< 0.000020	< 0.000020	-	-
Thorium, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00031	0.00030	< 0.00010	< 0.00010	< 0.00020	< 0.00020	< 0.0001	< 0.0001
Tin, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	< 0.00010	< 0.00020	< 0.00020	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	0.0003 - 0.00207	< 0.00030	0.00359	< 0.00030	< 0.00030	0.00978	0.00947	< 0.00030	< 0.00030	< 0.00060	< 0.00060	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.0335	0.0351	0.0133	0.0127	0.00169	0.00155
Uranium, dissolved	mg/L	0.00001 - 0.00005	0.000037	0.000054	0.000034	0.000033	0.000078	0.000076	0.00132	0.00134	0.00114	0.00114	0.00137	0.00126
Vanadium, dissolved	mg/L	0.0005 - 0.0025	< 0.00050	0.00134	< 0.00050	< 0.00050	0.00840	0.00851	< 0.00050	< 0.00050	< 0.00100	< 0.00100	0.00059	0.00057
Zinc, dissolved	mg/L	0.001 - 0.005	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.001	< 0.001	0.0014	< 0.0010	< 0.0020	< 0.0020	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.0003 - 0.0015	< 0.00030	0.00137	0.00038	0.00038	0.00553	0.00551	< 0.00030	< 0.00030	0.00081	0.00081	0.00075	0.00076
Physical Tests														
Conductivity	uS/cm	2	477	487	485	482	554	560	213	212	362	357	347	354
Alkalinity, total (as CaCO3)	mg/L	2	268	266	282	284	328	334	117	116	246	240	197	201
Hardness (as CaCO3), dissolved	mg/L	0.5	241	238	261	266	301	305	111	110	197	200	179	178
Solids, total dissolved [TDS]	mg/L	13 - 40	282	285	266	261	390	375	120	120	261	227	198	204
Solids, total suspended [TSS]	mg/L	3 - 15	131	70.1	13	12.4	< 3	< 3	12.9	17	778	244	3.1	3.1
pH	pH units	0.1	7.97	7.93	8.3	8.31	7.28	7.35	8.1	8.13	8.02	8.21	8.25	8.19
Polycyclic Aromatic Hydrocarbon														
Acenaphthene	ug/L	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Acenaphthylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benz(a)anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Chrysene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005
Fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	0.015	< 0.015	< 0.015	0.018	0.015	0.019	0.019	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Methylnaphthalene, 1-	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Methylnaphthalene, 2-	ug/L	0.010	< 0.010	0.011	0.018	0.015	0.019	0.019	< 0.010	< 0.010	0.010	< 0.010	< 0.01	< 0.01
Naphthalene	ug/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05	< 0.050	< 0.050	< 0.050	< 0.050	< 0.05	< 0.05
Phenanthrene	ug/L	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02
Pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Fluorene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01
Radiological Parameters														
Gross alpha	Bq/l	0.1	< 0.1	< 0.1	< 0.1	0.16	-	-	< 0.1	< 0.1	< 0.1	< 0.1	-	-
Gross beta	Bq/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	0.22	0.27	0.55	0.28	-	-
Total Metals														
Aluminum, total	mg/L	0.003 - 0.06	1.91	2.08	0.150	0.175	0.0702	0.0713	2.09	2.36	3.06	1.60	0.0446	0.0470
Antimony, total	mg/L	0.0001 - 0.002	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.00010	0.00012	0.00027	0.00023	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.0001 - 0.002	0.00218	0.00461	0.00206	0.00205	0.00560	0.00549	0.00179	0.00176	0.00094	0.00068	0.00026	0.00023
Barium, total	mg/L	0.0001 - 0.002	0.0358	0.0468	0.0253	0.0256	0.0275	0.0277	0.0694	0.0694	0.0473	0.0372	0.0247	0.0248
Beryllium, total	mg/L	0.00002 - 0.0004	0.000078	0.000073	< 0.000020	< 0.000020	0.000039	0.000039	0.000064	0.000065	0.000105	0.000052	-	-
Bismuth, total	mg/L	0.00005 - 0.001	< 0.000050	< 0.000100	< 0.000050	< 0.000050	-	-	0.000132	0.000147	< 0.000050	< 0.000050	-	-
Boron, total	mg/L	0.01 - 0.2	0.010	< 0.020	0.010	0.010	0.013	0.014	< 0.010	< 0.010	0.011	0.010	< 0.01	< 0.01
Cadmium, total	mg/L	0.000005 - 0.0001	0.0000131	0.0000411	< 0.0000050	0.0000064	-	-	0.0000345	0.0000369	0.000174	0.000152	0.0000510	-
Calcium, total	mg/L	0.05 - 1	95.4	101	72.1	72.3	97.8	94.4	32.6	32.2	89.6	73.8	57.9	55.8
Cesium, total	mg/L	0.00001 - 0.0002	0.000232	0.000259	0.000023	0.000025	0.000014	0.000014	0.00110	0.00116	0.000321	0.000166	-	-
Chromium, total	mg/L	0.0005 - 0.01	0.00459	0.00564	0.00055	0.00063	0.00374	0.00384	0.0108	0.0123	0.00932	0.00479	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0001 - 0.002	0.00115	0.00145	0.00012	0.00012	0.00024	0.00025	0.00257	0.00302	0.00284	0.00171	0.00049	0.00049
Copper, total	mg/L	0.0005 - 0.01	0.00303	0.00461	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.0152	0.0164	0.0158	0.00823	0.00090	< 0.0005
Iron, total	mg/L	0.01 - 0.2	4.64	8.72	2.83	2.92	14.0	14.2	2.42	2.71	4.57	2.68	0.309	0.300
Lead, total	mg/L	0.00005 - 0.001	0.00114	0.00168	0.000102	0.000112	-	-	0.00369	0.00399	0.00286	0.00156	-	-
Lithium, total	mg/L	0.001 - 0.02	0.0058	0.0051	0.0034	0.0033	0.0017	0.0019	0.0136	0.0137	0.0076	0.0054	0.0033	0.0034
Magnesium, total	mg/L	0.005 - 0.1	21.2	14.8	16.2	16.0	10.4	10.5	8.39	8.98	21.1	16.3	11.1	10.7
Manganese, total	mg/L	0.0001 - 0.002	0.161	0.318	0.135	0.135	0.278	0.282	0.0478	0.0511	0.740	0.677	0.559	0.534
Mercury, total	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-
Methylmercury (as MeHg), total	ug/L	0.00002 - 0.0002	< 0.000020	0.000095	0.000026	0.000030	0.000319	0.000322	< 0.000020	< 0.000020	< 0.000020	0.000078	0.000042	0.000031
Molybdenum, total	mg/L	0.00005 - 0.001	0.000696	0.000554	0.000753	0.000771	0.000246	0.000240	0.000676	0.000606	0.00335	0.00333	0.000816	0.000819
Nickel, total	mg/L	0.0005 - 0.01	0.00296	0.00358	< 0.00050	< 0.00050	< 0.0005	< 0.0005	0.0128	0.0134	0.00880	0.00522	0.00123	0.00120
Phosphorus, total	mg/L	0.002 - 1	0.101 | 0.138	0.173 | 0.177	0.0747 | 0.097	0.0766 | 0.096	0.217 | 0.207	0.204 | 0.235	0.0307 | < 0.050	0.0284 | 0.054	0.163 | 0.280	0.0632 | 0.084	< 0.002 | < 0.05	0.0048 | < 0.05
Potassium, total	mg/L	0.05 - 1	1.17	1.47	0.646	0.655	0.665	0.683	4.26	4.17	4.60	3.94	2.86	2.84
Rubidium, total	mg/L	0.0002 - 0.004	0.00443	0.00505	0.00115	0.00120	0.00093	0.00088	0.0172	0.0171	0.00858	0.00479	0.00072	0.00073
Selenium, total	mg/L	0.00005 - 0.001	< 0.000050	< 0.000100	< 0.000050	< 0.000050	0.000088	0.000074	0.000104	0.000110	0.000104	0.000079	-	-
Silicon, total	mg/L	0.1 - 2	10.7	11.9	7.01	7.21	8.42	8.38	7.64	8.22	11.2	8.27	5.03	4.91
Silver, total	mg/L	0.00001 - 0.0002	0.000013	0.000036	< 0.000010	< 0.000010	-	-	0.00270	0.00264	0.00468	0.00298	0.000035	0.000031
Sodium, total	mg/L	0.05 - 1	2.84	5.40	4.44	4.30	12.3	12.2	1.90	1.91	4.28	4.24	1.15	1.12
Strontium, total	mg/L	0.0002 - 0.004	0.0885	0.0955	0.0781	0.0806	0.0939	0.0902	0.0320	0.0317	0.0784	0.0655	0.0489	0.0483
Sulfur, total	mg/L	0.5 - 10	2.49	1.79	2.17	2.35	0.58	0.64	1.20	1.17	< 0.50	< 0.50	< 0.5	< 0.5
Tellurium, total	mg/L	0.0002 - 0.004	< 0.00020	< 0.00040	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Thallium, total	mg/L	0.00001 - 0.0002	0.000025	0.000030	< 0.000010	< 0.000010	-	-	0.000078	0.000080	0.000058	0.000029	-	-
Thorium, total	mg/L	0.0001 - 0.002	0.00062	0.00072	< 0.00010	< 0.00010	0.00032	0.00032	0.00052	0.00057	0.00101	0.00060	< 0.0001	< 0.0001
Tin, total	mg/L	0.0001 - 0.002	0.00028	< 0.00020	0.00016	0.00014	< 0.0001	< 0.0001	0.00023	0.00022	0.00046	0.00038	0.00018	0.00017
Titanium, total	mg/L	0.0003 - 0.006	0.114	0.120	0.00936	0.0106	0.0108	0.0113	0.129	0.149	0.224	0.120	0.00271	0.00312
Tungsten, total	mg/L	0.0001 - 0.002	< 0.00010	< 0.00020	< 0.00010	< 0.00010	< 0.0001	< 0.0001	0.0340	0.0234	0.0222	0.0187	0.00165	0.00168
Uranium, total	mg/L	0.00001 - 0.0002	0.000156	0.000194	0.000048	0.000048	0.000077	0.000078	0.00184	0.00168	0.00160	0.00139	0.00134	0.00133
Vanadium, total	mg/L	0.0005 - 0.01	0.00476	0.00660	0.00079	0.00084	0.00840	0.00863	0.00569	0.00632	0.00819	0.00475	0.00074	0.00072
Zinc, total	mg/L	0.003 - 0.06	0.0064	0.0082	< 0.0030	< 0.0030	< 0.003	< 0.003	0.0097	0.0109	0.0168	0.0098	< 0.003	< 0.003
Zirconium, total	mg/L	0.0002 - 0.004	0.00112	0.00134	0.00059	0.00068	0.00547	0.00538	0.00070	0.00072	0.00251	0.00193	0.00077	0.00076
Volatile Organic Compounds														
Acetone	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromodichloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromoform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Bromomethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Carbon Disulfide	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Carbon Tetrachloride	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Chlorobenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloroform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Chloromethane	ug/L	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2
Dibromochloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloromethane	ug/L	1 - 23	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	16.8	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Ethylbenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexane, n-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Hexanone, 2-	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Styrene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Tetrachloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Toluene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Vinyl Chloride	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Xylene, m+p-	ug/L	0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4	< 0.40	< 0.40	< 0.40	< 0.40	< 0.4	< 0.4
Xylene, o-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3
Xylenes, Total	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1
Ungrouped Analytes														
SUM OF BTEX	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1

Notes:
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Prepared by: AGB
Checked by:

Parameter	Unit	REPORT RESULT LIMIT	7/03/23		9/21/23		8/15/24		10/02/24	
			MW22-20-1	MF-C (MW22-20-1)	MW22-20-01	DUP 2 (MW22-20-1)	MW22-20-1	MWBD4 (MW22-20-1)	MW22-20-1	MW DUP-04 (MW22-20-1)
Anions and Nutrients										
Ammonia, total (as N)	mg/L	0.005 - 0.05	0.227	0.246	0.257	0.266	0.343	0.296	0.357	0.476
Bromide	mg/L	0.10 - 0.20	< 0.10	< 0.10	< 0.20	< 0.20	< 0.1	< 0.1	< 0.1	< 0.1
Chloride	mg/L	0.10 - 0.20	4.04	4.09	5.02	5.06	3.27	3.21	3.16	3.24
Fluoride	mg/L	0.020 - 0.040	0.116	0.128	0.150	0.150	0.078	0.078	0.127	0.128
Nitrate (as N)	mg/L	0.020 - 0.040	0.020	< 0.020	< 0.040	< 0.040	< 0.02	< 0.02	< 0.02	< 0.02
Nitrite (as N)	mg/L	0.010 - 0.020	< 0.010	< 0.010	< 0.020	< 0.020	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorus, Total	mg/L	0.002 - 1	0.174|0.127	0.110|0.131	0.134|0.129	0.137|0.128	0.118|0.129	0.116|0.146	0.128|0.159	0.129|0.148
Sulfate (as SO4)	mg/L	0.30 - 0.60	15.8	16.4	10.4	10.3	< 0.3	< 0.3	< 0.3	< 0.3
Carbon, dissolved organic [DOC]	mg/L	0.50 - 2.50	4.65	5.09	10.2	9.56	3.25	3.60	2.97	3.50
Biochemical oxygen demand [BOD]	mg/L	2 - 5	< 2.0	< 2.0	11.3	12.7	< 2	< 2	< 2	< 2
Chemical oxygen demand [COD]	mg/L	10	21	11	30	28	11	15	13	< 10
Phosphorus, Dissolved	mg/L	0.05 - 0.25	< 0.050	< 0.050	0.110	0.103	0.142	0.120	0.147	0.147
Metals										
Aluminum, dissolved	mg/L	0.001 - 0.005	0.0014	0.0011	0.0024	0.0022	0.0252	< 0.001	0.0012	0.0021
Antimony, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, dissolved	mg/L	0.0001 - 0.0005	0.00123	0.00171	0.00042	0.00041	0.00021	0.00020	0.00020	0.00023
Barium, dissolved	mg/L	0.0001 - 0.0005	0.0307	0.0317	0.0389	0.0383	0.0416	0.0394	0.0412	0.0461
Beryllium, dissolved	mg/L	0.00002 - 0.0001	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	-	-	-
Bismuth, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, dissolved	mg/L	0.01 - 0.05	0.043	0.036	0.034	0.033	0.040	0.040	0.039	0.040
Cadmium, dissolved	mg/L	0.000005 - 0.000025	0.0000065	0.0000075	< 0.0000050	< 0.0000050	0.0000108	-	-	-
Calcium, dissolved	mg/L	0.05 - 0.25	75.0	74.1	79.9	79.8	79.9	78.9	80.9	81.9
Cesium, dissolved	mg/L	0.00001 - 0.00005	0.000016	0.000020	< 0.000010	< 0.000010	0.000016	0.000011	0.000012	0.000012
Chromium, dissolved	mg/L	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], dissolved	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, dissolved	mg/L	0.0001 - 0.0005	0.00093	0.00088	0.00027	0.00027	0.00010	< 0.0001	< 0.0001	0.00013
Copper, dissolved	mg/L	0.0002 - 0.001	0.00136	0.00029	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Iron, dissolved	mg/L	0.01 - 0.05	1.27	1.01	4.17	4.27	3.82	3.81	3.70	3.67
Lead, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	< 0.000050	< 0.000050	< 0.000050		-	-	-
Lithium, dissolved	mg/L	0.001 - 0.005	0.0124	0.0119	0.0127	0.0125	0.0093	0.0094	0.0088	0.0086
Magnesium, dissolved	mg/L	0.005 - 0.025	17.4	17.0	18.3	18.0	20.1	20.4	19.8	19.6
Manganese, dissolved	mg/L	0.0001 - 0.0005	0.171	0.162	0.388	0.383	0.185	0.180	0.161	0.173
Mercury, dissolved	mg/L	0.0000050 - 0.0000500	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	-	-	-	-
Methylmercury (as MeHg), dissolved	ug/L	0.000020 - 0.000080	0.000040	< 0.000020	-	< 0.000020	0.000028	0.000026	-	0.000026
Molybdenum, dissolved	mg/L	0.00005 - 0.00025	0.00442	0.00413	0.00375	0.00384	0.000666	0.000690	0.000622	0.000691
Nickel, dissolved	mg/L	0.0005 - 0.0025	0.00139	0.00128	0.00055	0.00055	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, dissolved	mg/L	0.05 - 0.25	< 0.050	< 0.050	0.110	0.103	0.142	0.120	0.147	0.147
Potassium, dissolved	mg/L	0.05 - 0.25	3.64	3.52	3.22	3.14	3.25	3.16	3.48	3.46
Rubidium, dissolved	mg/L	0.0002 - 0.001	0.00314	0.00313	0.00234	0.00240	0.00246	0.00240	0.00238	0.00234
Selenium, dissolved	mg/L	0.00005 - 0.00025	< 0.000050	< 0.000050	0.000061	0.000066	0.000153	0.000068	0.000066	-
Silicon, dissolved	mg/L	0.05 - 0.25	8.47	8.22	9.55	9.43	9.21	9.15	9.24	9.36
Silver, dissolved	mg/L	0.00001 - 0.0001	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Sodium, dissolved	mg/L	0.05 - 0.25	39.5	38.4	38.0	39.5	18.4	18.7	18.2	19.0
Strontium, dissolved	mg/L	0.0002 - 0.001	0.314	0.303	0.427	0.440	0.439	0.430	0.469	0.514
Sulfur, dissolved	mg/L	0.5 - 2.5	8.72	7.91	2.73	2.50	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, dissolved	mg/L	0.0002 - 0.001	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, dissolved	mg/L	0.00001 - 0.00005	< 0.000010	< 0.000010	< 0.000010	< 0.000010	-	-	-	-
Thorium, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, dissolved	mg/L	0.0001 - 0.0005	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Titanium, dissolved	mg/L	0.0003 - 0.00207	< 0.00030	< 0.00030	< 0.00030	< 0.00030	0.00153	< 0.0003	< 0.0003	< 0.0003
Tungsten, dissolved	mg/L	0.0001 - 0.0005	0.0282	0.0279	0.00804	0.00804	0.00136	0.00139	0.00123	0.00140
Uranium, dissolved	mg/L	0.00001 - 0.00005	0.00299	0.00301	0.00124	0.00125	0.000312	0.000287	0.000396	0.000434
Vanadium, dissolved	mg/L	0.0005 - 0.0025	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, dissolved	mg/L	0.001 - 0.005	0.0038	0.0025	< 0.0010	< 0.0010	0.0015	< 0.001	< 0.001	< 0.001
Zirconium, dissolved	mg/L	0.0003 - 0.0015	0.00072	0.00075	0.00192	0.00194	0.00191	0.00189	0.00184	0.00182
Physical Tests										
Conductivity	uS/cm	2	592	587	655	656	574	576	540	543
Alkalinity, total (as CaCO3)	mg/L	2	326	333	357	354	339	345	336	326
Hardness (as CaCO3), dissolved	mg/L	0.5	259	255	275	273	282	281	284	285
Solids, total dissolved [TDS]	mg/L	13 - 40	365	366	381	381	310	336	332	310
Solids, total suspended [TSS]	mg/L	3 - 15	78.1	74.5	16.4	7.4	11.1	10.1	6.5	10.6
pH	pH units	0.1	8.15	8.14	7.9	8.21	7.68	7.66	8.13	8.08
Polycyclic Aromatic Hydrocarbon										
Acenaphthene	ug/L	0.01 - 0.094	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benz(a)anthracene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Benzo(b+j)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Methylnaphthalene, 1+2-	ug/L	0.015	0.192	0.142	< 0.015	< 0.015	0.019	0.018	< 0.015	0.037
Methylnaphthalene, 1-	ug/L	0.010	0.059	0.044	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	0.013
Methylnaphthalene, 2-	ug/L	0.010	0.133	0.098	0.013	0.012	0.019	0.018	0.014	0.024
Naphthalene	ug/L	0.050	0.510	0.362	< 0.050	< 0.050	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	ug/L	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/L	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.01	< 0.01	< 0.01
Radiological Parameters										
Gross alpha	Bq/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	-	-	-
Gross beta	Bq/l	0.1	0.13	0.11	0.31	< 0.1	-	-	-	-
Total Metals										
Aluminum, total	mg/L	0.003 - 0.06	1.71	1.29	0.357	0.354	< 0.003	0.0555	0.0519	0.0265
Antimony, total	mg/L	0.0001 - 0.002	< 0.00010	< 0.00010	< 0.00010	0.00014	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Arsenic, total	mg/L	0.0001 - 0.002	0.00201	0.00339	0.00058	0.00062	0.00022	0.00024	0.00022	0.00021
Barium, total	mg/L	0.0001 - 0.002	0.0441	0.0404	0.0470	0.0488	0.0418	0.0429	0.0405	0.0392
Beryllium, total	mg/L	0.00002 - 0.0004	0.000107	0.000098	< 0.000020	0.000022	-	-	-	-
Bismuth, total	mg/L	0.00005 - 0.001	< 0.000050	< 0.000050	< 0.000050	< 0.000050	-	-	-	-
Boron, total	mg/L	0.01 - 0.2	0.046	0.046	0.038	0.038	0.036	0.035	0.043	0.045
Cadmium, total	mg/L	0.000005 - 0.0001	0.0000621	0.0000488	0.0000115	0.0000136		-	-	-
Calcium, total	mg/L	0.05 - 1	81.2	79.4	72.8	73.0	86.7	88.6	84.8	85.0
Cesium, total	mg/L	0.00001 - 0.0002	0.000295	0.000232	0.000061	0.000068	0.000012	0.000020	0.000018	0.000014
Chromium, total	mg/L	0.0005 - 0.01	0.00596	0.00410	0.00182	0.00195	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, hexavalent [Cr VI], total	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Cobalt, total	mg/L	0.0001 - 0.002	0.00216	0.00170	0.00064	0.00072	< 0.0001	0.00013	0.00012	< 0.0001
Copper, total	mg/L	0.0005 - 0.01	0.0109	0.00668	0.00159	0.00160	0.00114	< 0.0005	< 0.0005	< 0.0005
Iron, total	mg/L	0.01 - 0.2	4.63	4.32	4.59	4.56	4.07	4.17	4.23	3.87
Lead, total	mg/L	0.00005 - 0.001	0.00119	0.000945	0.000261	0.000275	-	-	-	-
Lithium, total	mg/L	0.001 - 0.02	0.0157	0.0145	0.0137	0.0133	0.0090	0.0096	0.0099	0.0097
Magnesium, total	mg/L	0.005 - 0.1	19.8	20.2	15.5	15.4	20.6	20.9	20.6	20.7
Manganese, total	mg/L	0.0001 - 0.002	0.212	0.203	0.531	0.508	0.180	0.186	0.179	0.166
Mercury, total	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050		-	-	-
Methylmercury (as MeHg), total	ug/L	0.00002 - 0.0002	< 0.000020	< 0.000020	< 0.000020	< 0.000020	-	0.000020	0.000024	-
Molybdenum, total	mg/L	0.00005 - 0.001	0.00450	0.00387	0.00564	0.00556	0.000709	0.000629	0.000829	0.000594
Nickel, total	mg/L	0.0005 - 0.01	0.00577	0.00440	0.00201	0.00246	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phosphorus, total	mg/L	0.002 - 1	0.174|0.127	0.110|0.131	0.134|0.129	0.137|0.128	0.118|0.129	0.116|0.146	0.128|0.159	0.129|0.148
Potassium, total	mg/L	0.05 - 1	4.26	4.09	3.33	3.27	3.18	3.27	3.53	3.52
Rubidium, total	mg/L	0.0002 - 0.004	0.00718	0.00624	0.00303	0.00319	0.00256	0.00249	0.00284	0.00271
Selenium, total	mg/L	0.00005 - 0.001	0.000054	0.000052	< 0.000050	< 0.000050	-	-	-	-
Silicon, total	mg/L	0.1 - 2	12.4	11.8	9.91	10.2	9.13	9.51	9.10	9.08
Silver, total	mg/L	0.00001 - 0.0002	0.000462	0.000244	0.000071	0.000081	-	-	0.000011	-
Sodium, total	mg/L	0.05 - 1	41.3	36.8	47.6	44.3	21.3	21.3	17.2	17.1
Strontium, total	mg/L	0.0002 - 0.004	0.311	0.304	0.464	0.492	0.453	0.467	0.406	0.410
Sulfur, total	mg/L	0.5 - 10	9.45	7.63	4.21	3.98	< 0.5	< 0.5	< 0.5	< 0.5
Tellurium, total	mg/L	0.0002 - 0.004	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Thallium, total	mg/L	0.00001 - 0.0002	< 0.000010	< 0.000010	< 0.000010	< 0.000010		-	-	-
Thorium, total	mg/L	0.0001 - 0.002	0.00086	0.00075	0.00018	0.00018	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Tin, total	mg/L	0.0001 - 0.002	0.00041	0.00038	0.00027	0.00036	0.00014	< 0.0001	< 0.0001	< 0.0001
Titanium, total	mg/L	0.0003 - 0.006	0.0923	0.0648	0.0210	0.0228	< 0.0003	0.00418	0.00313	0.00153
Tungsten, total	mg/L	0.0001 - 0.002	0.0331	0.0244	0.0147	0.0146	0.00142	0.00144	0.00121	0.00134
Uranium, total	mg/L	0.00001 - 0.0002	0.00358	0.00315	0.00250	0.00253	0.000313	0.000338	0.000346	0.000356
Vanadium, total	mg/L	0.0005 - 0.01	0.00408	0.00324	0.00100	0.00101	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Zinc, total	mg/L	0.003 - 0.06	0.0170	0.0131	0.0083	0.0104	< 0.003	< 0.003	< 0.003	< 0.003
Zirconium, total	mg/L	0.0002 - 0.004	0.00119	0.00118	0.00192	0.00176	0.00199	0.00205	0.00194	0.00182
Volatile Organic Compounds										
Acetone	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Disulfide	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Carbon Tetrachloride	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	ug/L	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2	< 2	< 2
Dibromochloromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2-	ug/L	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorobenzene, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, cis+trans-1,2-	ug/L	0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
Dichloroethylene, cis-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, trans-1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	ug/L	1 - 23	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis+trans-1,3-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropylene, cis-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Dichloropropylene, trans-1,3-	ug/L	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexane, n-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Hexanone, 2-	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl ethyl ketone [MEK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl isobutyl ketone [MIBK]	ug/L	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl-tert-butyl ether [MTBE]	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	ug/L	0.50	0.64	0.57	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	ug/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m+p-	ug/L	0.40	1.54	1.42	< 0.40	< 0.40	< 0.4	< 0.4	< 0.4	< 0.4
Xylene, o-	ug/L	0.30	0.69	0.62	< 0.30	< 0.30	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes, Total	ug/L	0.50	2.23	2.04	< 0.50	< 0.50	< 0.5	< 0.5	< 0.5	< 0.5
Trihalomethanes [THMs], total	ug/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1	< 1	< 1
Ungrouped Analytes										
SUM OF BTEX	ug/L	1.0	2.9	2.6	< 1.0	< 1.0	< 1	< 1	< 1	< 1

Notes:
< Indicates parameter was below laboratory equipment detection limit
> Indicates parameter detected above equipment analytical range
- Chemical not analyzed or criteria not defined.

Parameter	Units	11/16/22	11/23/22	11/16/22	11/21/22	11/21/22	11/22/22	11/22/22	11/22/22	11/18/22	11/23/22	11/18/22	11/21/22	11/18/22	11/18/22	11/18/22	11/18/22
		MW22-01-2	MW22-02-1	MW22-02-2	MW22-03-1	MW22-03-2	MW22-04-1	MW22-06-1	MW22-06-2	MW22-07-1	MW22-07-2	MW22-07-3	MW22-07-4	MW22-08-1	MW22-08-2	MW22-09-1	MW22-09-2
pH	-	7.72	7.58	7.63	7.49	7.66	7.47	7.75	7.75	7.25	7.8	7.75	7.88	6.69	7.17	7.34	7.61
Temperature	°C	1.2	4.4	3	2.9	2.6	1	3.1	3.1	0.3	3.1	1.1	1	1.7	1.4	0.9	0.9
Conductivity	µs/cm	441	326.6	323.1	307.5	356.4	287.8	231.9	233	155.8	266	226.6	223	287	280.6	353.5	132.5
Dissolved Oxygen	mg/L	12.69	9.72	9.17	6.16	13.36	19	12.18	20.07	-	12.52	13.07	17.6	6.44	14.22	8.85	12.95
Oxidation-Reduction Potential	mV	201.4	113.8	119.7	12.5	189.1	347.7	334.4	331.7	-	143	174.5	172.4	142	128.9	44.6	63.5
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	11/21/22	11/21/22	11/21/22	11/23/22	11/25/22	11/25/22	7/04/23	7/04/23	7/03/23	6/28/23	6/28/23	6/28/23	6/28/23	7/02/23	7/02/23	7/02/23
		MW22-10-1	MW22-10-2	MW22-10-3	MW22-10-4	MW22-13-1	MW22-13-2	MW22-01-1	MW22-01-2	MW22-02-1	MW22-02-1	MW22-02-2	MW22-03-1	MW22-03-2	MW22-04-1	MW22-05E	MW22-05W
pH	-	6.69	6.55	6.93	7.55	7.41	7.3	7.08	7.22	6.91	7.14	7.14	6.95	6.85	7.31	7.03	7.23
Temperature	°C	2	2.7	2.4	2.5	2.7	2.7	7.8	11.1	8.4	-	-	7.9	7.9	8.7	8.9	9.7
Conductivity	µs/cm	347.1	272	207.6	308.7	276	296.2	485	410	448.4	496.1	467.4	494.6	553	530	424	371.8
Dissolved Oxygen	mg/L	14.83	19.78	15.01	18.31	3.16	4.64	-	-	-	-	-	-	-	-	-	-
Oxidation-Reduction Potential	mV	186	174.6	94.5	64.9	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	6/28/23	6/28/23	6/28/23	6/28/23	7/05/23	6/27/23	6/27/23	6/27/23	6/27/23	6/27/23	6/27/23	6/27/23	7/02/23	7/02/23	6/28/23	6/28/23
		MW22-06-1	MW22-06-2	MW22-07-01	MW22-07-02	MW22-07-2	MW22-8-1	MW22-8-2	MW22-9-1	WM22-9-2	MW22-10-1	MW22-10-4	MW22-11-1	MW22-12-1	MW22-12-4	MW22-13-1	MW22-13-2
pH	-	7.08	7.17	7.4	7.37	6.93	6.76	6.93	7.03	6.48	6.82	7.62	6.93	7.11	7.24	6.97	6.75
Temperature	°C	6.1	9.8	11.2	12.6	7.4	9.2	4.7	12.5	6.1	8.1	18.1	12	9.8	10.3	9.5	10.3
Conductivity	µs/cm	339.3	413.1	563	429.7	348.1	399	356	532	123	502	331.7	296.2	519	440.3	379.9	644
Dissolved Oxygen	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxidation-Reduction Potential	mV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	7/02/23	7/02/23	7/05/23	7/05/23	7/05/23	7/04/23	7/04/23	7/04/23	7/04/23	7/03/23	7/03/23	7/03/23	7/03/23	8/09/23
		MW22-14-1	MW22-14-2	MW22-15-1	MW22-15-3	MW22-16-1	MW22-17-1	MW22-17-2	MW22-18-1	MW22-18-2	MW22-19-1	MW22-19-2	MW22-20-1	MW22-20-2	MW22-01-1
pH	-	7.09	7.13	7.23	7.08	6.97	7.27	7.54	7.21	7.03	7.08	7.2	6.83	6.45	7.64
Temperature	°C	8	8	8.6	14.5	6.2	6.4	16.3	7.4	11.5	5.8	8.6	8.6	7.9	7.2
Conductivity	µs/cm	434.4	372.9	429.2	364.2	197.6	346.6	430.5	204.3	87.7	380.3	398.9	563	560	485
Dissolved Oxygen	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxidation-Reduction Potential	mV	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	8/09/23	8/12/23	8/12/23	8/10/23	8/10/23	8/11/23	8/11/23	8/08/23	8/08/23	8/08/23	8/08/23	8/11/23	8/11/23	8/11/23	8/11/23
		MW22-01-2	MW22-02-1	MW22-02-2	MW22-03-1	MW22-03-2	MW22-04-1	MW22-04-2	MW22-05-1	MW22-05-2	MW22-06-1	MW22-06-1	MW22-07-1	MW22-07-2	MW22-08-1	MW22-08-2
pH	-	7.41	7.32	7.58	7.26	7.25	7.4	-	7.83	8.04	7.51	7.16	7.1	7.73	7.16	7.33
Temperature	°C	7.61	7.8	8.5	6.32	8.19	4.4	-	9.17	12.15	12.15	12.78	7.34	6.7	4.5	7.8
Conductivity	µs/cm	436	498	370.1	577	625	292	-	435	407	367	307	314.3	282.3	309.9	360.8
Dissolved Oxygen	mg/L	1.67	5	9.57	0.64	-	15.89	-	4.06	3.58	11.31	12.94	0.3	5.3	0.16	0.68
Oxidation-Reduction Potential	mV	-66	-141.6	86.5	-63	77	70.6	-	-17	207	206	196	-91.9	6.2	-74.9	-285.8
Turbidity	NTU	146	-	-	319	74	-	-	48.4	0	32.1	406	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	8/11/23	8/11/23	8/11/23	8/11/23	8/08/23	8/11/23	8/11/23	8/10/23	8/10/23	8/10/23	8/10/23	8/09/23	8/09/23	8/09/23	8/09/23
		MW22-09-1	MW22-09-2	MW22-10-1	MW22-10-4	MW22-11-1	MW22-12-1	MW22-12-4	MW22-13-1	MW22-13-2	MW22-14-1	MW22-14-1	MW22-15-1	MW22-15-3	MW22-16-1	MW22-16-2
pH	-	7.53	6.89	6.73	7.31	6.92	7.25	7.26	7.88	7.21	7.58	7.9	8.41	-	7.05	-
Temperature	°C	5.7	8.3	6.9	7	7.84	4.5	6.8	6.07	5.41	10.16	9.34	11.68	-	10.9	-
Conductivity	µs/cm	408.7	101.1	369.2	308.2	350	315	344	480	495	485	497	370	-	224	-
Dissolved Oxygen	mg/L	0.61	0.21	1.72	1.26	6	360	0.98	0	0.83	2.9	10.54	0	-	7.88	-
Oxidation-Reduction Potential	mV	-113.9	-25.1	59.5	-82.4	-105	-60.7	-143.7	-96	-127	54	123	-31	-	167	-
Turbidity	NTU	-	-	-	-	190	-	-	240	57.3	217	478	310	-	216	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	8/09/23	8/09/23	8/09/23	8/09/23	8/10/23	8/10/23	8/10/23	8/10/23	9/24/23	9/24/23	9/24/23	9/24/23	9/24/23	9/24/23	9/23/23
		MW22-17-1	MW22-17-2	MW22-18-1	MW22-18-1	MW22-19-1	MW22-19-2	MW22-20-1	MW22-20-1	MW22-01-1	MW22-01-2	MW22-02-1	MW22-02-2	MW22-3-1	MW22-3-2	MW-22-04-1
pH	-	7.7	7.56	7.31	6.57	7.26	-	7.2	9.65	7.15	5.98	7.52	7	6.79	7.04	7.33
Temperature	°C	9.38	9.7	13.27	9.74	8.09	-	5.77	9.52	6.1	8.77	9.8	10.95	6.53	10.4	3.8
Conductivity	µs/cm	375	379	196	132	516	-	620	622	326.5	335	391.7	393	429	492.4	301.6
Dissolved Oxygen	mg/L	-	2.49	1.21	0	14.25	-	0.61	0	0.13	0.28	0.18	5.36	0.14	1.63	12.08
Oxidation-Reduction Potential	mV	-102	15	-106	68	115	-	-103	-1	265.8	103.5	231.5	156.8	37.8	265.8	251.2
Turbidity	NTU	-	830	83.1	215	477	-	58.8	281	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	9/20/23	9/20/23	9/20/23	9/20/23	9/23/23	9/23/23	9/23/23	9/23/23	9/20/23	9/20/23	9/20/23	9/20/23	9/20/23	9/23/23	9/23/23
		MW22-05-1	MW22-05-2	MW22-06-1	MW22-06-2	MW22-07-1	MW22-07-2	MW22-08-1	MW22-08-2	MW22-09-1	MW22-09-2	MW22-10-1	MW22-10-4	MW22-11-1	MW22-12-1	MW22-12-2
pH	-	6.85	7.12	6.58	6.91	7.7	7.49	7.27	7.08	6.81	5.99	6.27	6.58	7.19	7.33	6.86
Temperature	°C	11.2	9.26	6.08	8.5	7.3	6.4	5.2	7.47	6.6	7.96	6.5	7.73	7.2	5.7	6.45
Conductivity	µs/cm	350.4	279	226	261	346.8	298.9	348	376	436.1	92	383.1	353	220	350.6	349
Dissolved Oxygen	mg/L	0.13	4.66	2.94	8.23	3.74	2.66	0.17	1	0.19	0.28	0.65	1.84	0.18	0.27	0.37
Oxidation-Reduction Potential	mV	110.3	126.6	151.3	340.7	256.1	260.9	223.3	47.1	62.8	-2.1	251.4	7.2	-39.5	208.3	48.7
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	9/23/23	9/23/23	9/21/23	9/21/23	9/21/23	9/21/23	9/25/23	9/25/23	9/24/23	9/24/23	9/24/23	9/24/23	9/21/23	9/21/23	9/21/23	9/21/23
		MW22-13-1	MW22-13-2	MW22-14-1	MW22-14-2	MW22-15-1	MW22-15-3	MW22-16-1	MW22-16-2	MW22-17-1	MW22-17-2	MW22-18-1	MW22-18-2	MW22-19-1	MW22-19-2	MW22-20-1	MW22-20-2
pH	-	5.07	6.76	6.89	6.37	7.25	7.67	5.78	5.3	7.43	7.56	7.46	5.67	7.43	-	7.1	6.32
Temperature	°C	5.01	6.3	9	10.3	10.3	11.03	6.3	7.15	7.1	11.44	7.4	9.67	11.17	-	7.93	10.8
Conductivity	µs/cm	319	385.9	423.6	403	379.9	491	810	225	264.6	318	166.8	97	439	-	514	447.9
Dissolved Oxygen	mg/L	0.33	0.33	0.28	8.17	0.2	1.52	14.25	3.31	0.4	0.42	0.52	5.78	6.78	-	0.24	0.25
Oxidation-Reduction Potential	mV	127.3	191.4	288.4	280.4	228.6	65.5	356.6	313.1	257.5	40.5	258.1	194.6	177.8	-	-55.5	176.2
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	6/05/24	6/05/24	6/04/24	6/04/24	6/04/24	6/04/24	6/03/24	6/10/24	6/10/24	6/10/24	6/10/24	6/10/24	6/10/24	6/10/24	6/10/24
		MW22-1-1	MW22-1-2	MW22-2-1	MW22-2-2	MW22-3-1	MW22-3-2	MW22-04-1	MW22-07-1	MW22-07-2	MW22-08-1	MW22-08-2	MW22-09-1	MW22-09-2	MW22-12-4	MW22-12-1
pH	-	9.5	8.8	11.4	9.2	7	12.2	7.5	7.9	9.5	9.2	7.6	5.9	5.5	7.6	4.3
Temperature	°C	5.38	7.24	5.3	7.24	4.53	7.19	5.12	7.27	7.32	6.77	-	-	5.66	5.32	1.91
Conductivity	µs/cm	335.4	322	380	363.4	389.9	551	375.7	34.19	315	367.9	442	530	139.2	356.1	404.7
Dissolved Oxygen	mg/L	0.27	0.43	0.33	3.82	0.61	0.63	928	4.67	0.54	0.37	0.17	0.04	0.49	0.49	0.32
Oxidation-Reduction Potential	mV	-66	-49.9	-107	86.9	40.7	14.1	270.4	64.5	69.1	-80.3	76.4	-72.4	-10.9	-4.9	-60.5
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	6/03/24	6/03/24	6/03/24	6/03/24	6/05/24	6/05/24	6/05/24	6/05/24	6/05/24	6/05/24	6/04/24	6/04/24	6/04/24	6/04/24	8/13/24	8/13/24
		MW22-13-1	MW22-13-2	MW22-14-1	MW22-14-2	MW22-15-1	MW22-15-2	MW22-17-1	MW22-17-2	MW22-18-1	MW22-18-2	MW22-19-1	MW22-19-2	MW22-20-1	MW22-20-2	MW22-1-1	MW22-1-2
pH	-	6.8	7	5.4	5.8	8.6	14.6	13.1	10.5	12.5	13.5	12.5	8.6	9.2	9.2	5.7	7.3
Temperature	°C	6.63	5.05	7.06	6.05	5.34	7.28	7.33	4.32	7.46	3.71	7.14	5.63	6.99	4.7	7.48	7.64
Conductivity	µs/cm	392.8	405.9	362.5	312.2	313.2	508	284.1	288	196.1	63.6	439.3	292.9	433.3	448	225.8	311.7
Dissolved Oxygen	mg/L	0.68	0.46	0	9.5	0.45	0.86	0.37	0.35	0.48	2.78	8.6	8.35	0.6	1.39	1.32	7.47
Oxidation-Reduction Potential	mV	-117.6	-31.8	12.9	193.1	9.2	149	-117.3	-1.7	-139.5	160.2	189.7	260.6	-139.3	34.8	-47.7	-21.3
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	8/11/24	8/11/24	8/15/24	8/14/24	8/14/24	8/14/24	8/14/24	8/12/24	8/12/24	8/12/24	8/12/24	8/12/24	8/12/24	8/14/24	8/14/24	8/14/24
		MW22-2-1	MW22-2-2	MW22-04-1	MW22-05-1	MW22-05-2	MW22-06-1	MW22-06-2	MW22-07-1	MW22-07-2	MW22-08-1	MW22-08-2	MW22-09-1	MW22-09-2	MW22-10-1	MW22-10-4	MW22-11-1
pH	-	7.1	6.9	4.7	8.8	10	5.3	5.3	11.8	7.6	6	6.2	4.7	7.8	7.1	13.2	6
Temperature	°C	7.51	7.51	7.69	7.65	7.55	7.66	7.47	7.71	7.73	7.73	7.32	7.46	6.92	7.28	7.49	7.53
Conductivity	µs/cm	350.3	216.3	296.1	298.3	300	246.1	237.8	354	321.4	344.3	357	410.2	90.3	389.9	218	229.7
Dissolved Oxygen	mg/L	1.02	7.51	10.97	3.01	5.71	9.59	2.42	0.89	3.11	0.22	0.16	0.62	2.33	0.45	2.12	0
Oxidation-Reduction Potential	mV	14.8	-70.8	-4.5	122.5	130.7	135.7	-67.7	-103.5	118.6	-105	-48.5	-97.5	-67.8	-61.9	-88.4	-67.2
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	8/12/24	8/12/24	8/11/24	8/11/24	8/11/24	8/10/24	8/13/24	8/13/24	8/13/24	8/13/24	8/13/24	8/13/24	8/13/24	8/13/24	8/10/24	8/10/24
		MW22-12-1	MW22-12-4	MW22-13-1	MW22-13-2	MW22-14-1	MW22-14-2	MW22-15-1	MW22-15-3	MW22-16-1	MW22-16-2	MW22-17-1	MW22-17-2	MW22-18-1	MW22-18-2	MW22-19-1	MW22-19-2
pH	-	7.3	6.1	5.4	6.3	8.4	9.4	9.1	15.8	6.7	5.8	5.4	7.1	7.2	10.4	8.2	18.3
Temperature	°C	7.53	7.4	6.99	6.88	7.55	6.67	7	7.61	7.6	7.39	7.45	7.83	7.64	6.8	7.51	7.34
Conductivity	µs/cm	340.3	331.6	304.4	378.8	323.4	5.6	323.5	495	158	128.2	229	255.3	142.6	35.5	515.5	434.6
Dissolved Oxygen	mg/L	10.08	0.05	6.88	1.5	3.75	11.06	0.73	5.01	9.7	10.91	0.47	1.26	0	4.18	7.9	6.74
Oxidation-Reduction Potential	mV	-57.2	-119.5	-61.8	-51.7	-6.7	40.4	-59.7	139.5	-10.3	102.2	-29.3	-70.3	-100.5	-39.4	132.8	21
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	8/15/24	8/20/24	10/02/24	10/02/24	10/01/24	10/01/24	10/03/24	10/03/24	9/30/24	9/29/24	9/29/24	9/29/24	9/29/24	9/30/24	9/30/24
		MW22-20-1	MW22-20-2	MW22-01-1	MW22-01-2	MW22-02-1	MW22-02-2	MW22-03-1	MW22-03-1	MW22-04-1	MW22-05-1	MW22-05-2	MW22-06-1	MW22-06-2	MW22-07-1	MW22-07-2
pH	-	5.7	8.2	5.4	7.5	8.5	8.9	5.3	9	3.5	12.1	9.3	4.9	5.9	4.9	6.2
Temperature	°C	7.42	6.99	7.44	7.26	7.66	7.56	7.5	7.11	7.86	7.62	7.88	7.72	7.82	7.45	7.27
Conductivity	µs/cm	392.7	335.8	385.8	495	44	614	639	647	456.2	333.1	501	222	377.2	351	272.4
Dissolved Oxygen	mg/L	0	213	1.45	0.44	1.74	-	2.84	1.86	14.83	1.89	3.4	4.16	8.05	6.43	6.67
Oxidation-Reduction Potential	mV	-109.1	-53.4	-50.3	-85.9	-111.6	90	20.1	227.1	149.6	-8.8	104.9	114.1	166.8	42.6	118.8
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

Parameter	Units	9/30/24	9/30/24	9/30/24	9/30/24	9/29/24	9/29/24	9/29/24	9/29/24	9/29/24	10/01/24	10/01/24	10/01/24	10/01/24	10/03/24	10/03/24
		MW22-08-1	MW22-08-2	MW22-09-1	MW22-09-2	MW22-10-1	MW22-10-2	MW22-11-1	MW22-12-1	MW22-12-4	MW22-13-1	MW22-13-2	MW22-14-1	MW22-14-2	MW22-15-1	MW22-15-3
pH	-	5.8	7.6	5.7	11.1	5.7	8.8	5.7	7.1	6.5	4	5.7	7.5	9.3	6.7	6.9
Temperature	°C	7.36	7.21	7.4	6.82	7.22	6.31	7.1	7.54	7.36	6.93	6.86	7.65	7.42	7.69	7.22
Conductivity	µs/cm	634	441.7	695	127.6	530	43	216.2	331.8	512	435	589	597	410	553	545
Dissolved Oxygen	mg/L	0.01	2.2	-0.9	6.95	0.55	7.09	1.18	1.24	-0.01	1.76	0.3	1.61	10.42	0.31	3.8
Oxidation-Reduction Potential	mV	-129	-7.4	-140	80.7	-210.9	288	-39.5	-83	-167.8	-57	-168.6	-13.5	226.8	-77	244
Turbidity	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
- Chemical not analyzed or criteria not defined

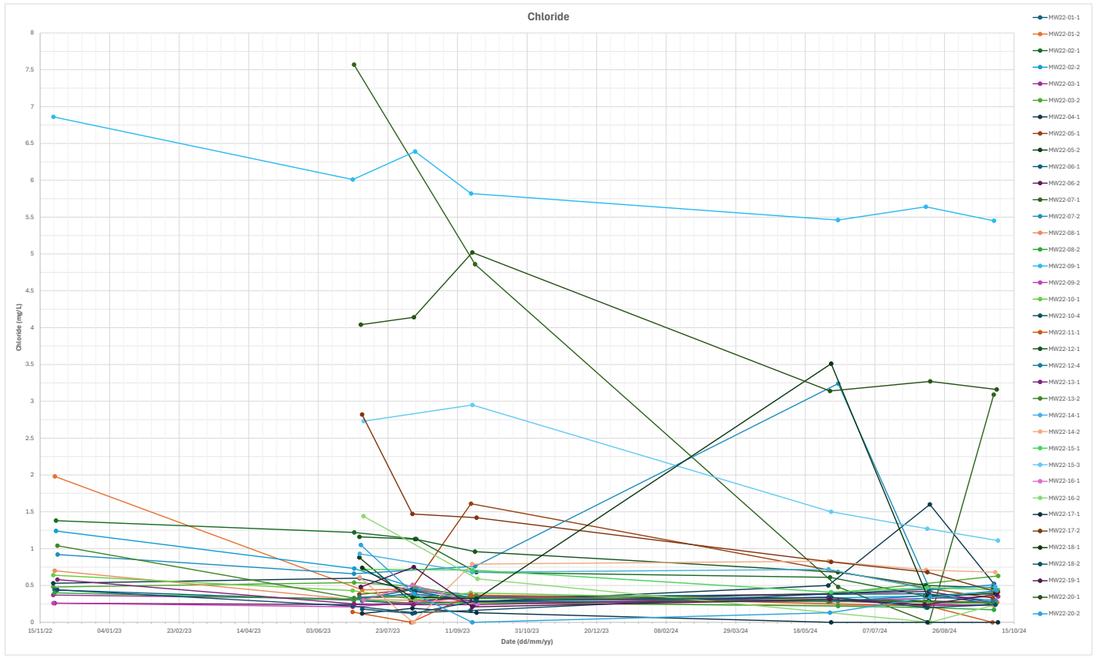
Parameter	Units	10/01/24	10/01/24	10/03/24	10/03/24	10/01/24	10/01/24	10/02/24	10/02/24	10/02/24
		MW22-16-1	MW22-16-2	MW2-17-1	MW22-17-2	MW22-18-1	MW22-18-2	MW22-19-1	MW22-20-1	MW22-20-2
pH	-	6.7	7.9	4.3	4.8	9.3	10.7	7	5.5	7.9
Temperature	°C	7.13	7.21	7.26	7.7	7.68	5.7	7.15	7.22	6.8
Conductivity	µs/cm	274.2	456.6	308.3	473.5	277.5	74.1	388.9	496.7	763
Dissolved Oxygen	mg/L	12.3	4.8	2.38	12	0.12	1.29	12.97	1.37	0.38
Oxidation-Reduction Potential	mV	274	101.7	-38.2	-95	-54.4	176.1	389.4	-84.6	-88.9
Turbidity	NTU	-	-	-	-	-	-	-	-	-

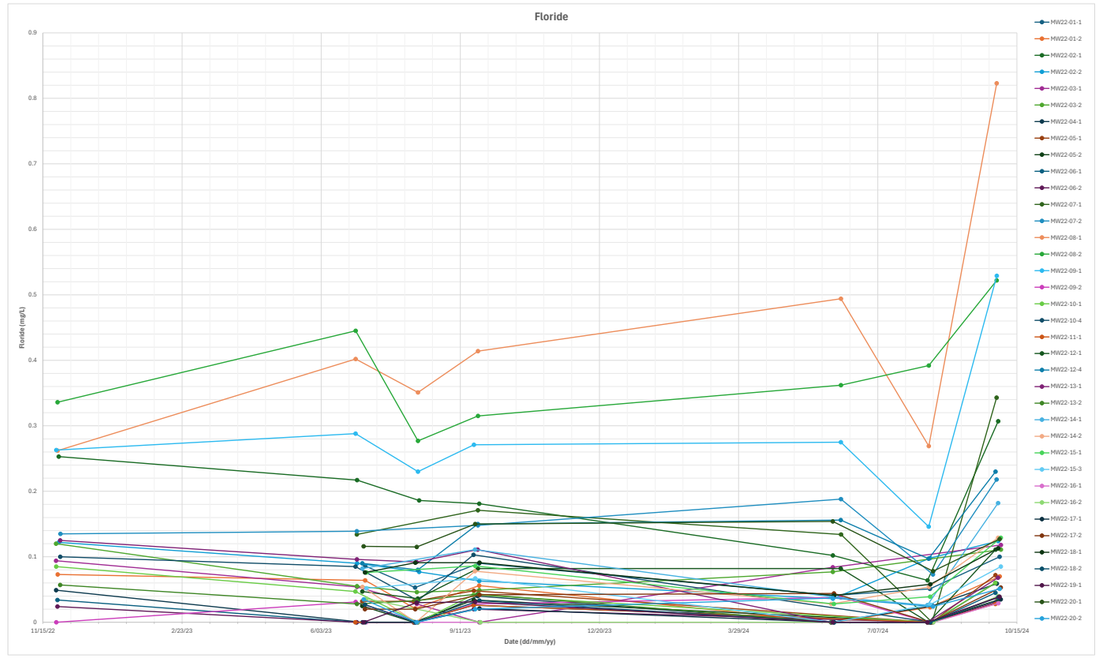
Notes:
- Chemical not analyzed or criteria not defined

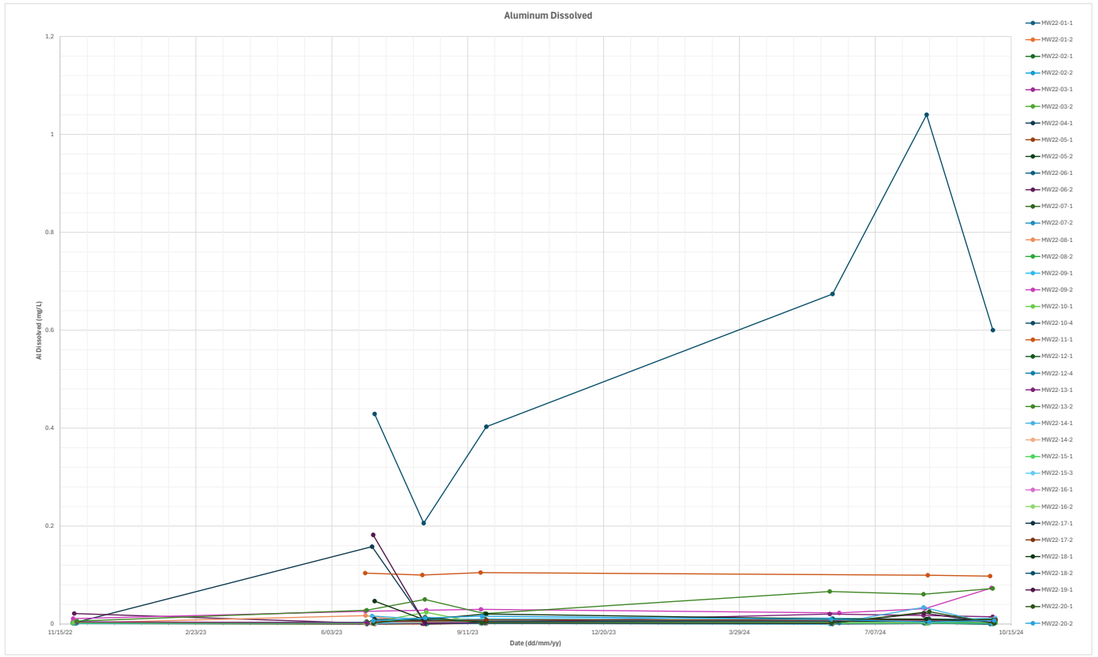
Parameter	Units	CDWQS	ODWQS	PWQO	2024-06-04 MW22-01-1	2024-06-05 MW22-18-1	2024-06-05 MW22-18-2	2024-06-04 MW22-19-1
Radiological Parameters								
Uranium-234 calculated	Bq/L	-	4	-	0.018	0.02	0.009	0.13
Uranium-235 calculated	Bq/L	-	4	-	0.009	0.001	0.0005	0.0065
Uranium-238 calculated	Bq/L	-	4	-	0.018	0.2	0.009	0.13
Gross alpha*	Bq/L	-	-	-	<0.20	3.3±0.8	0.64±0.17	<0.25
Gross beta*	Bq/L	-	-	-	0.09±0.02	1.2±0.2	0.21±0.03	<0.12
Radium-228*	Bq/L	2	0.5	-	<0.4	<1	<0.8	<0.9
Thorium-228	Bq/L	-	2	-	<0.3	<0.4	<0.4	<0.4
Thorium-234*	Bq/L	-	20	-	<3	<4	<5	<4
Thorium-230*	Bq/L	-	0.4	-	<10	<40	<30	<20
Radium-226*	Bq/L	5	0.6	1	<3	<8	<7	<4
Lead-210*	Bq/L	2	0.1	-	<3	<4	<4	<3
Potassium-40	Bq/L	-	-	-	<4	<2	<5	<5

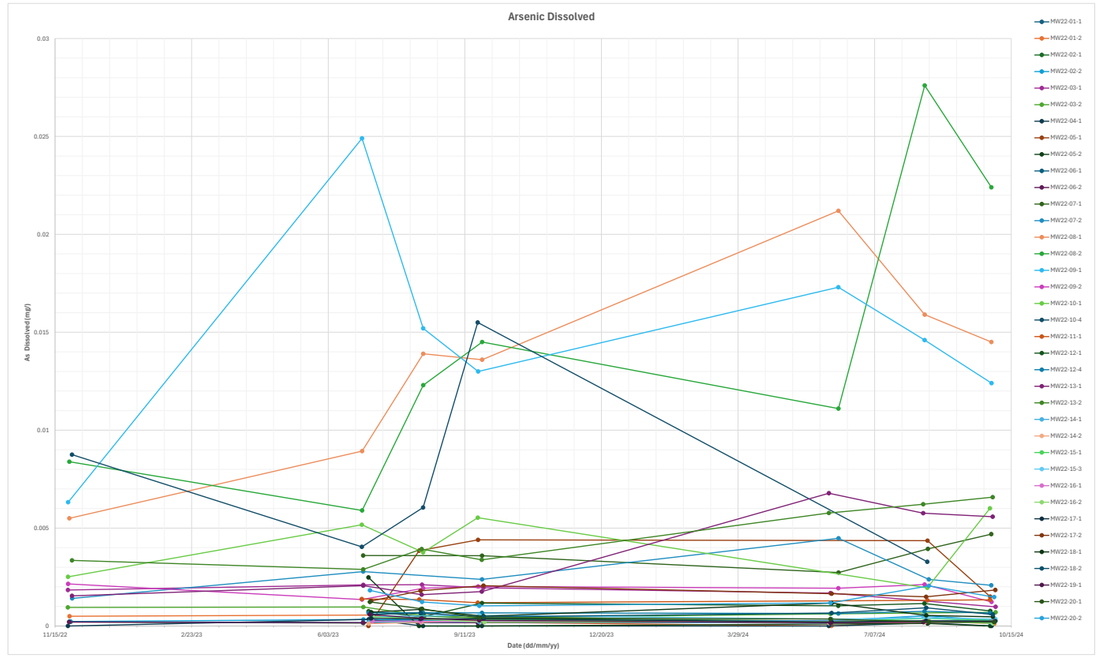
Notes:
CDWQS - Canadian Drinking Water Quality Standards (2025)
ODWQS - Ontario Drinking Water Quality Standards (2019)
PWQO - Provincial Water Quality Objectives (1999)
Bq/L = becquerels per liter
< Indicates parameter was below laboratory equipment detection limit
- Chemical not analyzed or criteria not defined.
* Indicates analytes are accredited by CALA to ISO/IEC 17025:2017

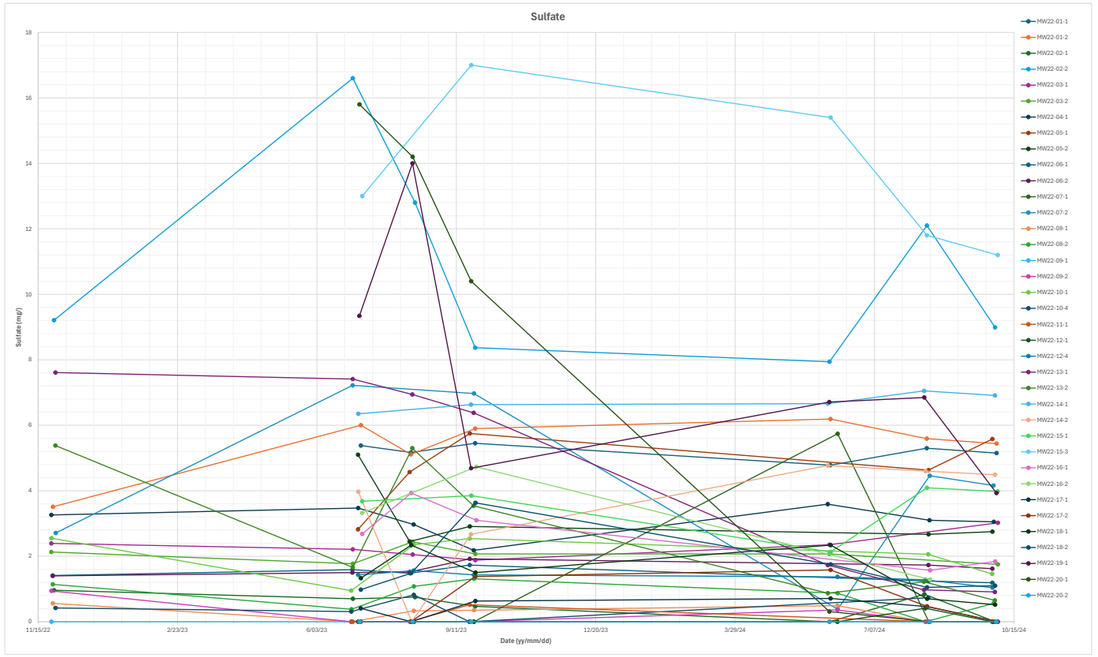
Attachment E – Water Quality Graphs

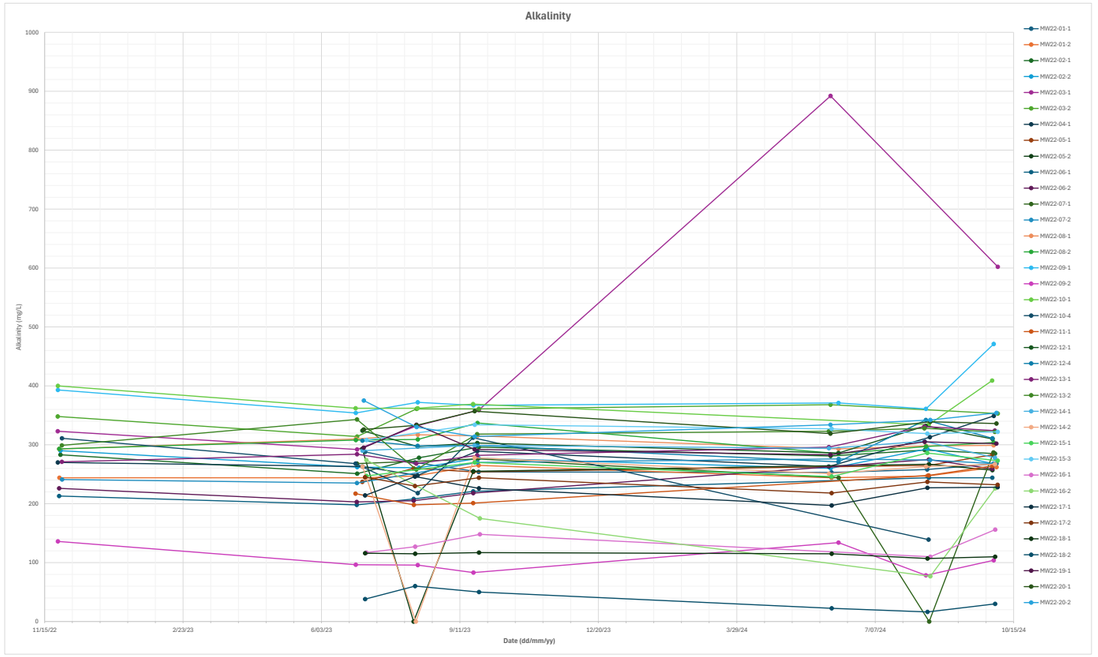

Chloride
Chloride (mg/L)
Date (dd/mm/yy)
15/11/22
04/01/23
23/02/23
14/04/23
03/06/23
23/07/23
11/09/23
31/10/23
20/12/23
08/02/24
29/03/24
18/05/24
07/07/24
26/08/24
15/10/24

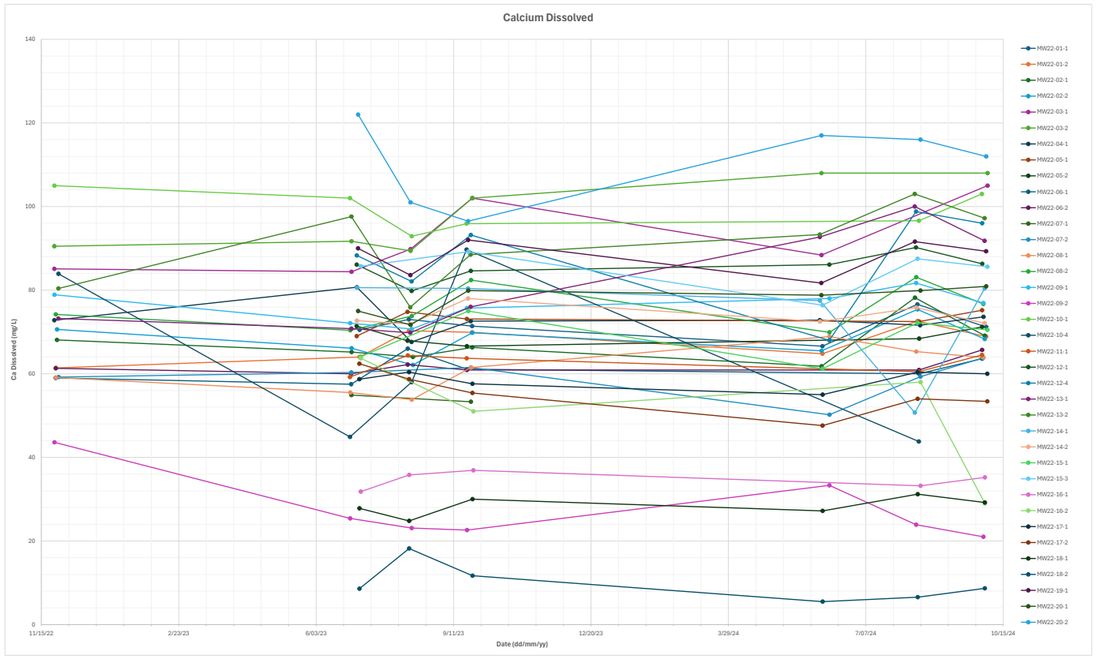

Floride
Floride (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24

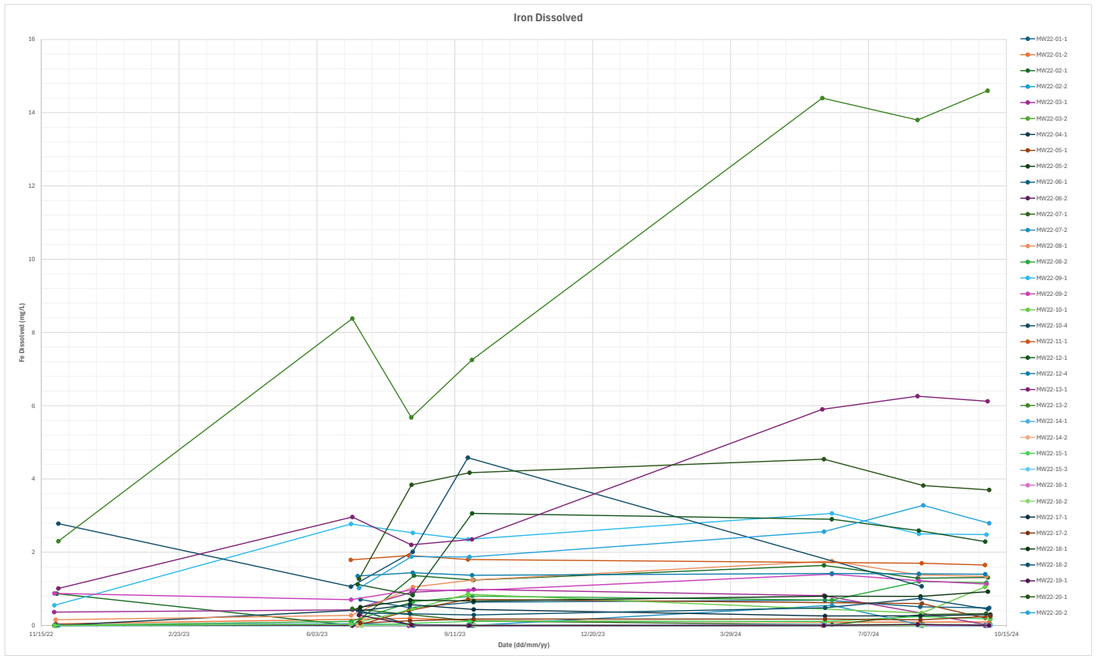

Aluminum Dissolved
Al Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24

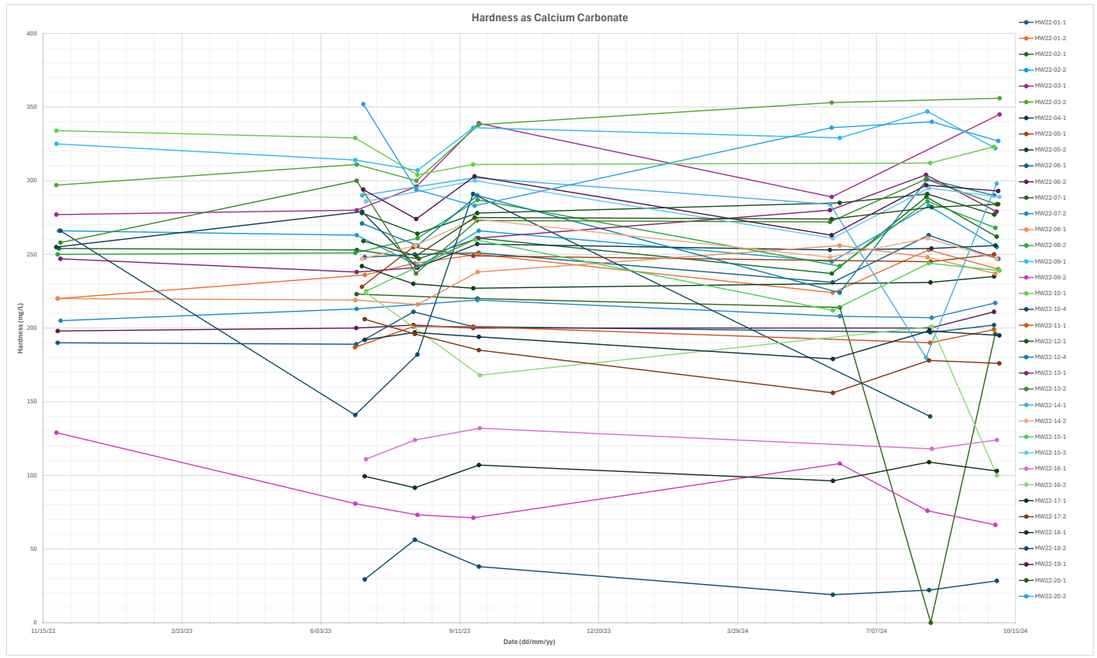

Arsenic Dissolved
As Dissolved (mg/)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24

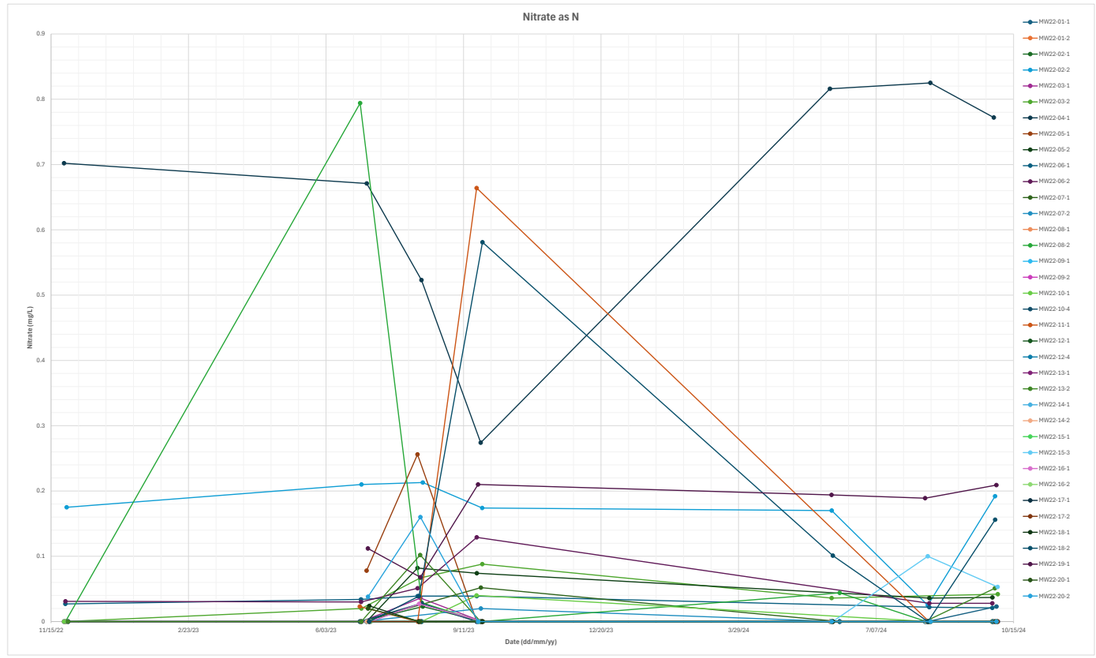

Sulfate
Sulfate (mg/)
Date (yy/mm/dd)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24

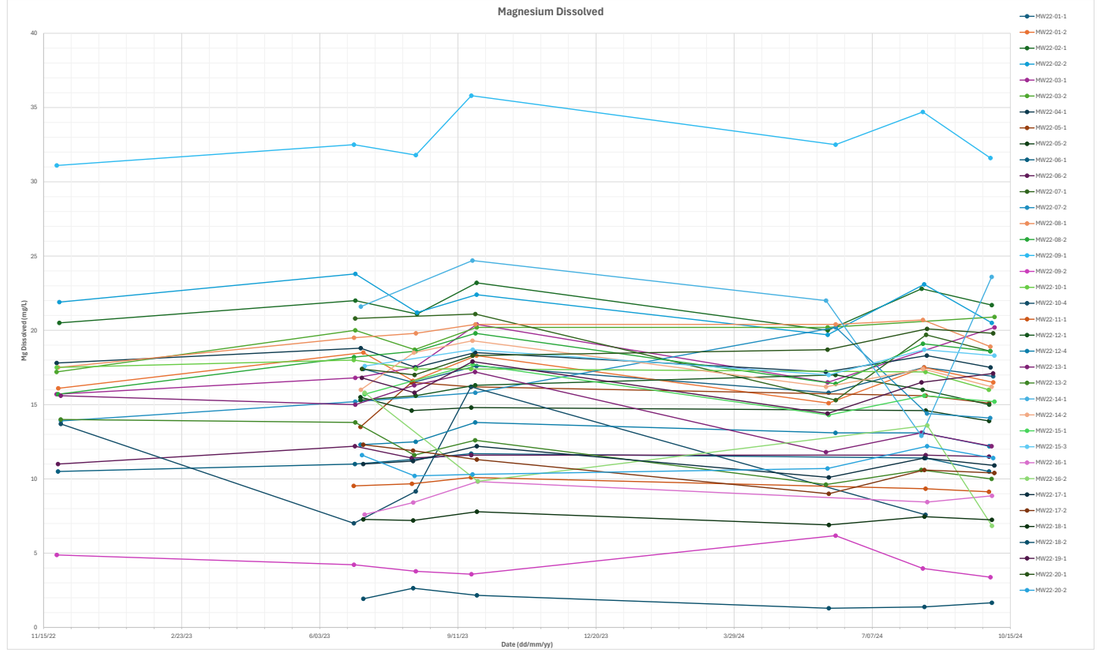

Alkalinity
Alkalinity (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24

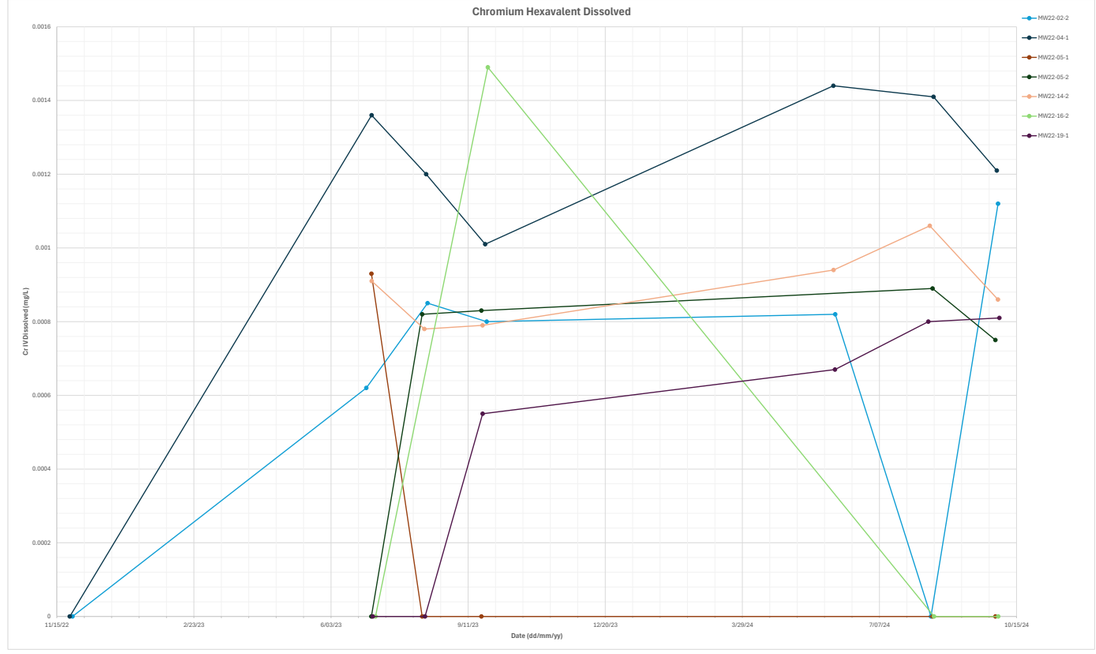

Calcium Dissolved
Ca Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24

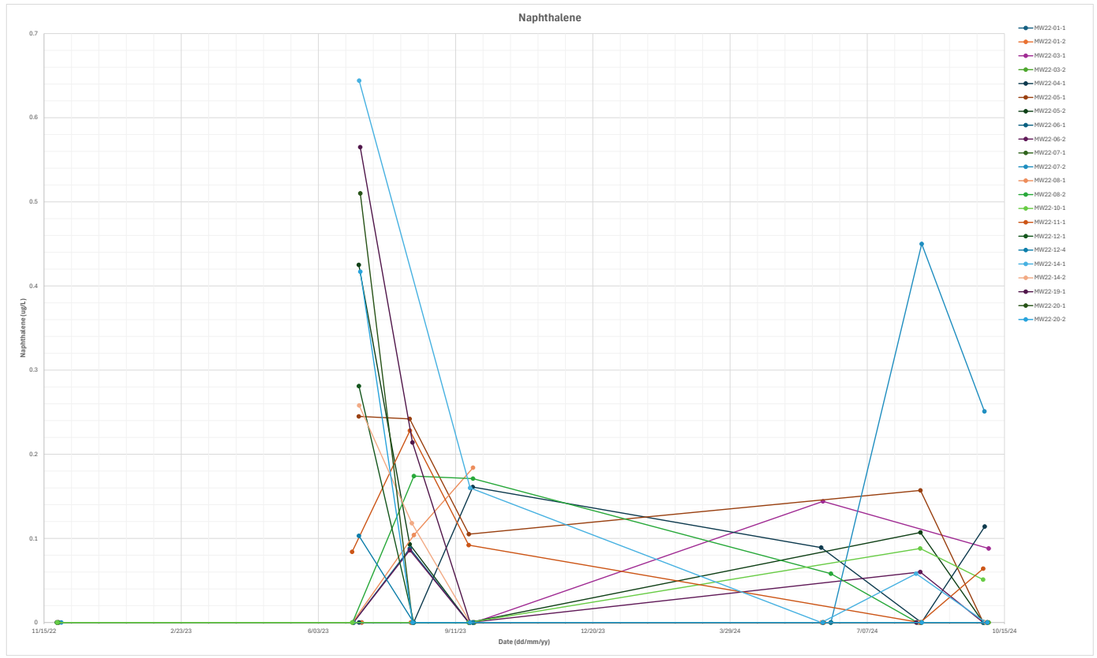

Iron Dissolved
Fe Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24

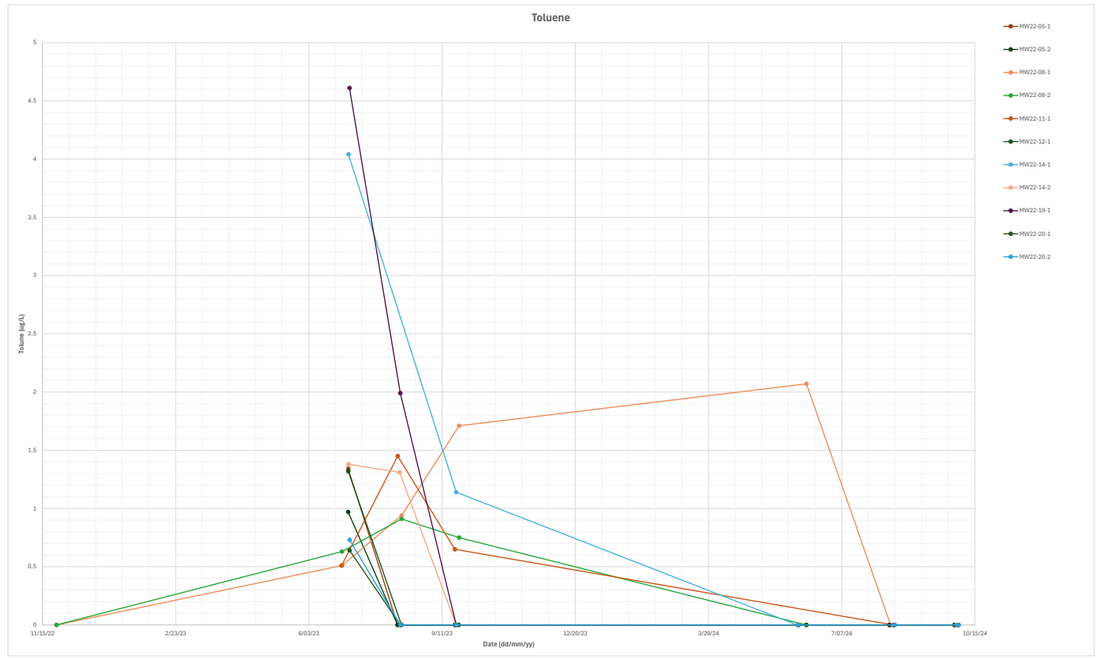

Hardness as Calcium Carbonate
Hardness (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

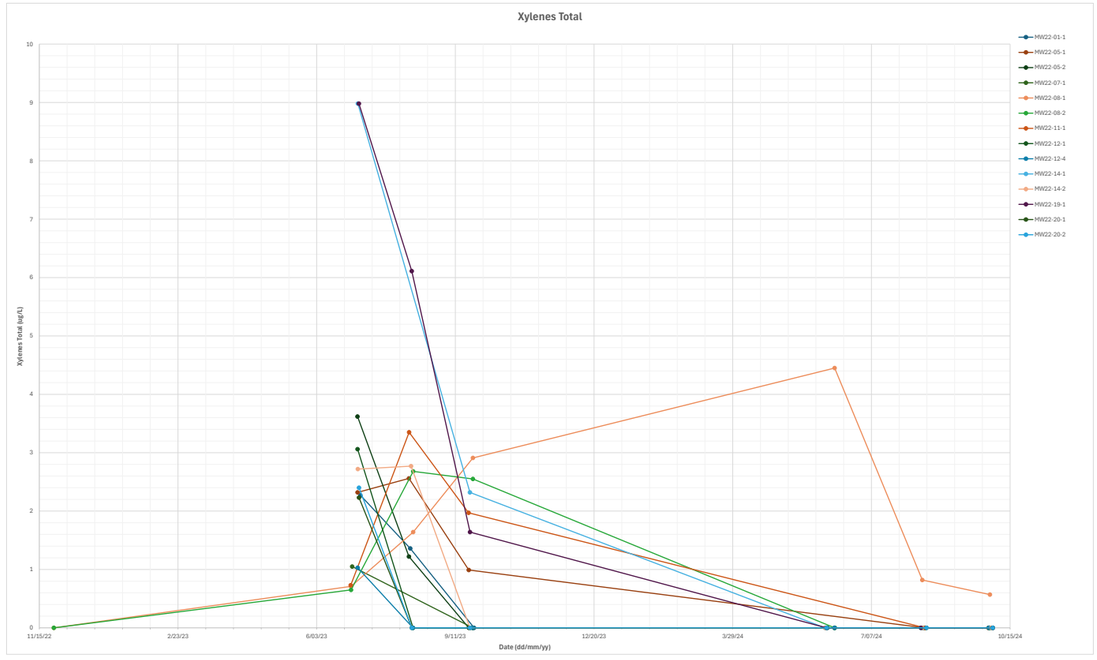

Nitrate as N
Nitrate (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

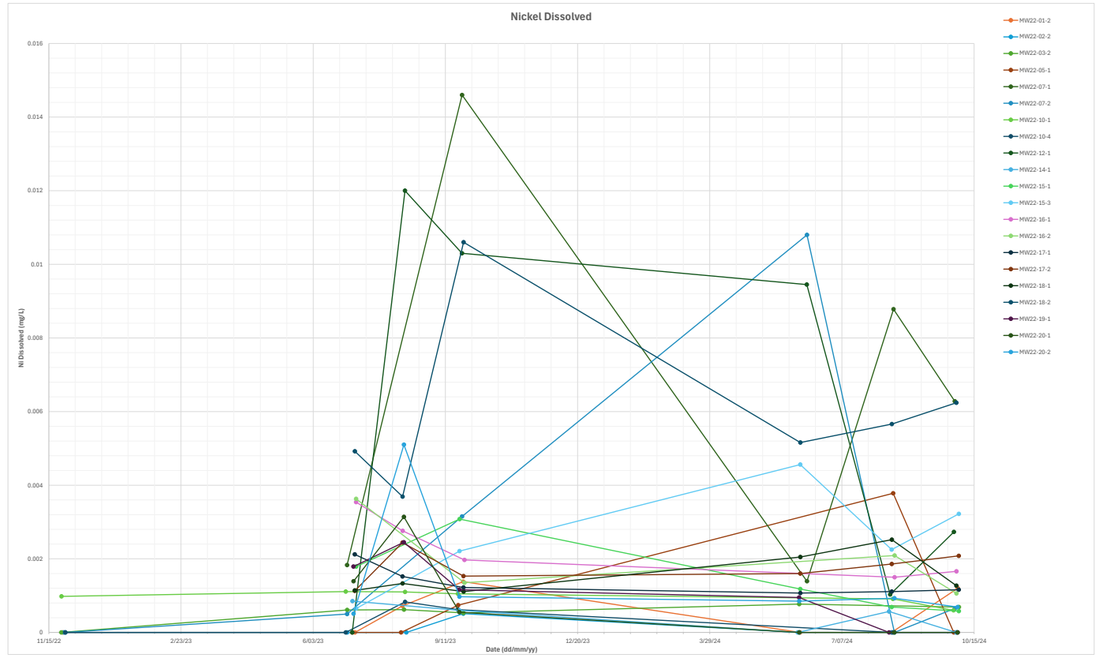

Magnesium Dissolved
Mg (Dissolved) (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

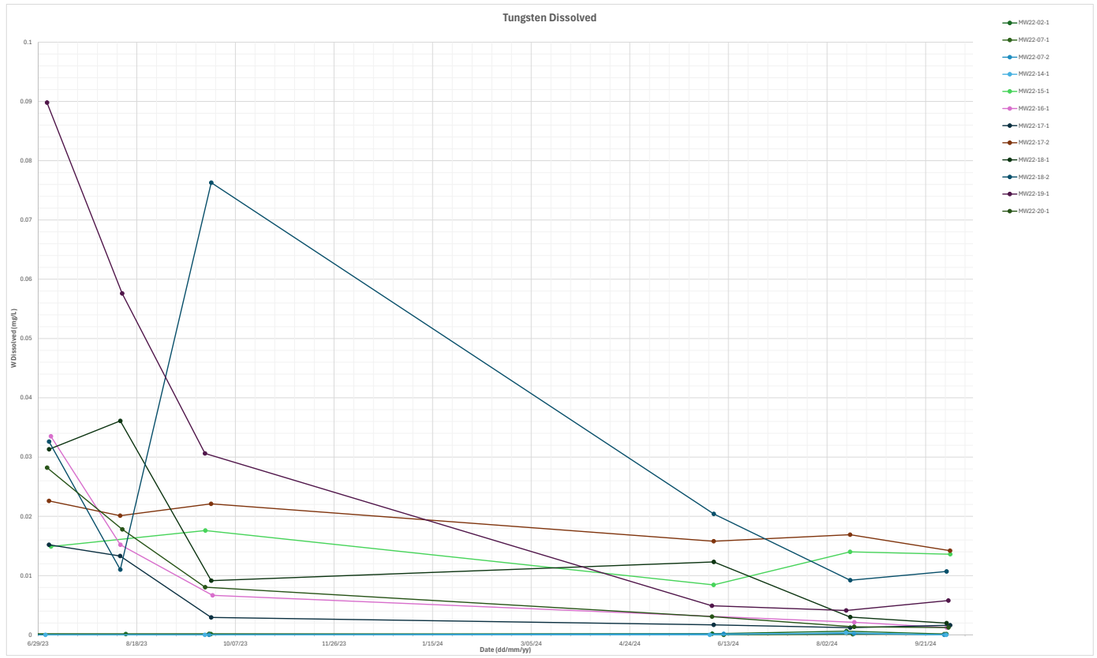

Chromium Hexavalent Dissolved
Cr (VI) Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-02-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-14-2
MW22-16-2
MW22-19-1

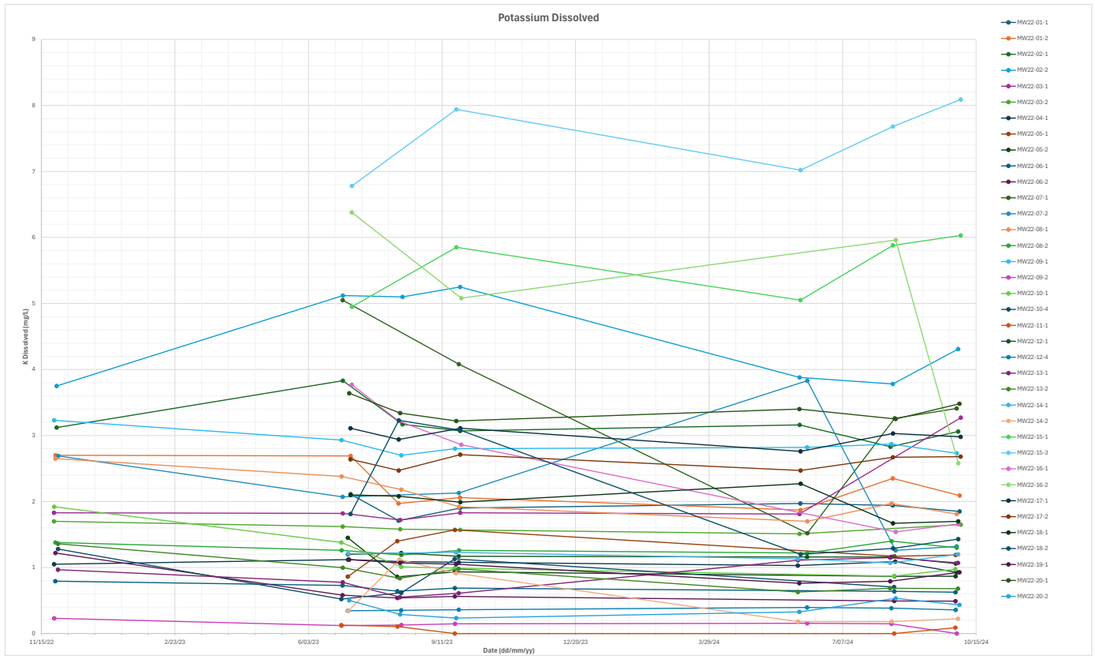

Naphthalene
Naphthalene (ug/L)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
Date (dd/mm/yy)
MW22-01-1
MW22-01-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-10-1
MW22-11-1
MW22-12-1
MW22-12-4
MW22-14-1
MW22-14-2
MW22-19-1
MW22-20-1
MW22-20-2

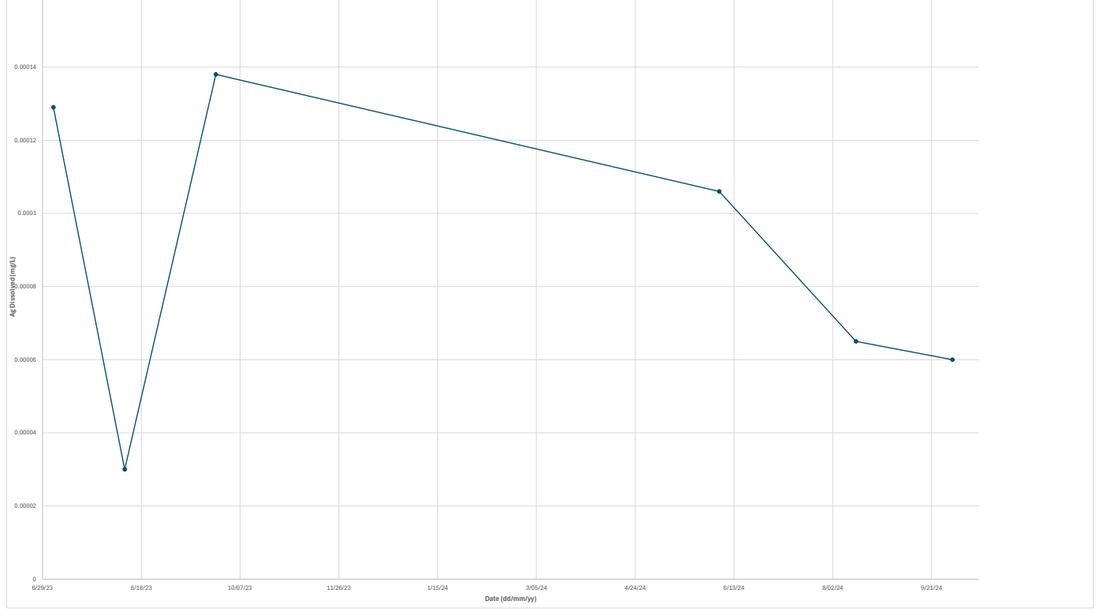

Toluene
Toluene (ug/L)
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
Date (dd/mm/yy)
MW22-05-1
MW22-05-2
MW22-08-1
MW22-08-2
MW22-11-1
MW22-12-1
MW22-14-1
MW22-14-2
MW22-19-1
MW22-20-1
MW22-20-2

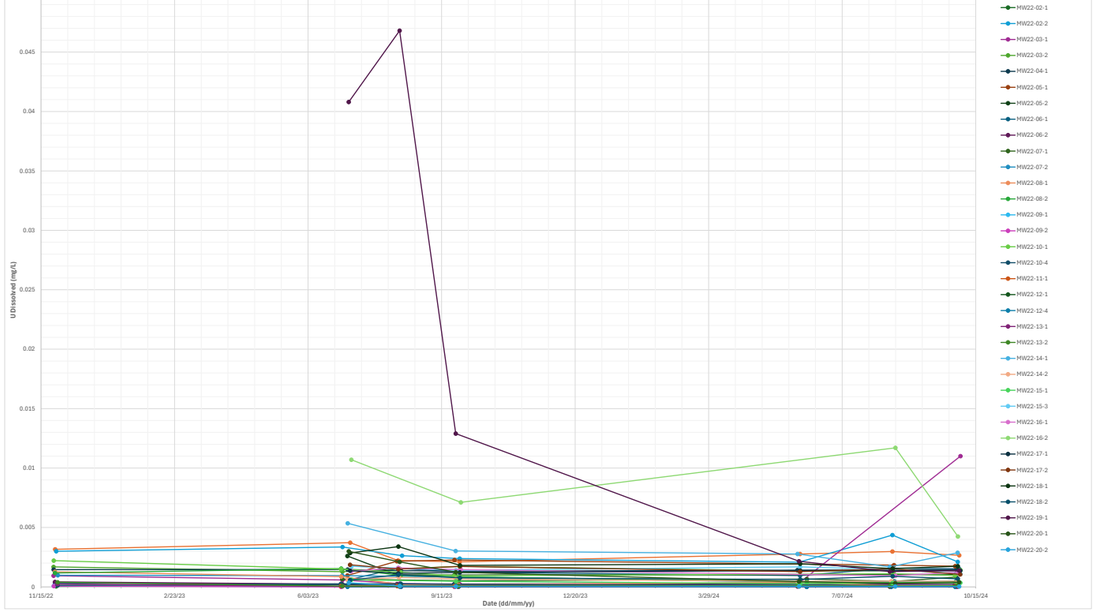

Xylenes Total
Xylenes Total (ug/L)
0
1
2
3
4
5
6
7
8
9
10
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
Date (dd/mm/yy)
MW22-01-1
MW22-05-1
MW22-05-2
MW22-07-1
MW22-08-1
MW22-08-2
MW22-11-1
MW22-12-1
MW22-12-4
MW22-14-1
MW22-14-2
MW22-19-1
MW22-20-1
MW22-20-2

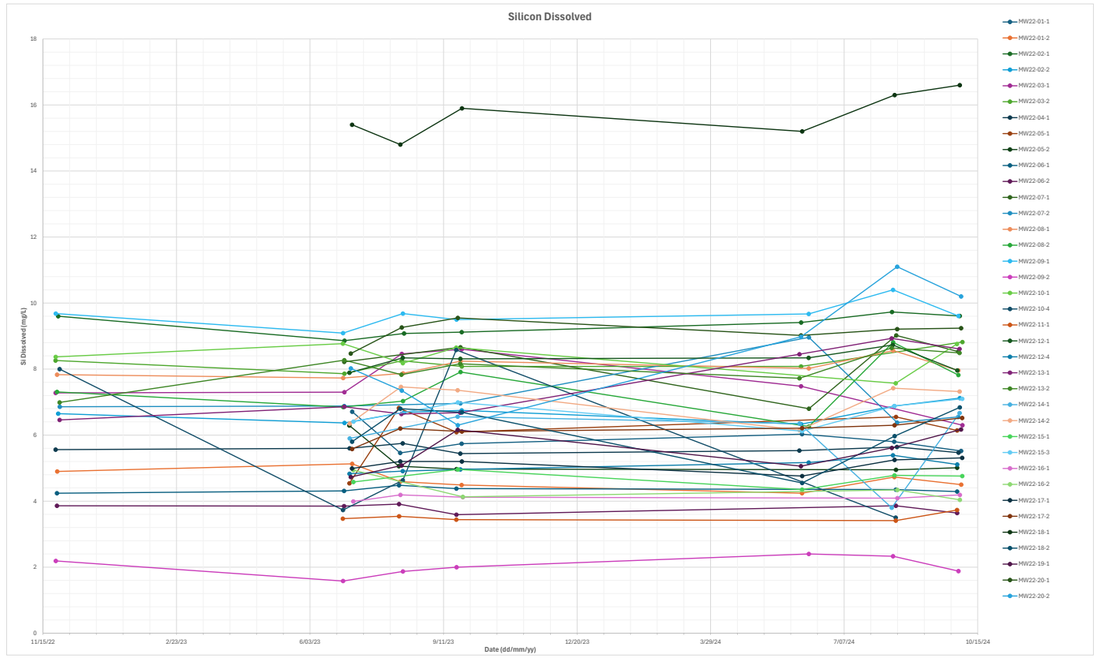

Nickel Dissolved
Ni Dis solved (mg/L)
0
0.002
0.004
0.006
0.008
0.01
0.012
0.014
0.016
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
Date (dd/mm/yy)
MW22-01-2
MW22-02-2
MW22-03-2
MW22-05-1
MW22-07-1
MW22-07-2
MW22-10-1
MW22-10-4
MW22-12-1
MW22-14-1
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

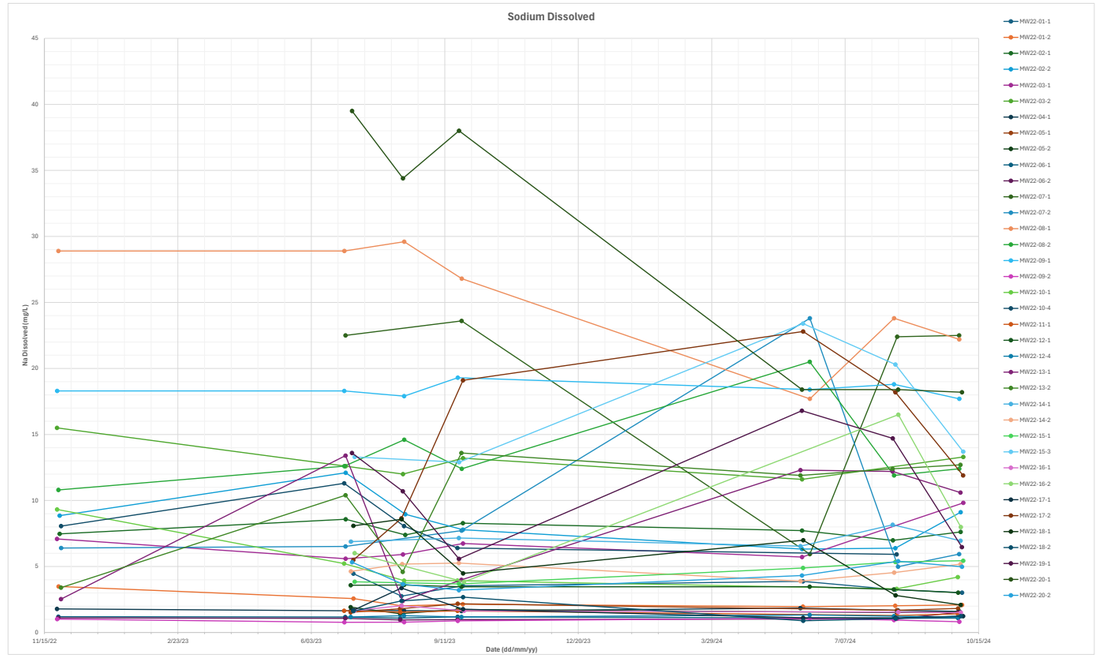

Tungsten Dissolved
W Dissolved (mg/L)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
6/29/23
8/18/23
10/07/23
11/26/23
1/15/24
3/05/24
4/24/24
6/13/24
8/02/24
9/21/24
Date (dd/mm/yy)
MW22-02-1
MW22-07-1
MW22-07-2
MW22-14-1
MW22-15-1
MW22-16-1
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1

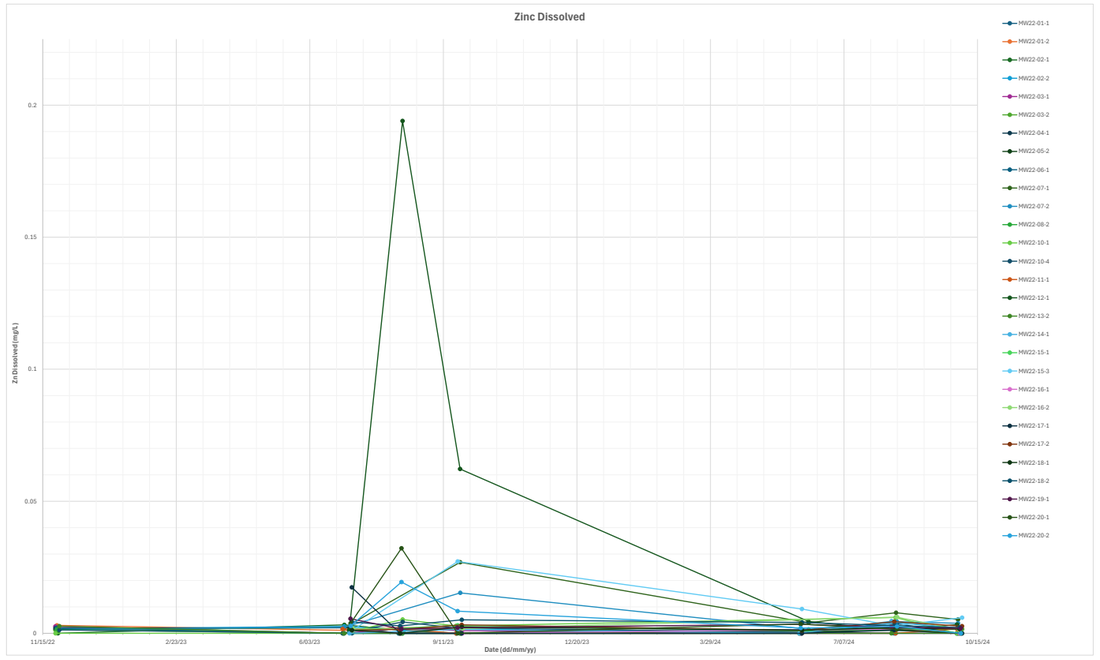

Potassium Dissolved
K Dissolved (mg/L)
9
8
7
6
5
4
3
2
1
0
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
Date (dd/mm/yy)
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

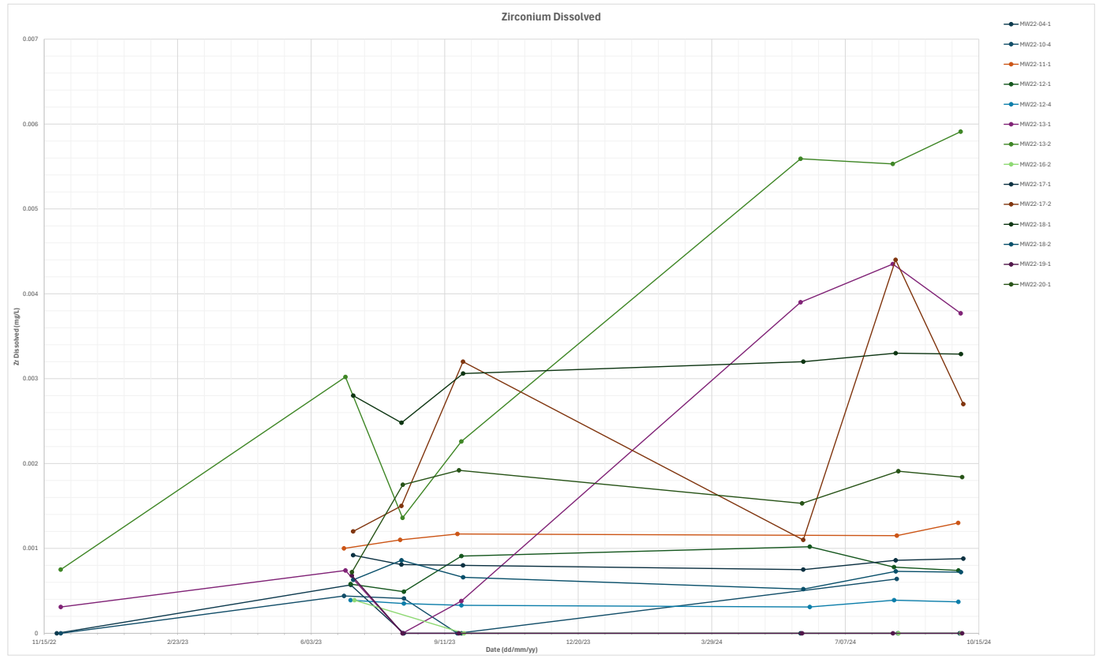

Silver Dissolved
Ag Dissolved (mg/L)
0.00016
0.00014
0.00012
0.0001
0.00008
0.00006
0.00004
0.00002
0
6/29/23
8/18/23
10/07/23
11/26/23
1/15/24
3/05/24
4/24/24
6/13/24
8/02/24
9/21/24
Date (dd/mm/yy)
MW22-18-2

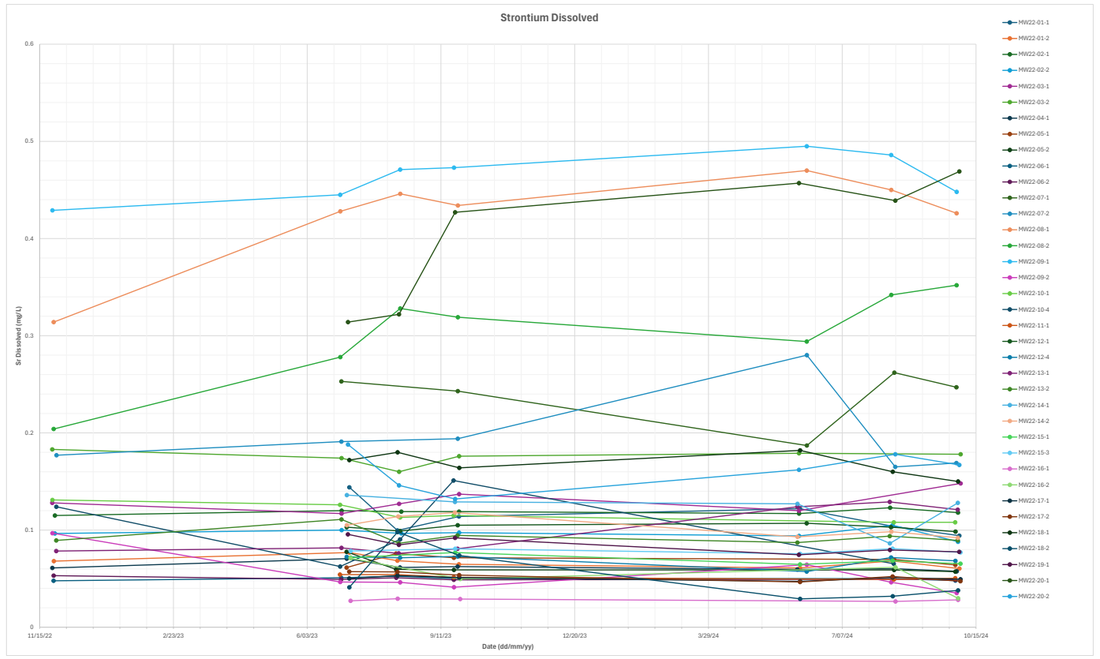

Uranium Dissolved
U Dissolved (mg/L)
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
Date (dd/mm/yy)
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

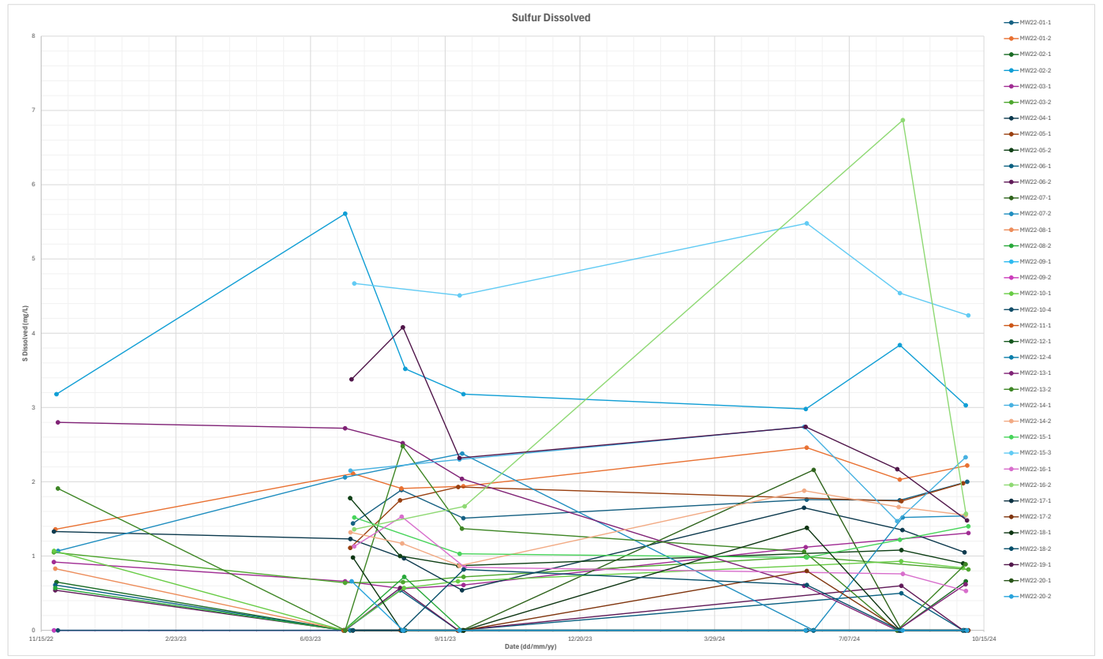

Silicon Dissolved
Si Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

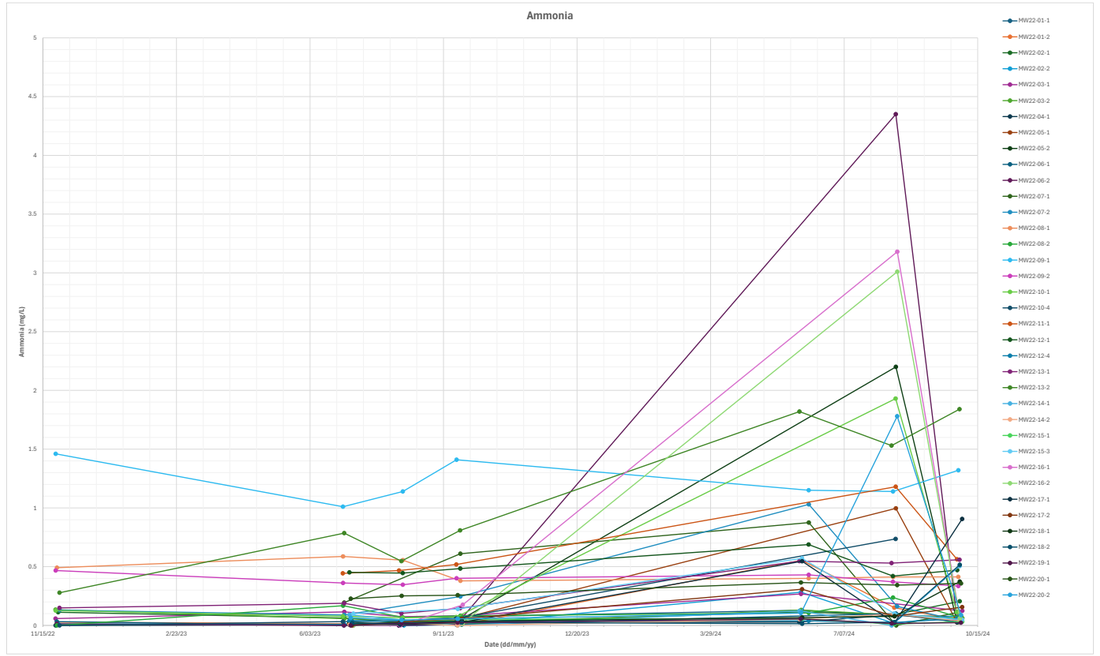

Sodium Dissolved
Na Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

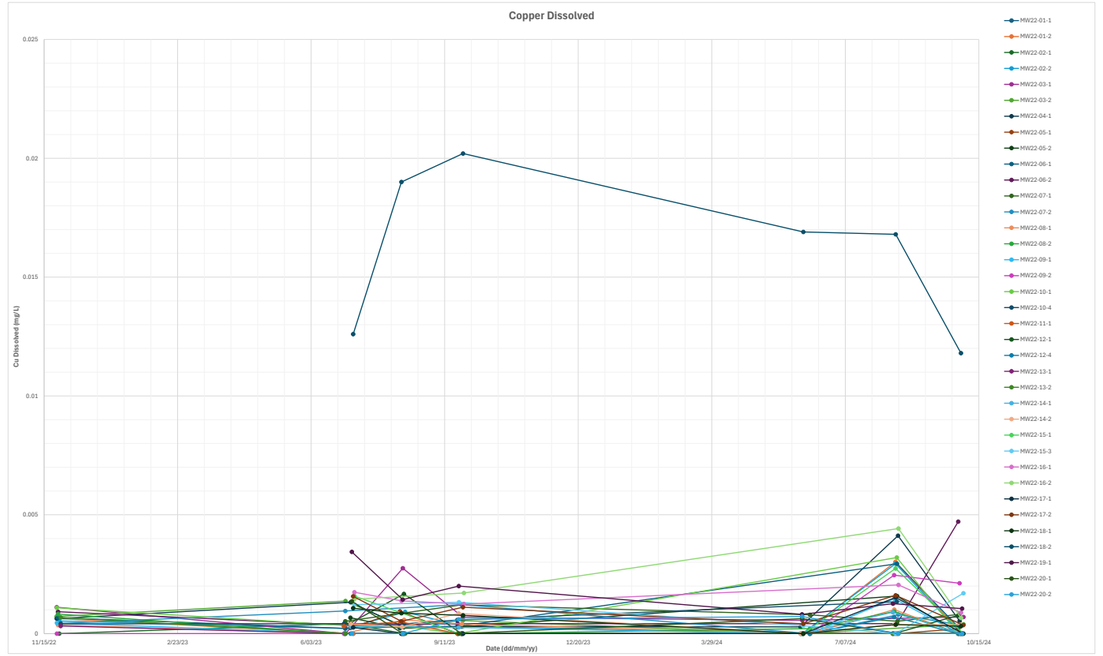

Zinc Dissolved
Zn Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-2
MW22-06-1
MW22-07-1
MW22-07-2
MW22-08-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-13-2
MW22-14-1
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

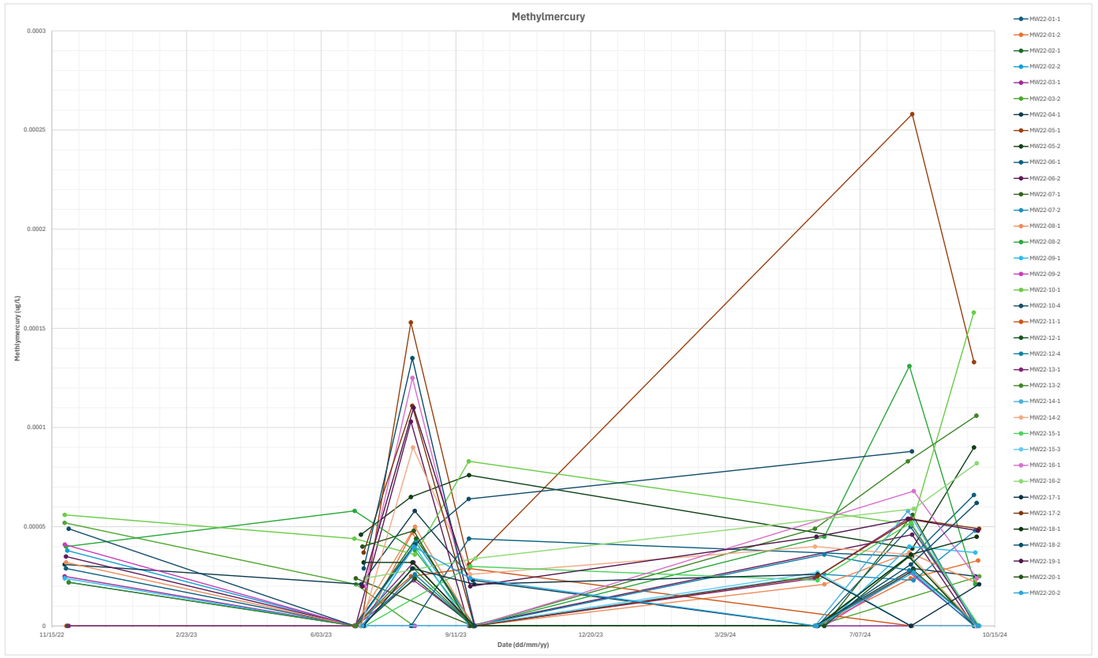

Zirconium Dissolved
Zr Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-04-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1

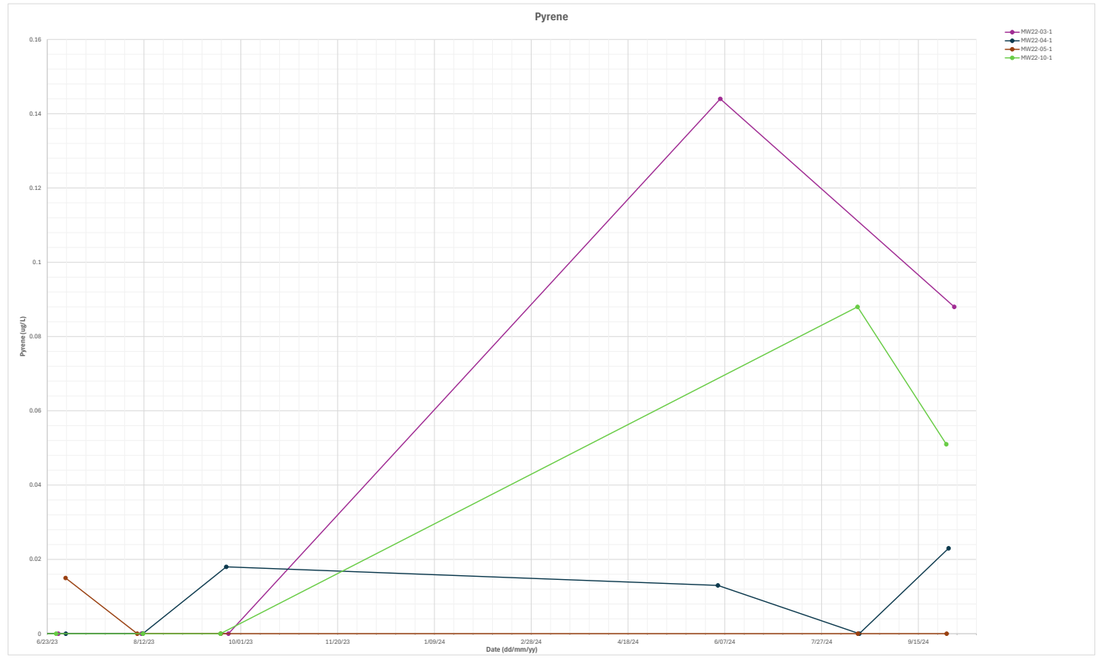

Strontium Dissolved
Sr Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

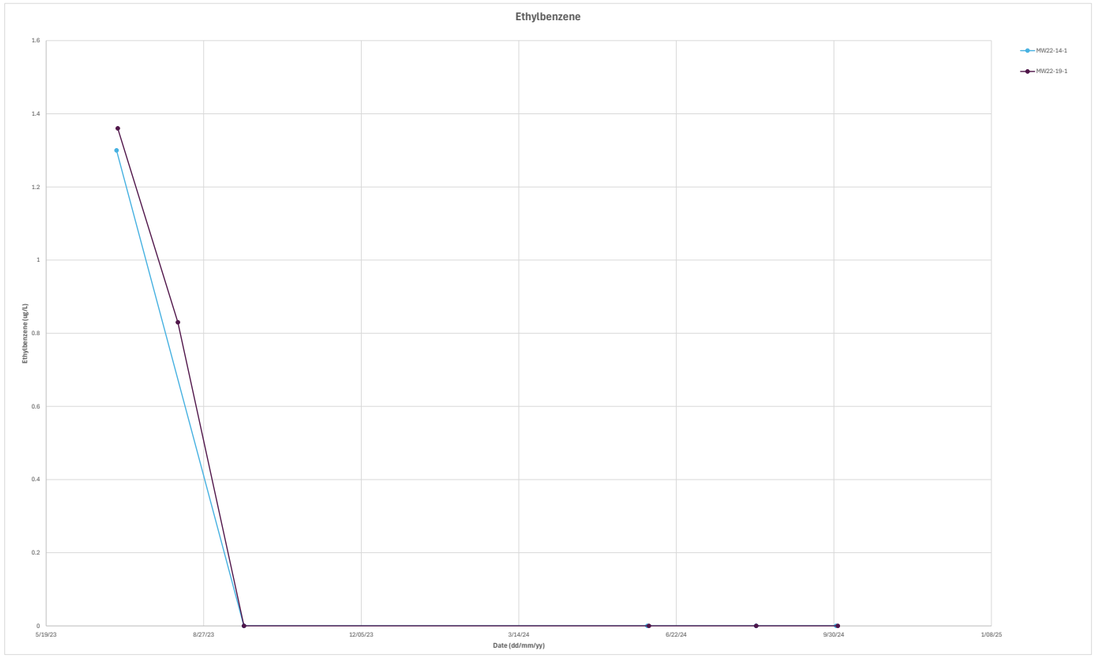

Sulfur Dissolved
S Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

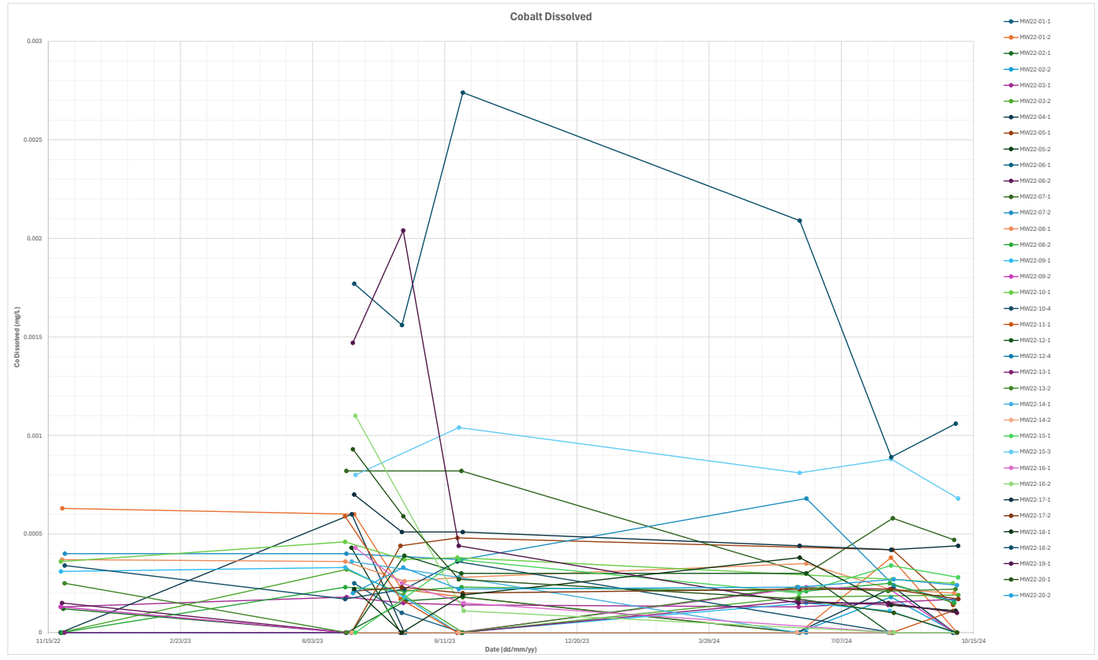

Ammonia
Ammonia (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

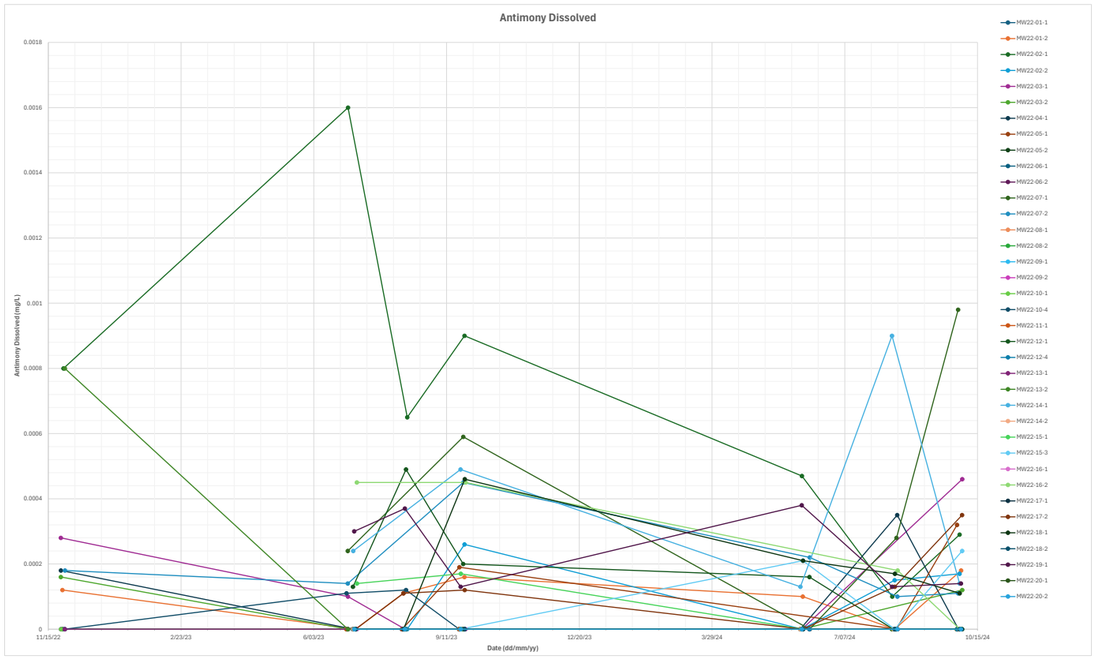

Copper Dissolved
Cu Dissolved (mg/L)
Date (dd/mm/yy)
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2


Methylmercury
Methylmercury (ug/L)
0.0003
0.00025
0.0002
0.00015
0.0001
0.00005
0
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
Date (dd/mm/yy)
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

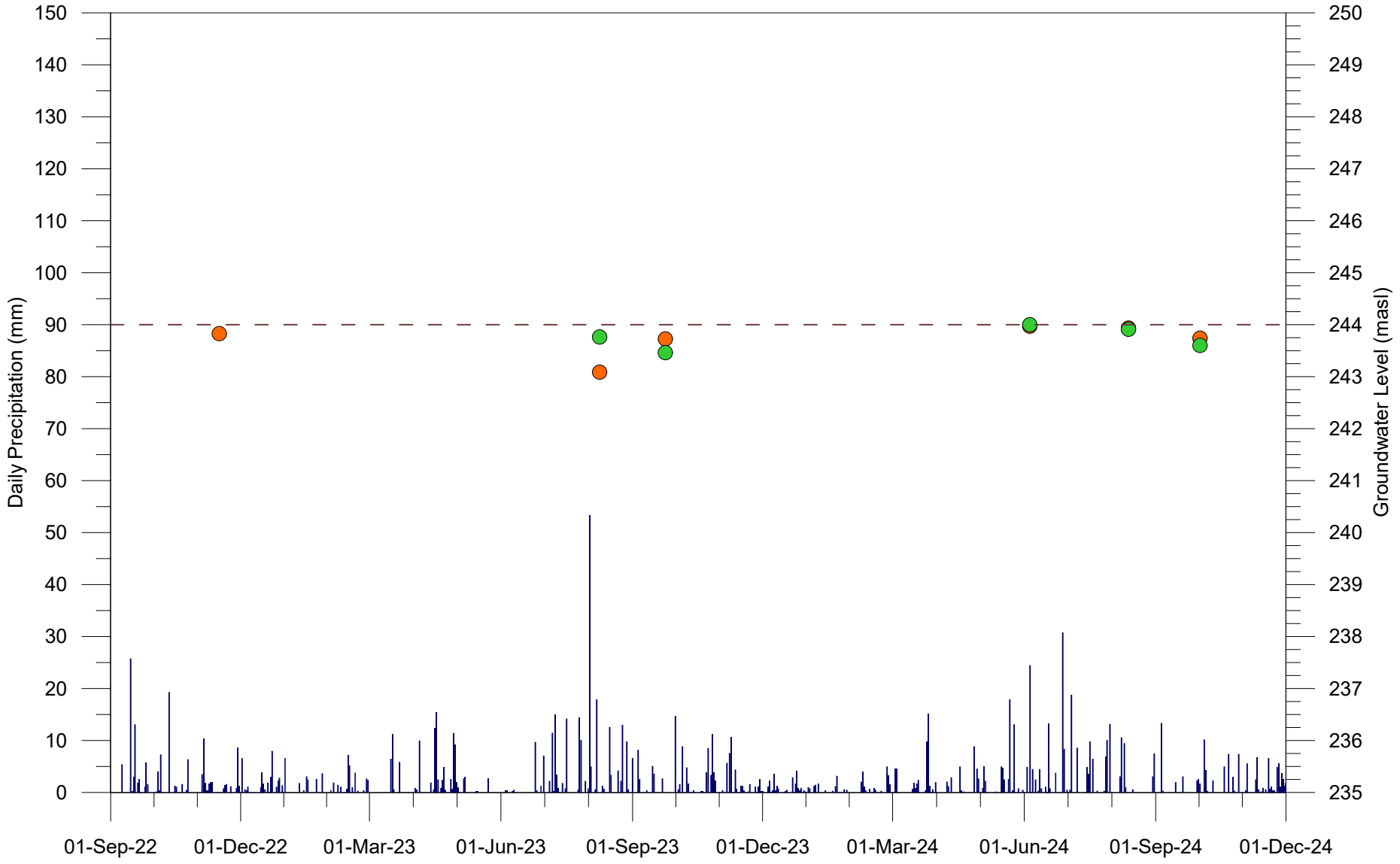

Pyrene
Pyrene (ug/L)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
6/23/23
8/12/23
10/01/23
11/20/23
1/09/24
2/28/24
4/18/24
6/07/24
7/27/24
9/15/24
Date (dd/mm/yy)
MW22-03-1
MW22-04-1
MW22-05-1
MW22-10-1


Ethylbenzene
Ethylbenzene (ug/L)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
5/19/23
8/27/23
12/05/23
3/14/24
6/22/24
9/30/24
1/08/25
Date (dd/mm/yy)
MW22-14-1
MW22-19-1


Cobalt Dissolved
Co Dissolved (mg/L)
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
Date (dd/mm/yy)
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2


Antimony Dissolved
Antimony Dissolved (mg/L)
0.0018
0.0016
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
11/15/22
2/23/23
6/03/23
9/11/23
12/20/23
3/29/24
7/07/24
10/15/24
Date (dd/mm/yy)
MW22-01-1
MW22-01-2
MW22-02-1
MW22-02-2
MW22-03-1
MW22-03-2
MW22-04-1
MW22-05-1
MW22-05-2
MW22-06-1
MW22-06-2
MW22-07-1
MW22-07-2
MW22-08-1
MW22-08-2
MW22-09-1
MW22-09-2
MW22-10-1
MW22-10-4
MW22-11-1
MW22-12-1
MW22-12-4
MW22-13-1
MW22-13-2
MW22-14-1
MW22-14-2
MW22-15-1
MW22-15-3
MW22-16-1
MW22-16-2
MW22-17-1
MW22-17-2
MW22-18-1
MW22-18-2
MW22-19-1
MW22-20-1
MW22-20-2

Attachment F – Water Levels and Hydrographs



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

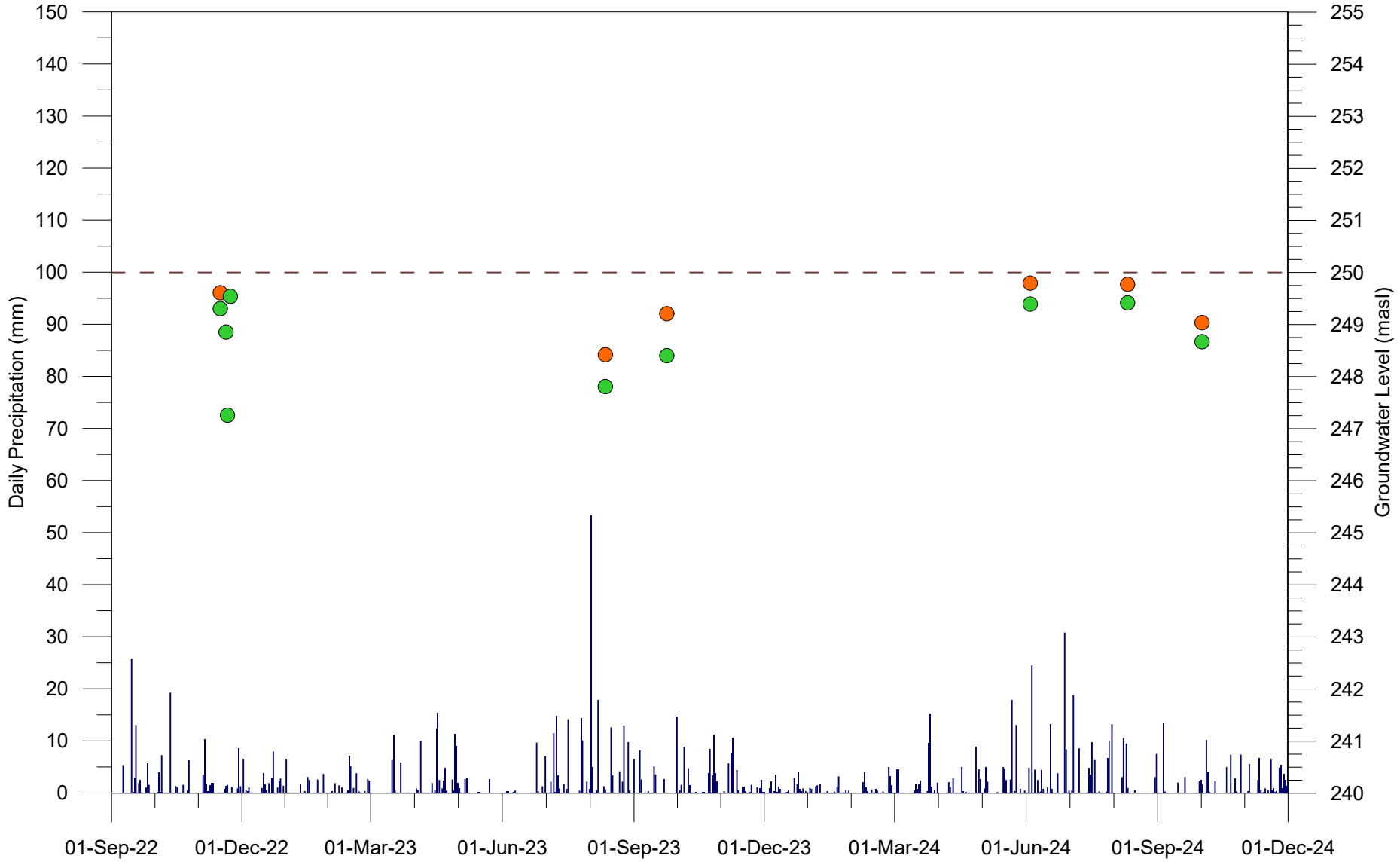
wsp

YYYY-MM-DD	2025-DEC-05
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-01 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	1



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

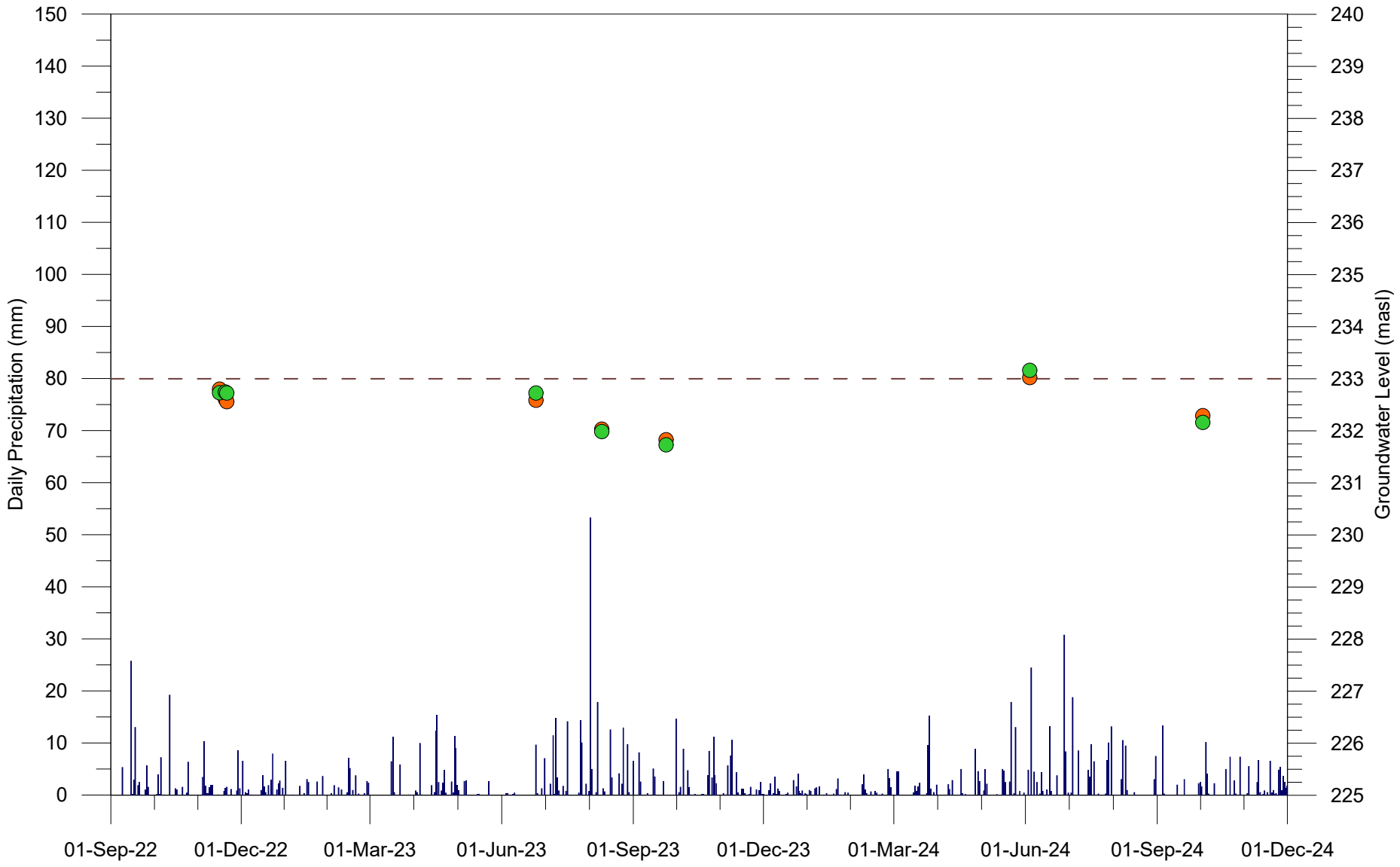
wsp

YYYY-MM-DD	2025-DEC-05
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-02 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	2



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

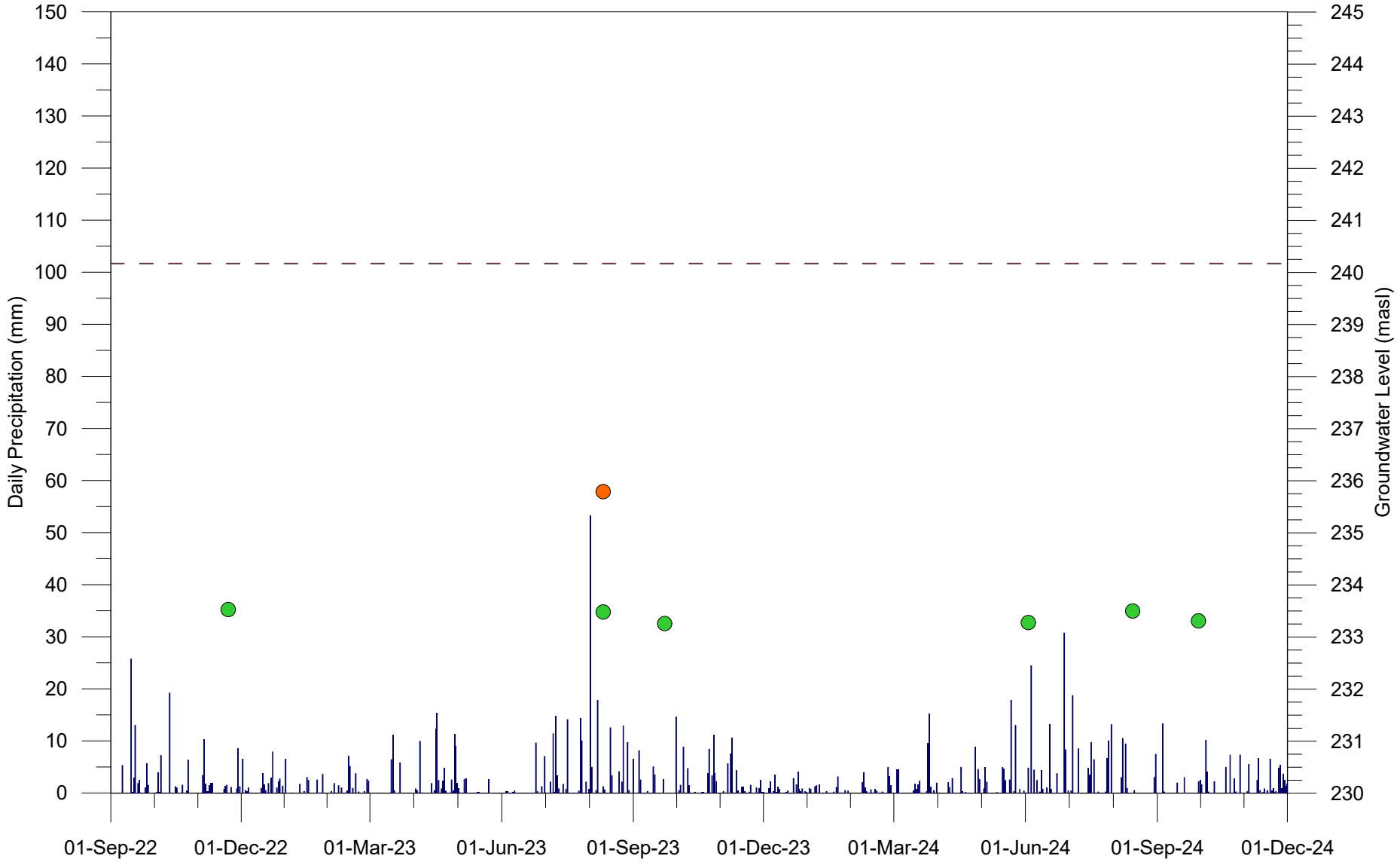
wsp

YYYY-MM-DD	2025-DEC-05
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-03 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	3



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)
MW22-04-2 DRY in 2024

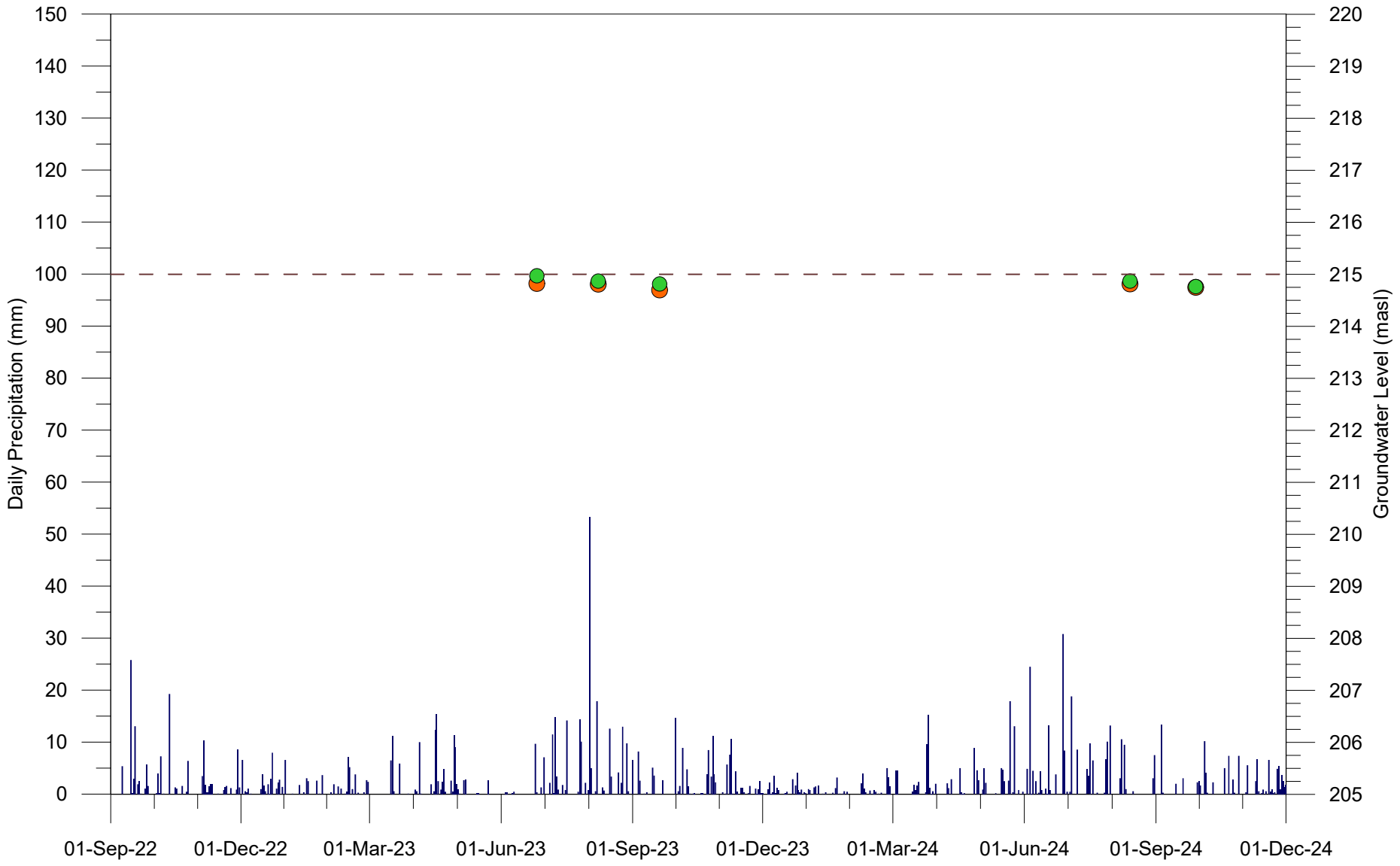
CONSULTANT

YYYY-MM-DD	2025-DEC-05
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-04 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	4



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

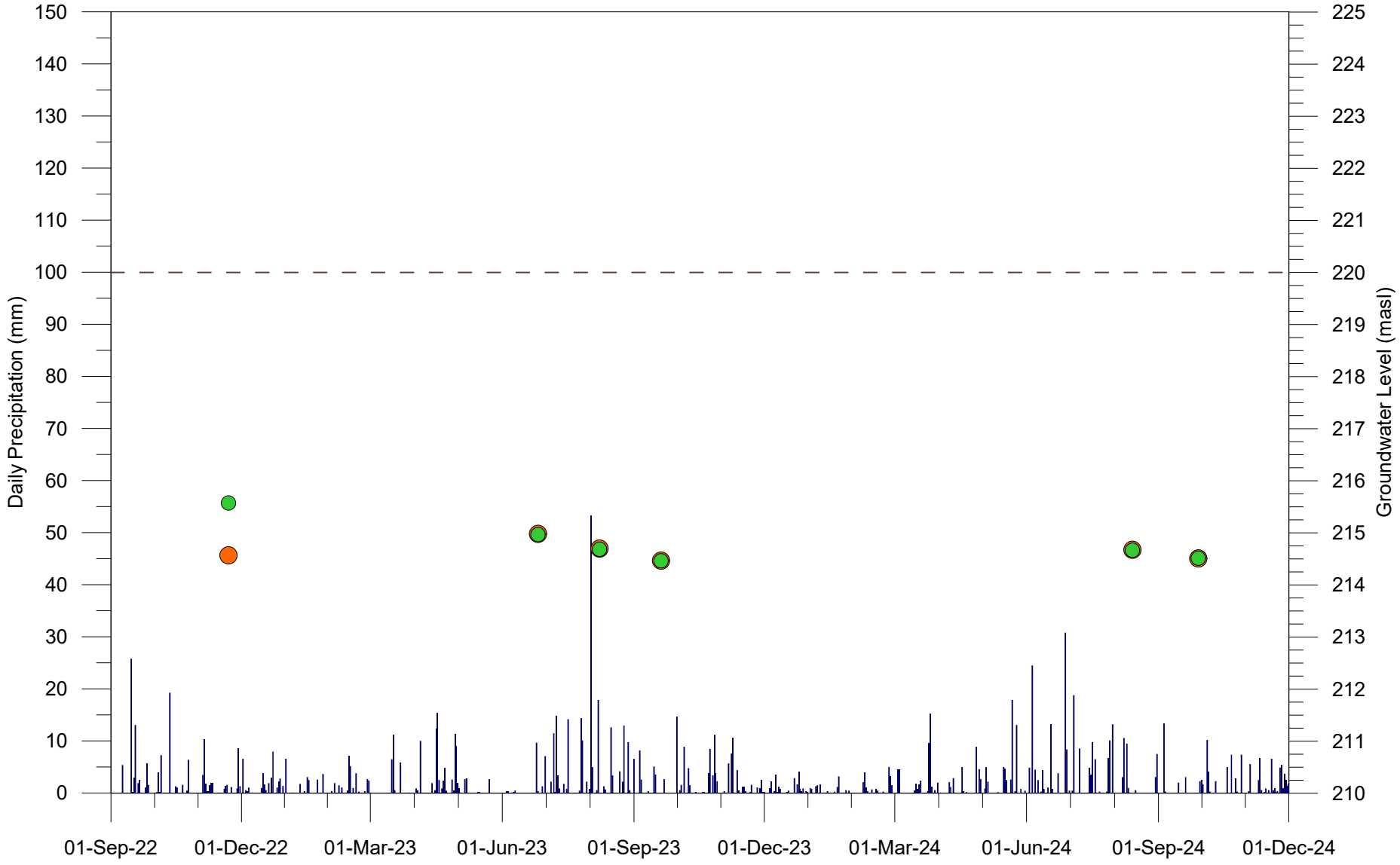
wsp

YYYY-MM-DD	2025-DEC-05
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-05 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	5



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

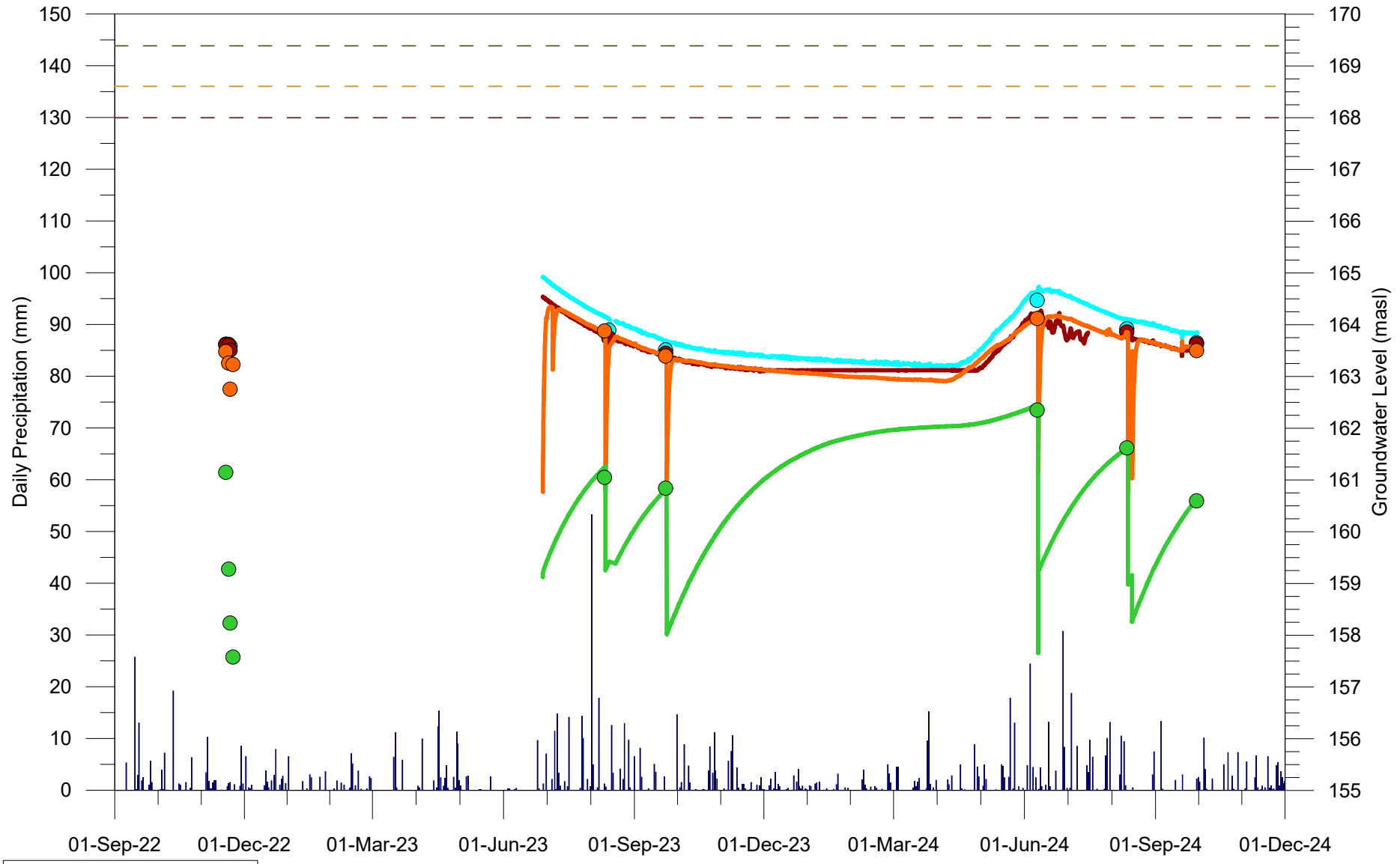
wsp

YYYY-MM-DD	2025-DEC-05
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-06 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	6



CLIENT **Marten Falls First Nation**

Note:
Precipitaiton from Geraldton Airport (6042719)
Logger error 15/07/2024 to 12/08/2024

CONSULTANT

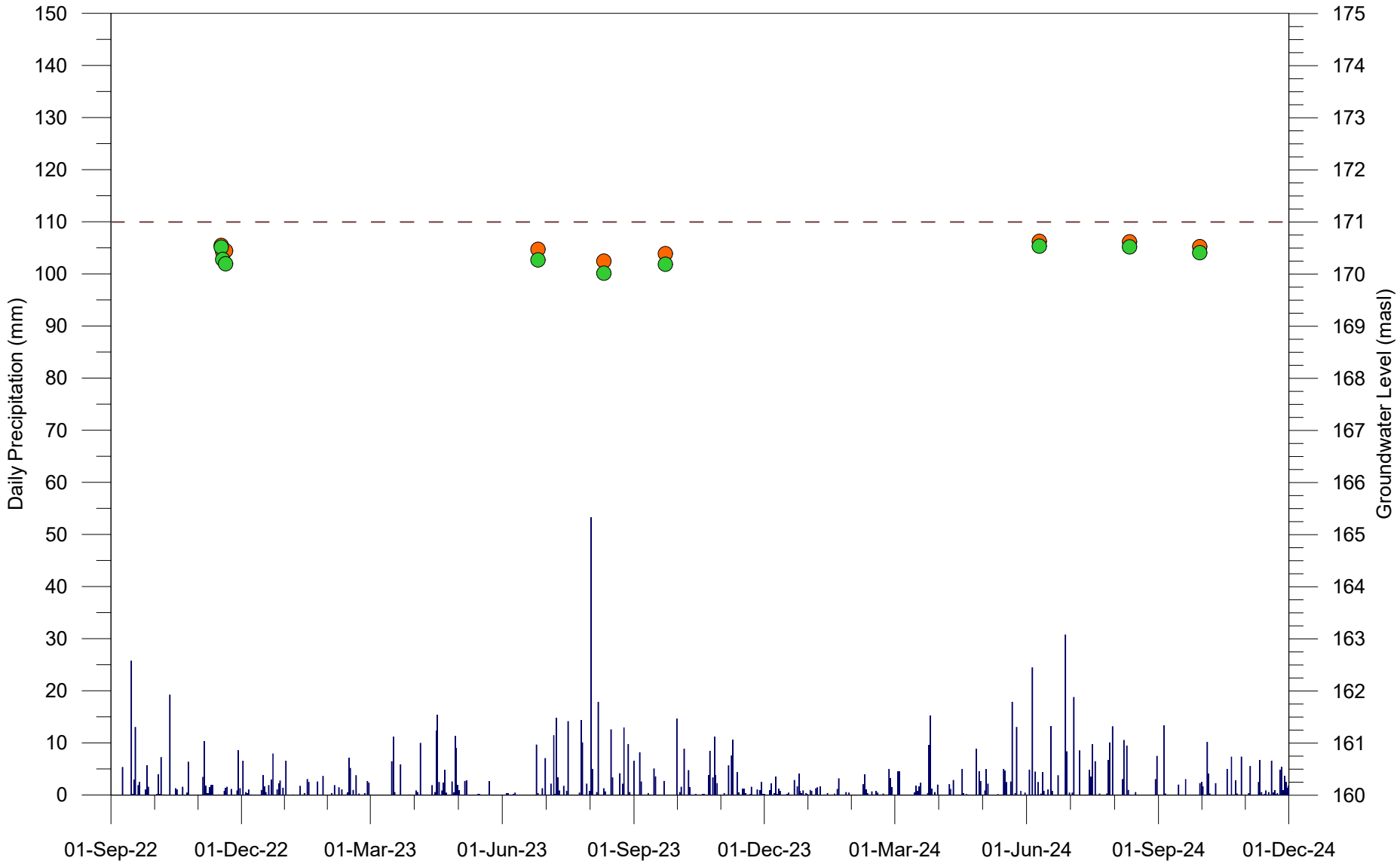
wsp

YYYY-MM-DD	2025-SEP-25
PREPARED	MB
DESIGNED	AB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-07 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	7



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

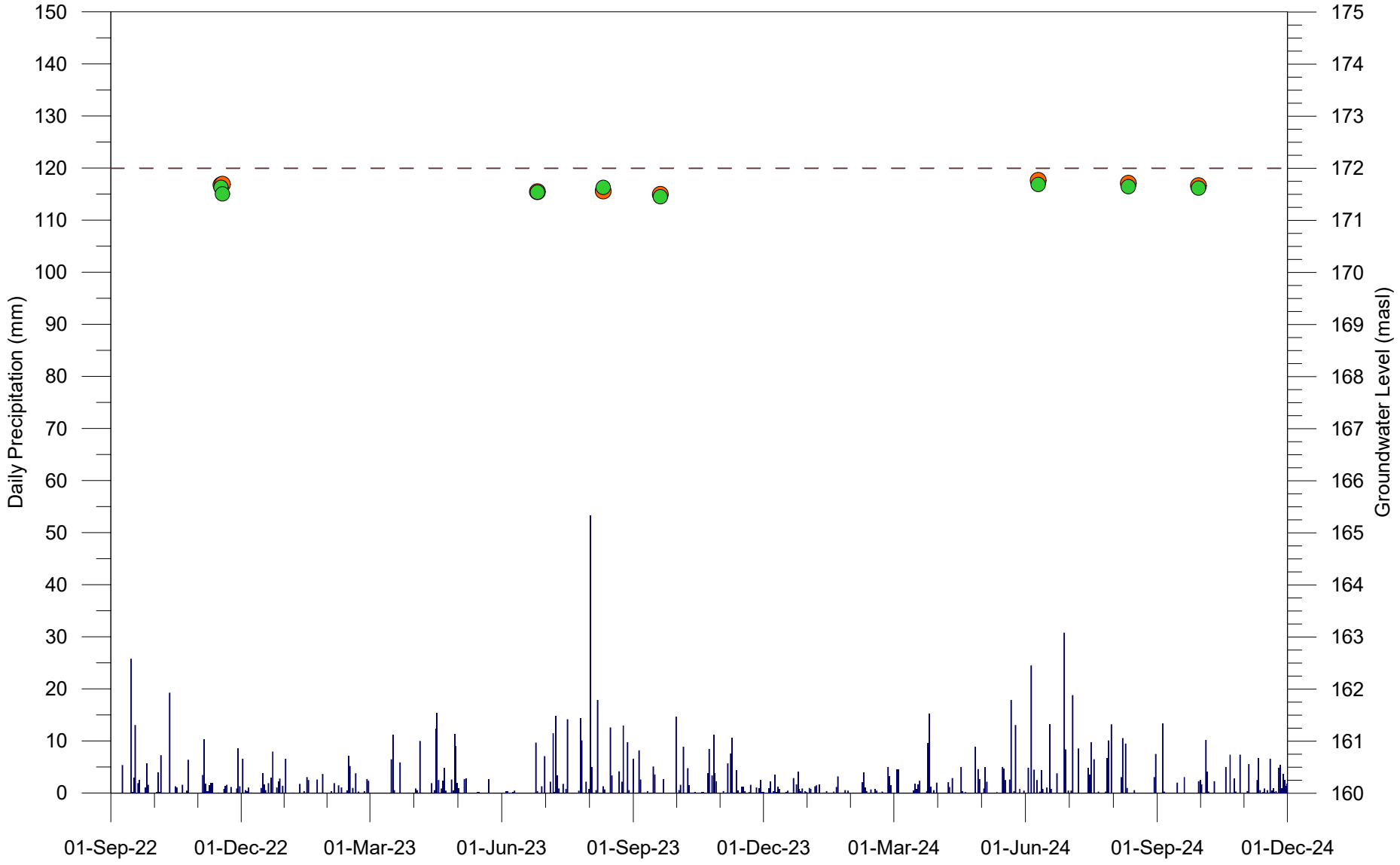
wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-08 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	8



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

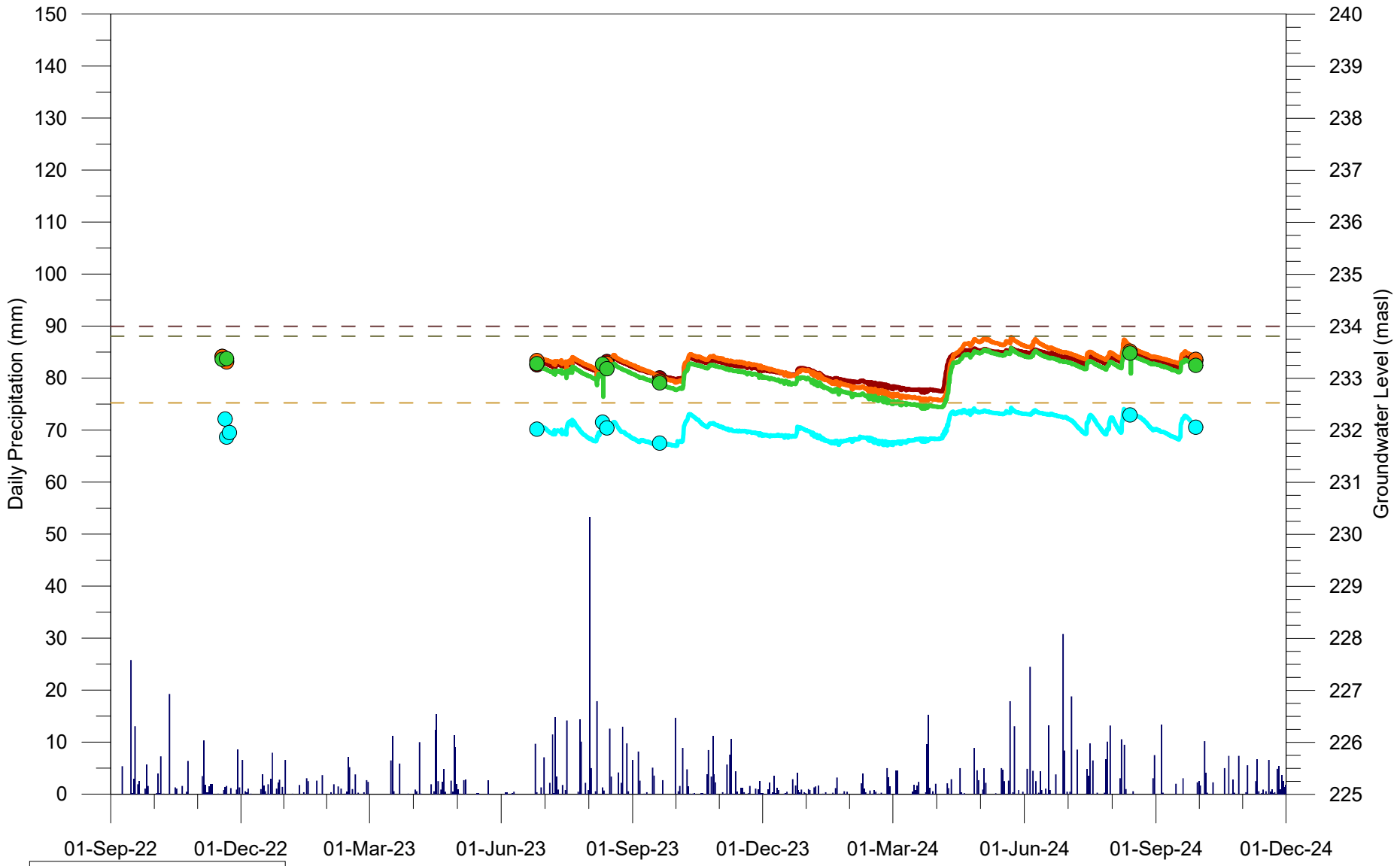
wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-09 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	9



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

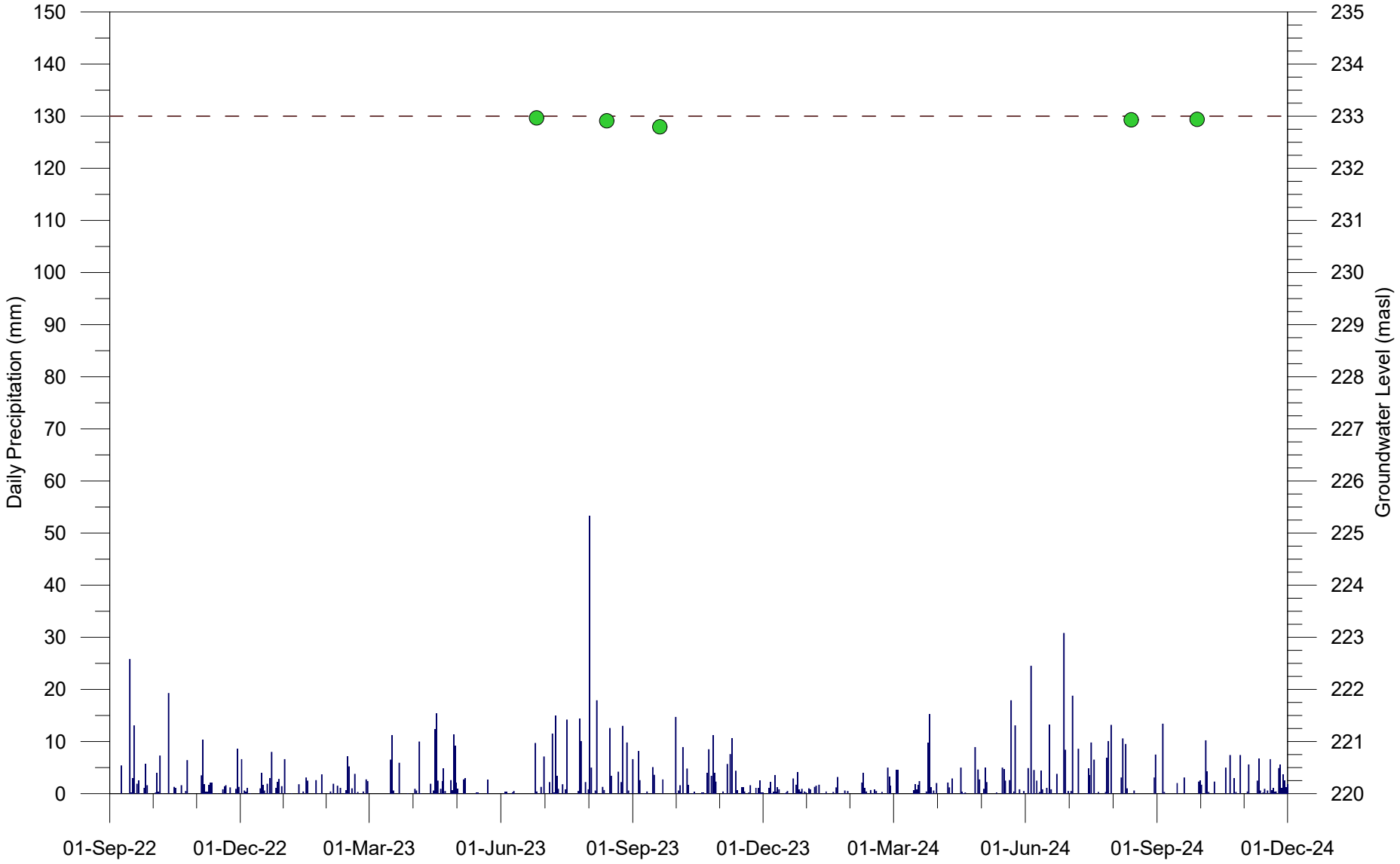
wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-10 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	10



CLIENT **Marten Falls First Nation**

PROJECT **MFFN Community Access Road Environmental Assessment**

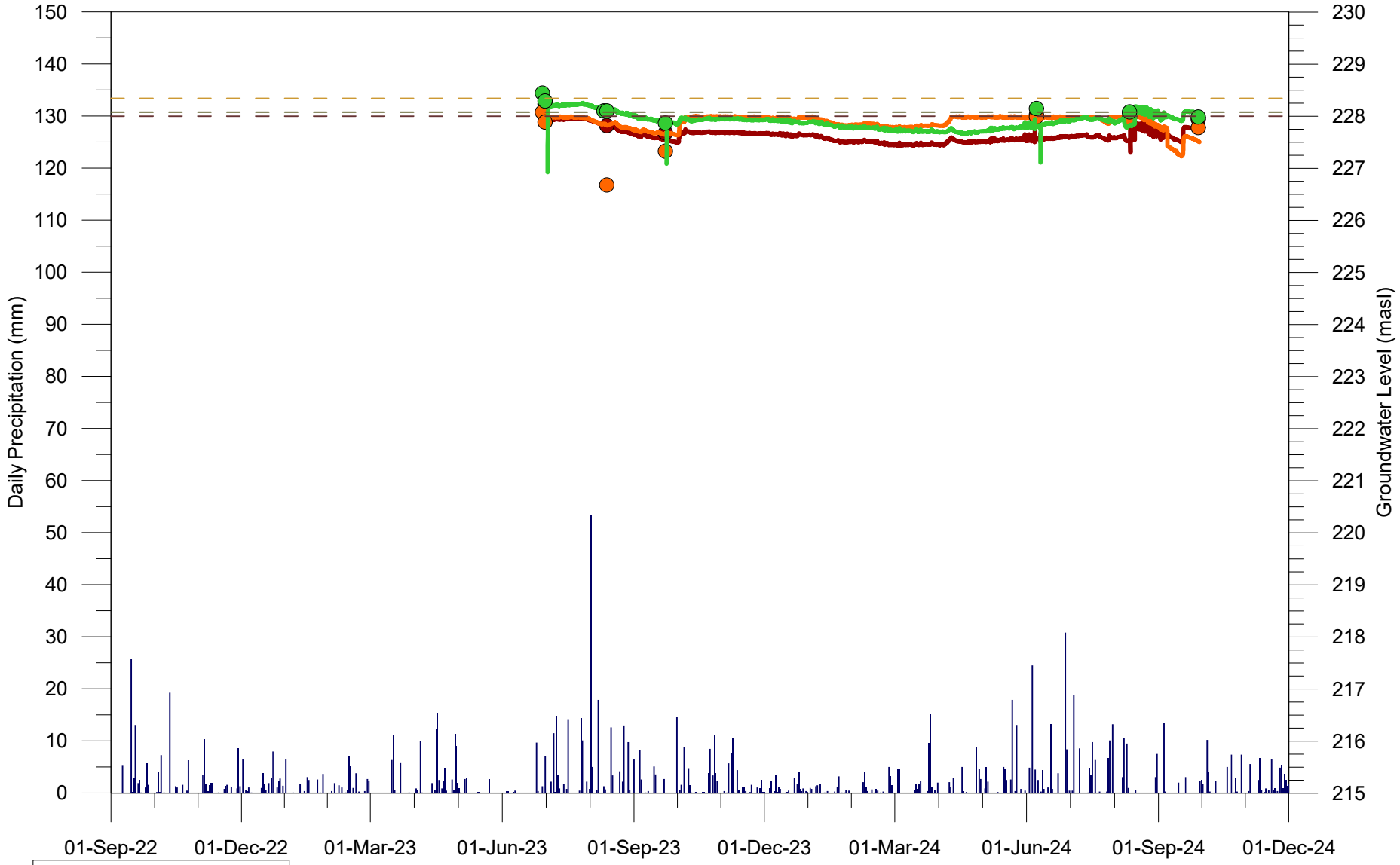
Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

TITLE **MW22-11 Hydrographs**

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	11



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)
MW22-12-2 damaged September, 2024

CONSULTANT

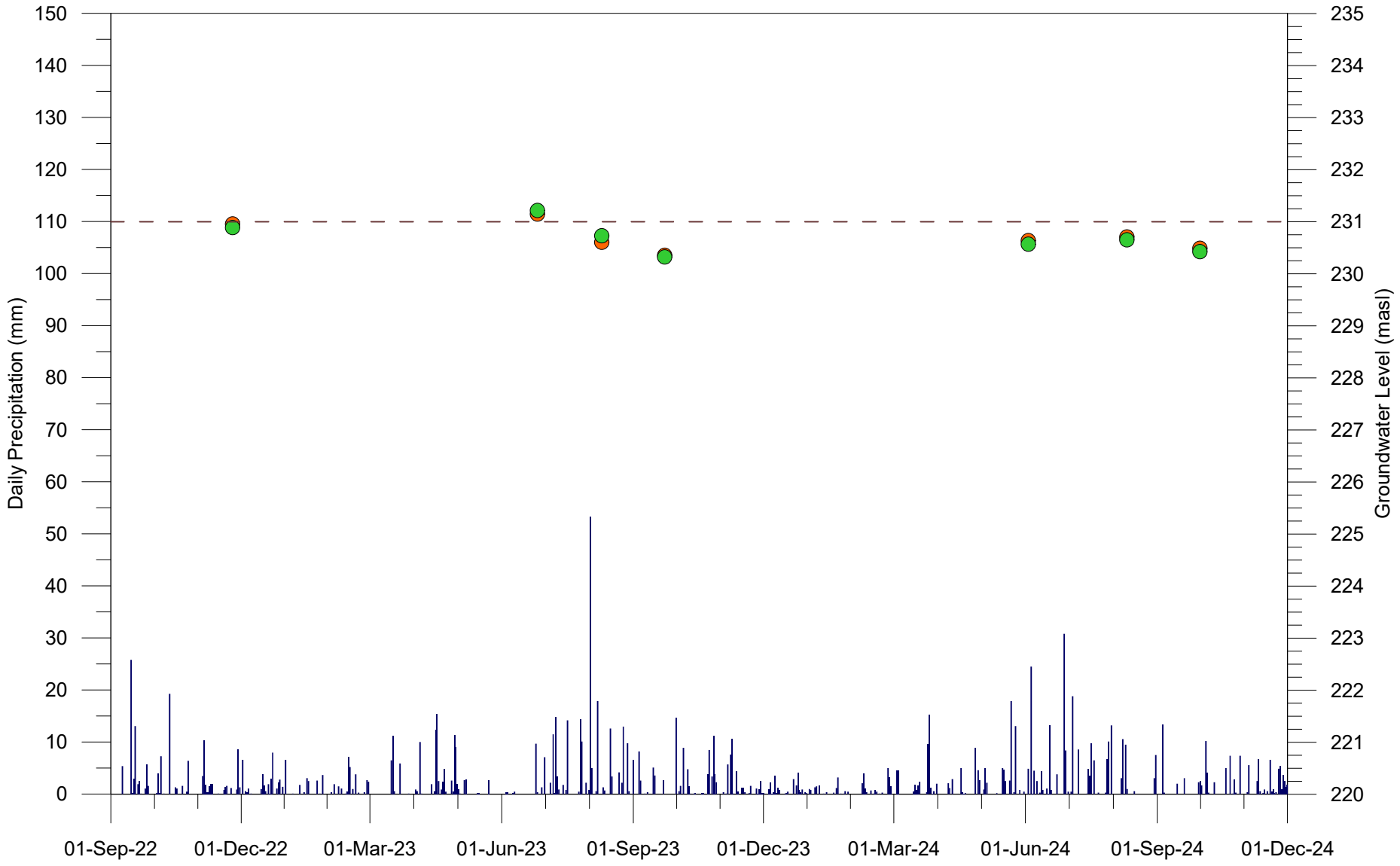
wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-12 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	12



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

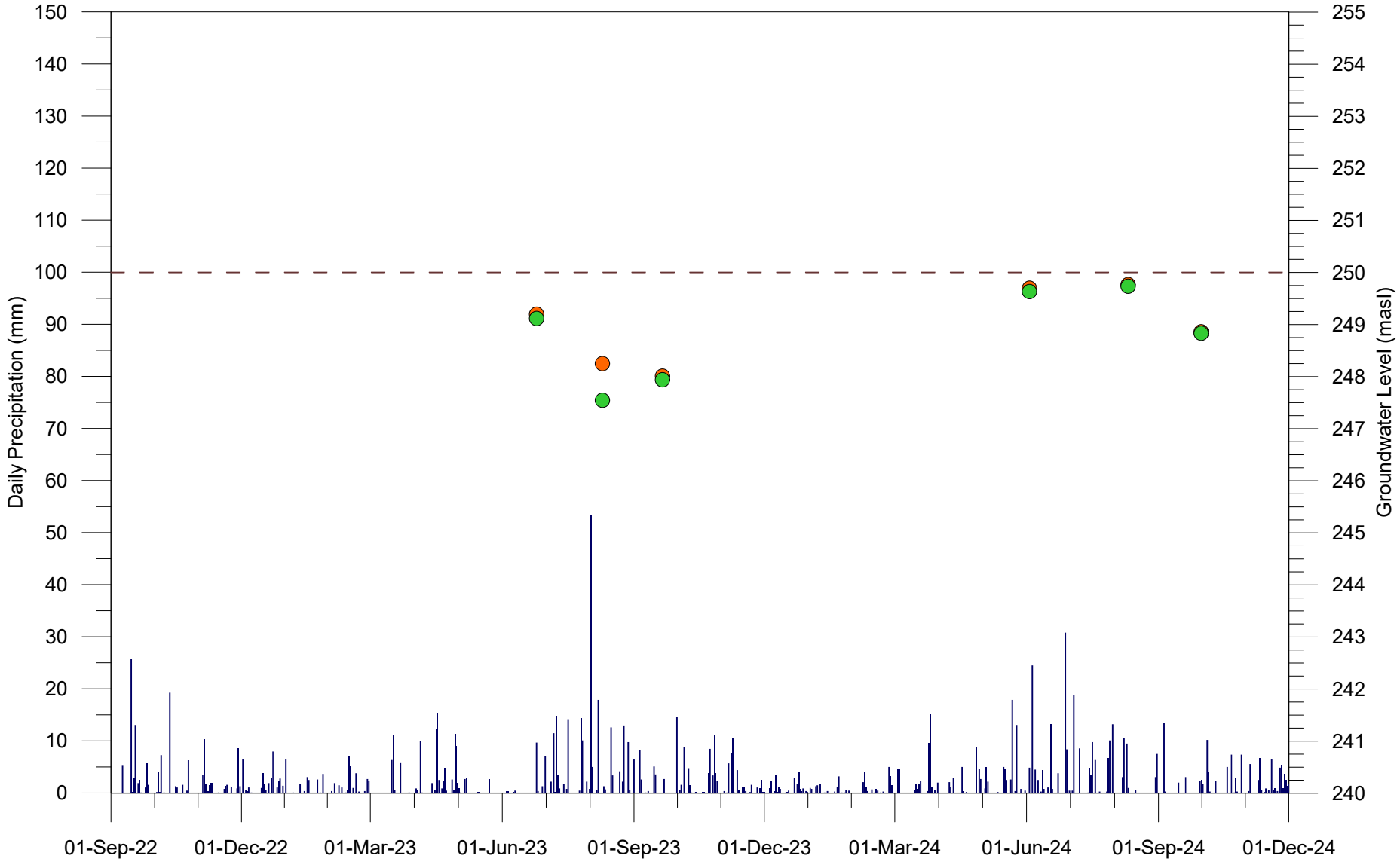
wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-13 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	13



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

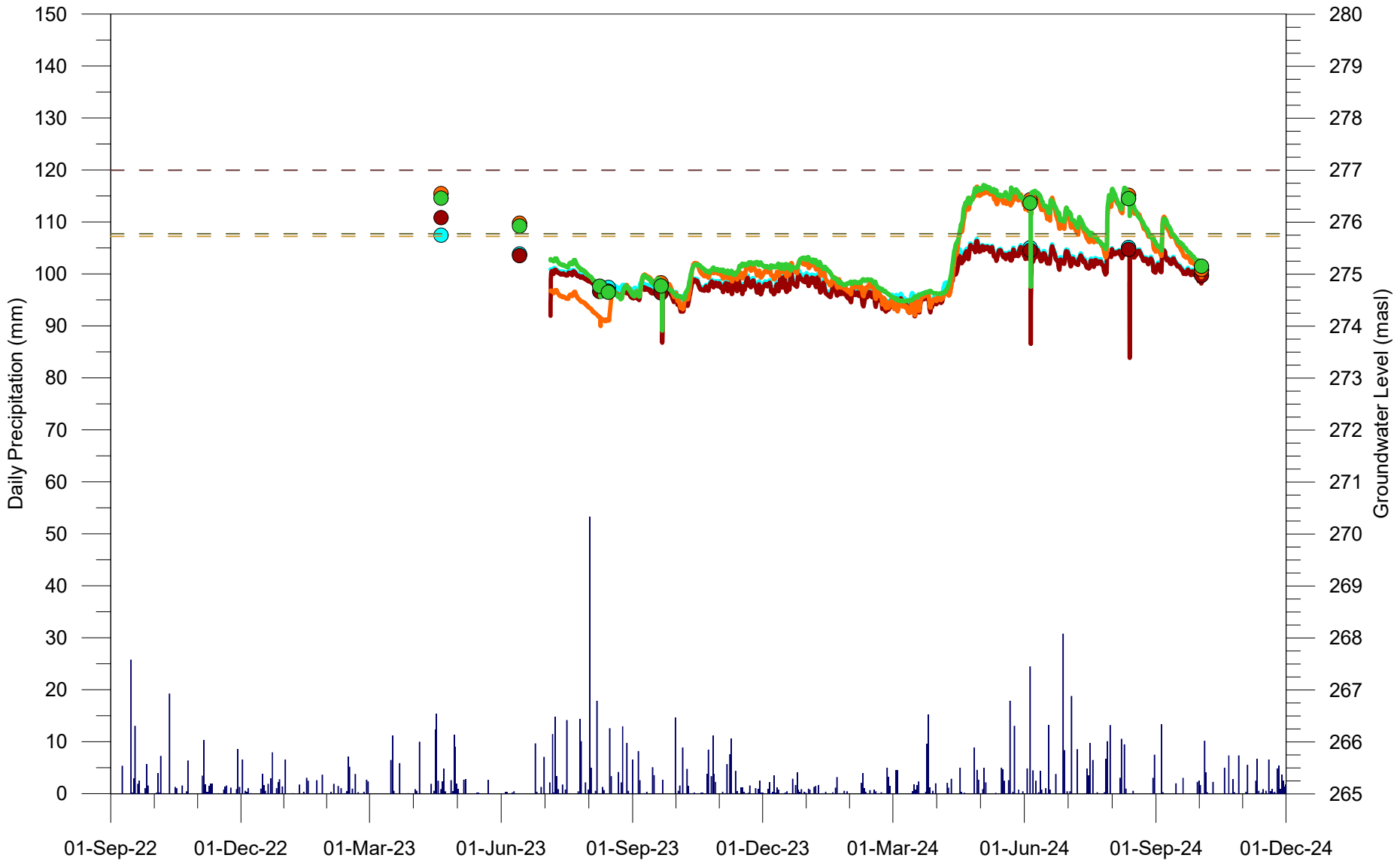
wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-14 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	14



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

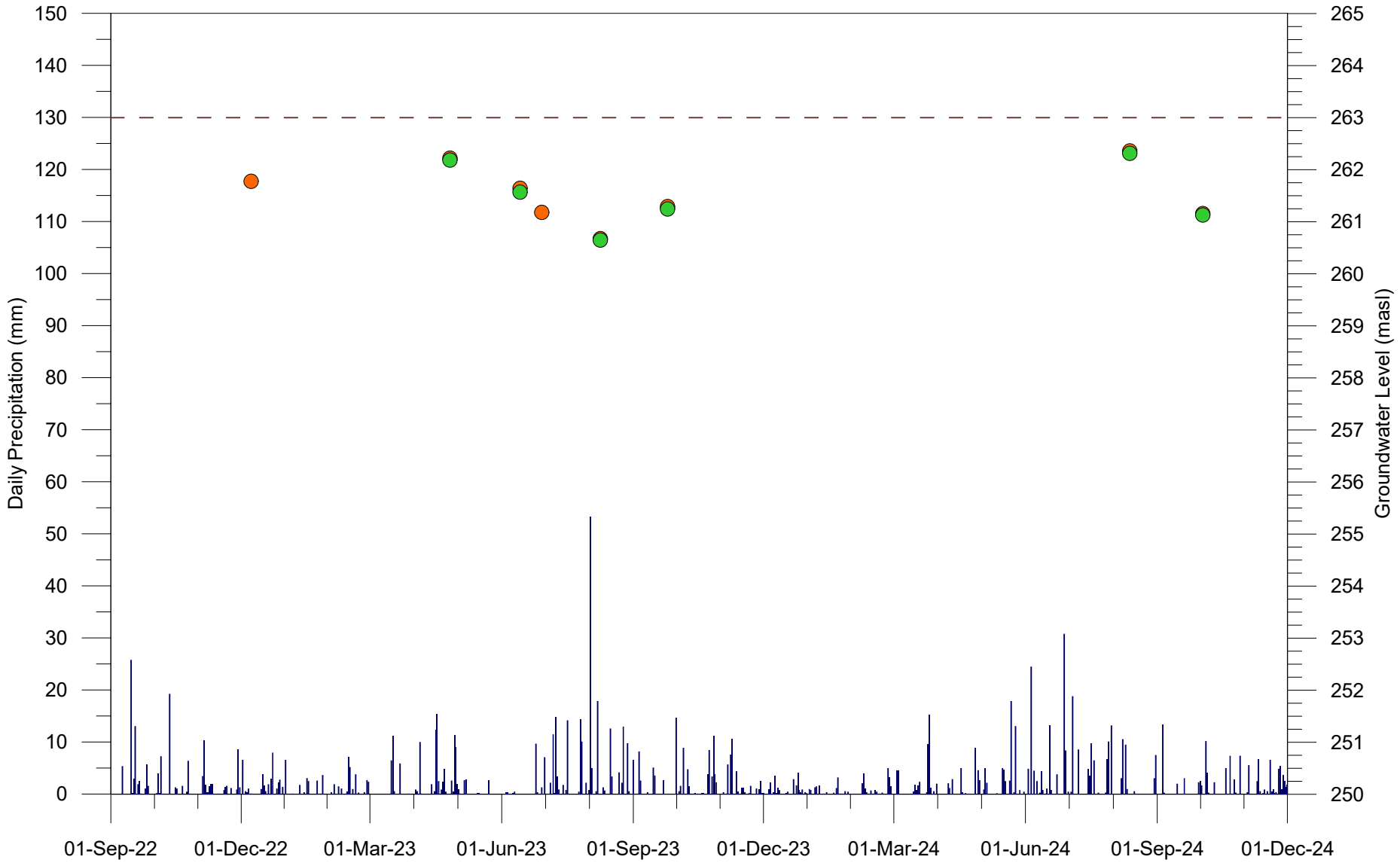
wsp

YYYY-MM-DD 2025-DEC-12
PREPARED MB
DESIGNED MB
REVIEWED
APPROVED

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-15 Hydrographs**

PROJECT NO. GLD-21455151
REV. A
FIGURE 15



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

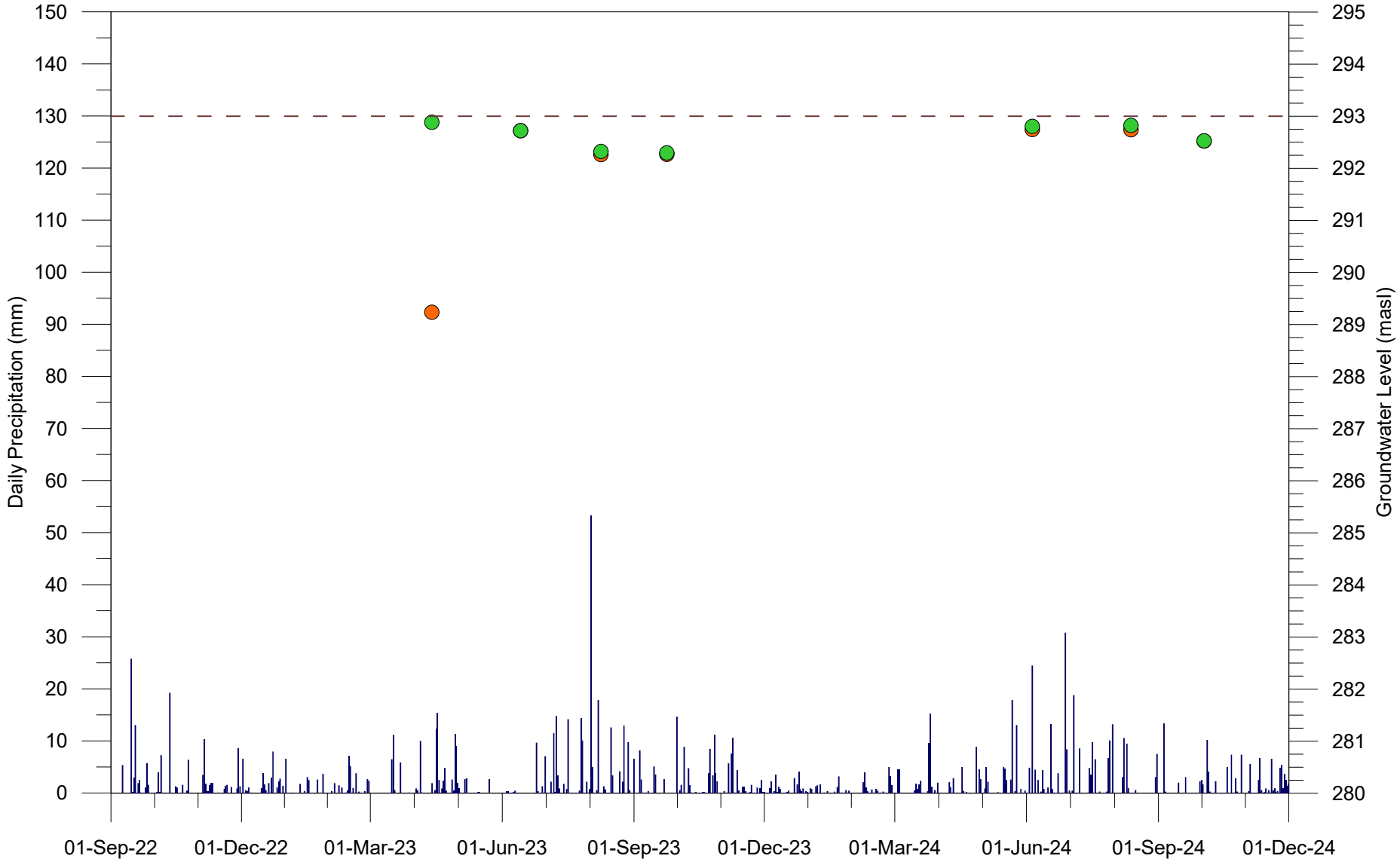
wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-16 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	16



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

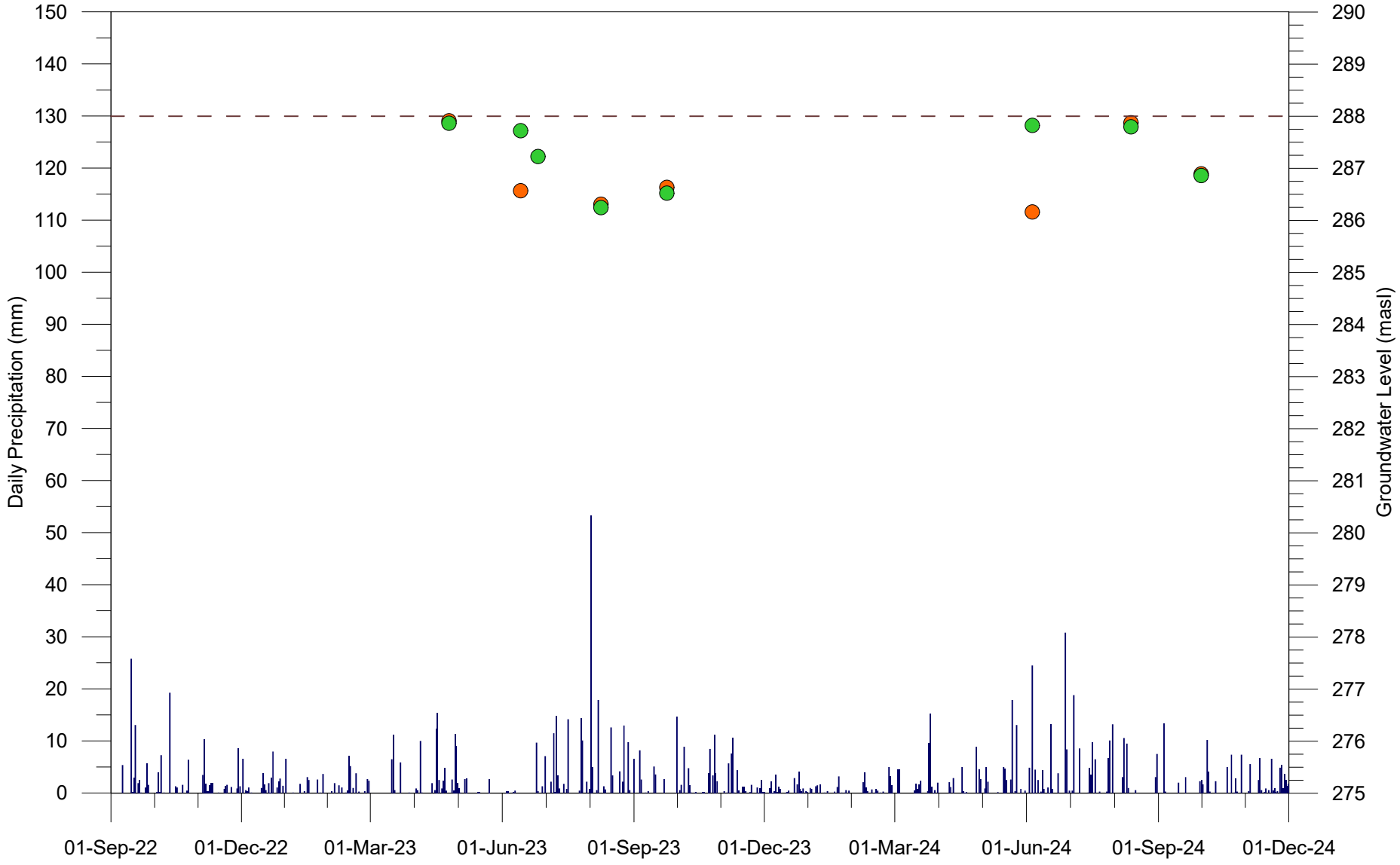
wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-17 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	17



CLIENT **Marten Falls First Nation**

PROJECT **MFFN Community Access Road Environmental Assessment**

Note: Precipitaiton from Geraldton Airport (6042719)

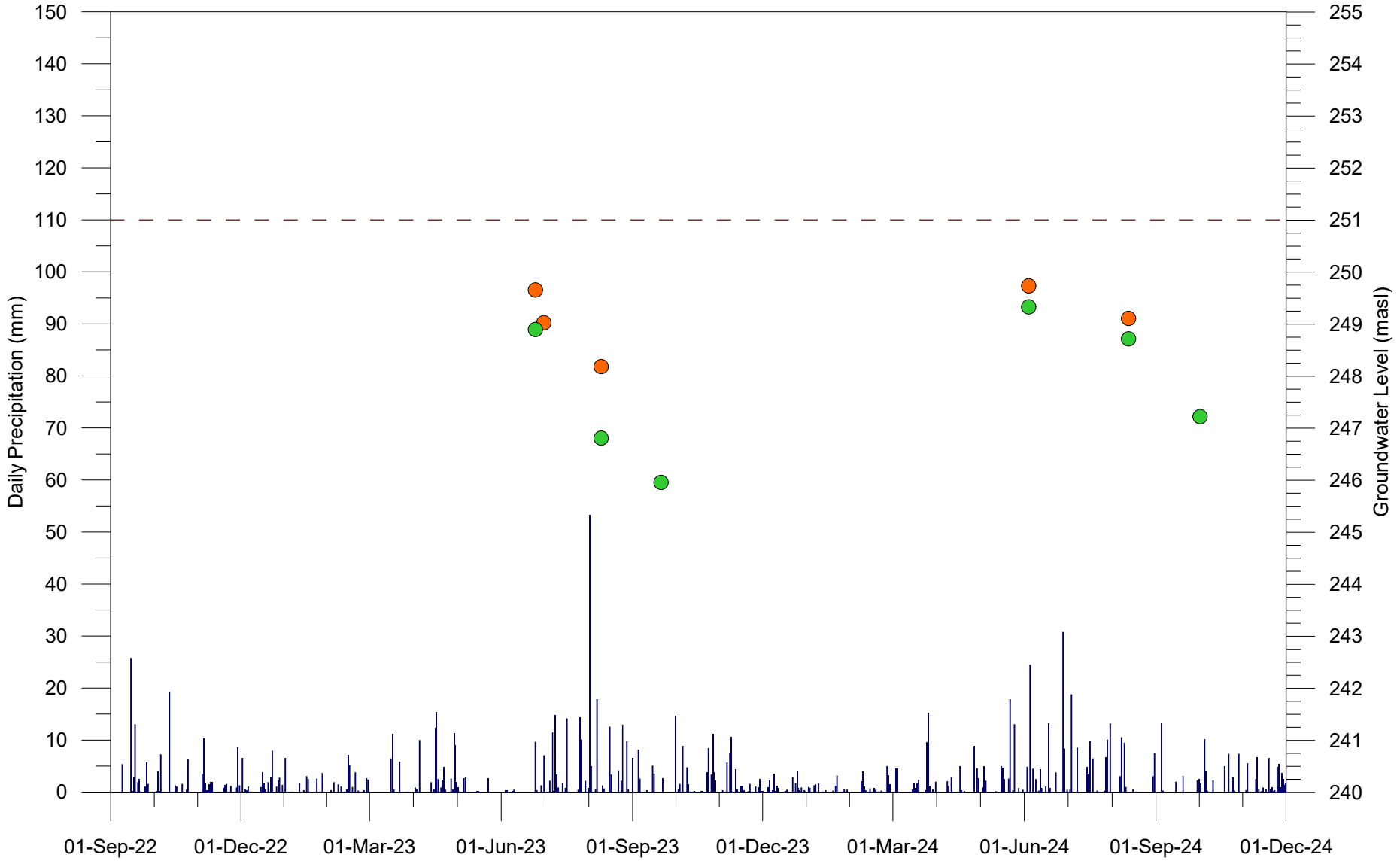
CONSULTANT

wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

TITLE **MW22-18 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	18



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

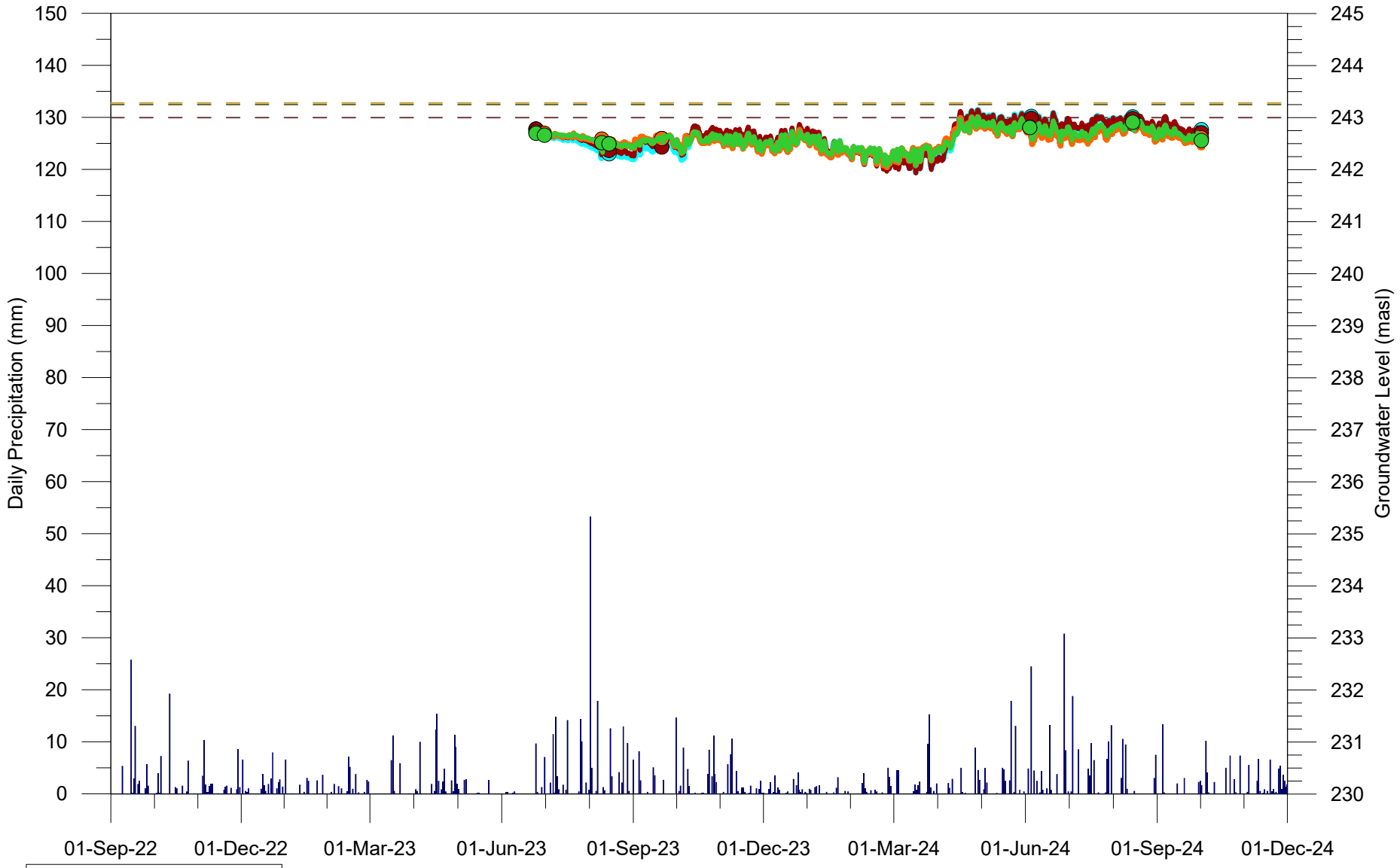
wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-19 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	19



CLIENT **Marten Falls First Nation**

Note: Precipitaiton from Geraldton Airport (6042719)

CONSULTANT

wsp

YYYY-MM-DD	2025-DEC-09
PREPARED	AB
DESIGNED	MB
REVIEWED	
APPROVED	

PROJECT **MFFN Community Access Road Environmental Assessment**

TITLE **MW22-20 Hydrographs**

PROJECT NO.	REV.	FIGURE
GLD-21455151	A	20

Table F1 Groundwater Measurments: Marten Falls Community Access Road
Hydrogeological Investigation, AECOM

Monitoring Well ID	Unit Screened	Screen Interval (mbgs)		Screen Interval (masl)		Hydraulic Conductivity (m/s)	Grade Elevation (masl)	Stick-up (m)	16-Nov-22		17-Nov-22		18-Nov-22		20-Nov-22	
									(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)
MW22-01-1	SILTY SAND	6.1	7.6	237.90	236.40	7.60E-06	244.00	0.563	-	-	-	-	-	-	-	-
MW22-01-2	SILTY CLAY to SILTY SAND	3.7	5.2	240.33	238.83	1.20E-07	244.03	0.672	0.201	243.827	-	-	-	-	-	-
MW22-02-1	SILTY SAND to SILTY CLAY	7	8.5	243.00	241.50	2.70E-08	250.00	0.778	0.697	249.303	-	-	-	-	1.15	248.85
MW22-02-2	SILTY SAND	1.62	3.12	248.46	246.96	1.40E-08	250.08	0.829	0.466	249.609	-	-	-	-	-	-
MW22-03-1	CLAY	3.68	5.18	229.32	227.82	1.40E-05	233.00	0.766	0.274	232.726	-	-	-	-	0.259	232.74
MW22-03-2	SILTY CLAY	1.68	3.12	231.29	229.85	3.40E-08	232.97	0.735	0.175	232.795	-	-	-	-	0.365	232.61
MW22-04-1	SILTY SAND	9.06	10.56	231.11	229.61	1.50E-05	240.17	0.775	-	-	-	-	-	-	-	-
MW22-04-2	SILTY SAND	3.26	4.76	236.94	235.44	-	240.20	0.763	-	-	-	-	-	-	-	-
MW22-05-1	SILTY SAND to SANDY SILT	3.05	4.57	211.95	210.43	1.50E-07	215.00	0.806	-	-	-	-	-	-	-	-
MW22-05-2	SILTY SAND to SANDY SILT	1.52	3.05	213.47	211.94	7.70E-07	214.99	0.789	-	-	-	-	-	-	-	-
MW22-06-1	SAND to SILT	9.14	10.67	210.86	209.33	1.20E-04	220.00	0.875	-	-	-	-	-	-	-	-
MW22-06-2	SAND	6.1	7.62	213.91	212.39	3.60E-04	220.01	0.753	-	-	-	-	-	-	-	-
MW22-07-1	SANDY SILT to CLAYEY SILT	9.14	10.67	158.86	157.33	-	168.00	0.734	-	-	-	-	6.856	161.14	8.726	159.27
MW22-07-2	SANDY SILT to CLAYEY SILT	6.1	7.62	162.04	160.52	-	168.14	0.79	-	-	-	-	4.66	163.48	4.885	163.25
MW22-07-3	SANDY SILT to CLAYEY SILT	6.1	7.62	163.29	161.77	2.60E-07	169.39	0.747	-	-	-	-	5.778	163.61	5.786	163.60
MW22-07-4	SANDY SILT to CLAYEY SILT	6.1	7.62	162.50	160.98	9.30E-08	168.60	0.775	-	-	-	-	4.985	163.62	4.989	163.62
MW22-08-1	CLAY	5.18	6.71	165.82	164.29	8.90E-07	171.00	0.859	-	-	0.485	170.52	0.721	170.28	0.806	170.19
MW22-08-2	CLAY to SILT	1.52	3.05	169.41	167.88	2.10E-07	170.93	0.769	-	-	0.383	170.55	0.503	170.43	0.486	170.44
MW22-09-1	SILT and CLAY	3.51	5.03	168.49	166.97	4.60E-07	172.00	0.755	-	-	0.368	171.63	0.495	171.51	-	-
MW22-09-2	SILT to SILT and CLAY	1.22	2.74	170.77	169.25	4.80E-07	171.99	0.875	-	-	0.314	171.68	0.3	171.69	-	-
MW22-10-1	CLAY to SILT	0.34	3.86	233.66	230.14	3.70E-07	234.00	0.737	-	-	-	-	0.638	233.36	-	-
MW22-10-2	SILT to CLAY	0.91	2.44	233.16	231.63	1.30E-06	234.07	0.886	-	-	-	-	0.649	233.42	-	-
MW22-10-3	SILT to CLAY	1.07	2.59	232.74	231.22	6.30E-07	233.81	0.677	-	-	-	-	0.391	233.42	0.427	233.38
MW22-10-4	SILT to CLAY	1.07	2.59	231.46	229.94	1.40E-05	232.53	0.92	-	-	-	-	-	-	0.312	232.21
MW22-11-1	SILTY SAND	4.08	5.6	228.92	227.40	9.80E-05	233.00	1.025	-	-	-	-	-	-	-	-
MW22-12-1	SILTY SAND	9.14	10.67	218.86	217.33	1.80E-07	228.00	1	-	-	-	-	-	-	-	-
MW22-12-2	SILTY CLAY	4.57	6.1	223.41	221.88	2.20E-08	227.98	1.02	-	-	-	-	-	-	-	-
MW22-12-3	SILTY SAND	4.57	6.1	223.51	221.98	3.20E-07	228.08	0.943	-	-	-	-	-	-	-	-
MW22-12-4	SILTY CLAY	4.57	6.1	223.77	222.24	3.80E-06	228.34	1.035	-	-	-	-	-	-	-	-
MW22-13-1	SAND	6.1	7.62	224.90	223.38	2.50E-05	231.00	0.863	-	-	-	-	-	-	-	-
MW22-13-2	SITLY SAND to SAND	3.05	4.57	227.89	226.37	7.00E-07	230.94	1.004	-	-	-	-	-	-	-	-
MW22-14-1	SITLY SAND to GRAVELLY SAND	4.57	6.1	245.43	243.90	1.20E-07	250.00	0.921	-	-	-	-	-	-	-	-
MW22-14-2	SAND to SILTY SAND	1.52	3.05	248.47	246.94	2.50E-07	249.99	0.918	-	-	-	-	-	-	-	-
MW22-15-1	BEDROCK	4.44	5.97	272.56	271.03	5.10E-07	277.00	1.02	-	-	-	-	-	-	-	-
MW22-15-2	GRAVELLY SILTY and SAND	1.37	2.9	275.62	274.09	-	276.99	0.889	-	-	-	-	-	-	-	-
MW22-15-3	GRAVELLY SILTY and SAND	1.07	2.59	274.71	273.19	1.50E-07	275.78	1.038	-	-	-	-	-	-	-	-
MW22-15-4	GRAVELLY SILTY and SAND	0.76	2.29	274.97	273.44	1.70E-05	275.73	1.142	-	-	-	-	-	-	-	-
MW23-16-1	BEDROCK	3.66	5.18	259.34	257.82	7.50E-06	263.00	0.705	-	-	-	-	-	-	-	-
MW22-16-2	SAMDY SILT to SILT	1.83	3.35	261.03	259.51	1.60E-06	262.86	0.881	-	-	-	-	-	-	-	-
MW22-17-1	BEDROCK	4.78	6.3	288.22	286.70	3.50E-05	293.00	0.942	-	-	-	-	-	-	-	-
MW22-17-2	SAND and GRAVEL	2.13	3.66	290.95	289.42	1.60E-07	293.08	0.747	-	-	-	-	-	-	-	-
MW22-18-1	BEDROCK	4.78	6.3	283.22	281.70	1.10E-07	288.00	1.342	-	-	-	-	-	-	-	-
MW22-18-2	BEDROCK	1.52	3.05	286.63	285.10	1.30E-05	288.15	1.069	-	-	-	-	-	-	-	-
MW22-19-1	GRAVEL	3.66	5.18	247.34	245.82	1.30E-07	251.00	0.827	-	-	-	-	-	-	-	-
MW22-19-2	SAND to SILTY SAND	1.52	3.05	249.46	247.93	-	250.98	0.86	-	-	-	-	-	-	-	-
MW22-20-1	BEDROCK	3.66	5.18	239.34	237.82	1.50E-06	243.00	0.737	-	-	-	-	-	-	-	-
MW22-20-2	SITLY CLAY	0.91	2.44	242.07	240.54	1.20E-06	242.98	0.736	-	-	-	-	-	-	-	-
MW22-20-3	SITLY CLAY	0.91	2.44	242.34	240.81	1.90E-07	243.25	0.794	-	-	-	-	-	-	-	-
MW22-20-4	SITLY CLAY	0.46	1.98	242.82	241.30	2.10E-06	243.28	0.822	-	-	-	-	-	-	-	-

Notes:
mbgs - metres below ground surface
masl - metres above sea level
- groundwater level not taken

Prepared by : AGB
Checked by :

Monitoring Well ID	Unit Screened	Screen Interval (mbgs)		Screen Interval (masl)		Hydraulic Conductivity (m/s)	Grade Elevation (masl)	Stick-up (m)	21-Nov-22		22-Nov-22		23-Nov-22		25-Nov-22	
									(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)
MW22-01-1	SILTY SAND	6.1	7.6	237.90	236.40	7.60E-06	244.00	0.563	-	-	-	-	-	-	-	-
MW22-01-2	SILTY CLAY to SILTY SAND	3.7	5.2	240.33	238.83	1.20E-07	244.03	0.672	-	-	-	-	-	-	-	-
MW22-02-1	SILTY SAND to SILTY CLAY	7	8.5	243.00	241.50	2.70E-08	250.00	0.778	2.747	247.25	-	-	0.463	249.54	-	-
MW22-02-2	SILTY SAND	1.62	3.12	248.46	246.96	1.40E-08	250.08	0.829	-	-	-	-	-	-	-	-
MW22-03-1	CLAY	3.68	5.18	229.32	227.82	1.40E-05	233.00	0.766	0.279	232.72	-	-	-	-	-	-
MW22-03-2	SILTY CLAY	1.68	3.12	231.29	229.85	3.40E-08	232.97	0.735	0.415	232.56	-	-	-	-	-	-
MW22-04-1	SILTY SAND	9.06	10.56	231.11	229.61	1.50E-05	240.17	0.775	-	-	6.647	233.52	-	-	-	-
MW22-04-2	SILTY SAND	3.26	4.76	236.94	235.44	-	240.20	0.763	-	-	-	-	-	-	-	-
MW22-05-1	SILTY SAND to SANDY SILT	3.05	4.57	211.95	210.43	1.50E-07	215.00	0.806	-	-	-	-	-	-	-	-
MW22-05-2	SILTY SAND to SANDY SILT	1.52	3.05	213.47	211.94	7.70E-07	214.99	0.789	-	-	-	-	-	-	-	-
MW22-06-1	SAND to SILT	9.14	10.67	210.86	209.33	1.20E-04	220.00	0.875	-	-	4.43	215.57	-	-	-	-
MW22-06-2	SAND	6.1	7.62	213.91	212.39	3.60E-04	220.01	0.753	-	-	5.447	214.57	-	-	-	-
MW22-07-1	SANDY SILT to CLAYEY SILT	9.14	10.67	158.86	157.33	-	168.00	0.734	9.766	158.23	-	-	10.426	157.57	-	-
MW22-07-2	SANDY SILT to CLAYEY SILT	6.1	7.62	162.04	160.52	-	168.14	0.79	5.39	162.75	-	-	4.91	163.23	-	-
MW22-07-3	SANDY SILT to CLAYEY SILT	6.1	7.62	163.29	161.77	2.60E-07	169.39	0.747	5.883	163.51	-	-	-	-	-	-
MW22-07-4	SANDY SILT to CLAYEY SILT	6.1	7.62	162.50	160.98	9.30E-08	168.60	0.775	5.02	163.58	-	-	-	-	-	-
MW22-08-1	CLAY	5.18	6.71	165.82	164.29	8.90E-07	171.00	0.859	-	-	-	-	-	-	-	-
MW22-08-2	CLAY to SILT	1.52	3.05	169.41	167.88	2.10E-07	170.93	0.769	-	-	-	-	-	-	-	-
MW22-09-1	SILT and CLAY	3.51	5.03	168.49	166.97	4.60E-07	172.00	0.755	-	-	-	-	-	-	-	-
MW22-09-2	SILT to SILT and CLAY	1.22	2.74	170.77	169.25	4.80E-07	171.99	0.875	-	-	-	-	-	-	-	-
MW22-10-1	CLAY to SILT	0.34	3.86	233.66	230.14	3.70E-07	234.00	0.737	0.623	233.38	-	-	-	-	-	-
MW22-10-2	SILT to CLAY	0.91	2.44	233.16	231.63	1.30E-06	234.07	0.886	0.754	233.31	-	-	-	-	-	-
MW22-10-3	SILT to CLAY	1.07	2.59	232.74	231.22	6.30E-07	233.81	0.677	0.479	233.33	-	-	-	-	-	-
MW22-10-4	SILT to CLAY	1.07	2.59	231.46	229.94	1.40E-05	232.53	0.92	0.66	231.87	-	-	0.574	231.95	-	-
MW22-11-1	SILTY SAND	4.08	5.6	228.92	227.40	9.80E-05	233.00	1.025	-	-	-	-	-	-	-	-
MW22-12-1	SILTY SAND	9.14	10.67	218.86	217.33	1.80E-07	228.00	1	-	-	-	-	-	-	-	-
MW22-12-2	SILTY CLAY	4.57	6.1	223.41	221.88	2.20E-08	227.98	1.02	-	-	-	-	-	-	-	-
MW22-12-3	SILTY SAND	4.57	6.1	223.51	221.98	3.20E-07	228.08	0.943	-	-	-	-	-	-	-	-
MW22-12-4	SILTY CLAY	4.57	6.1	223.77	222.24	3.80E-06	228.34	1.035	-	-	-	-	-	-	-	-
MW22-13-1	SAND	6.1	7.62	224.90	223.38	2.50E-05	231.00	0.863	-	-	-	-	-	-	0.117	230.88
MW22-13-2	SITLY SAND to SAND	3.05	4.57	227.89	226.37	7.00E-07	230.94	1.004	-	-	-	-	-	-	-0.014	230.955
MW22-14-1	SITLY SAND to GRAVELLY SAND	4.57	6.1	245.43	243.90	1.20E-07	250.00	0.921	-	-	-	-	-	-	-	-
MW22-14-2	SAND to SILTY SAND	1.52	3.05	248.47	246.94	2.50E-07	249.99	0.918	-	-	-	-	-	-	-	-
MW22-15-1	BEDROCK	4.44	5.97	272.56	271.03	5.10E-07	277.00	1.02	-	-	-	-	-	-	-	-
MW22-15-2	GRAVELLY SILTY and SAND	1.37	2.9	275.62	274.09	-	276.99	0.889	-	-	-	-	-	-	-	-
MW22-15-3	GRAVELLY SILTY and SAND	1.07	2.59	274.71	273.19	1.50E-07	275.78	1.038	-	-	-	-	-	-	-	-
MW22-15-4	GRAVELLY SILTY and SAND	0.76	2.29	274.97	273.44	1.70E-05	275.73	1.142	-	-	-	-	-	-	-	-
MW23-16-1	BEDROCK	3.66	5.18	259.34	257.82	7.50E-06	263.00	0.705	-	-	-	-	-	-	-	-
MW22-16-2	SAMDY SILT to SILT	1.83	3.35	261.03	259.51	1.60E-06	262.86	0.881	-	-	-	-	-	-	-	-
MW22-17-1	BEDROCK	4.78	6.3	288.22	286.70	3.50E-05	293.00	0.942	-	-	-	-	-	-	-	-
MW22-17-2	SAND and GRAVEL	2.13	3.66	290.95	289.42	1.60E-07	293.08	0.747	-	-	-	-	-	-	-	-
MW22-18-1	BEDROCK	4.78	6.3	283.22	281.70	1.10E-07	288.00	1.342	-	-	-	-	-	-	-	-
MW22-18-2	BEDROCK	1.52	3.05	286.63	285.10	1.30E-05	288.15	1.069	-	-	-	-	-	-	-	-
MW22-19-1	GRAVEL	3.66	5.18	247.34	245.82	1.30E-07	251.00	0.827	-	-	-	-	-	-	-	-
MW22-19-2	SAND to SILTY SAND	1.52	3.05	249.46	247.93	-	250.98	0.86	-	-	-	-	-	-	-	-
MW22-20-1	BEDROCK	3.66	5.18	239.34	237.82	1.50E-06	243.00	0.737	-	-	-	-	-	-	-	-
MW22-20-2	SITLY CLAY	0.91	2.44	242.07	240.54	1.20E-06	242.98	0.736	-	-	-	-	-	-	-	-
MW22-20-3	SITLY CLAY	0.91	2.44	242.34	240.81	1.90E-07	243.25	0.794	-	-	-	-	-	-	-	-
MW22-20-4	SITLY CLAY	0.46	1.98	242.82	241.30	2.10E-06	243.28	0.822	-	-	-	-	-	-	-	-

Notes:
mbgs - metres below ground surface
masl - metres above sea level
- groundwater level not taken

Prepared by : AGB
Checked by :

Monitoring Well ID	Unit Screened	Screen Interval (mbgs)		Screen Interval (masl)		Hydraulic Conductivity (m/s)	Grade Elevation (masl)	Stick-up (m)	08-Dec-22		13 to 26 April, 2023		14 Jun to 1 Jul, 2023		8 to 15 August, 2023	
									(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)
MW22-01-1	SILTY SAND	6.1	7.6	237.90	236.40	7.60E-06	244.00	0.563	-	-	-	-	-	-	0.239	243.761
MW22-01-2	SILTY CLAY to SILTY SAND	3.7	5.2	240.33	238.83	1.20E-07	244.03	0.672	-	-	-	-	-	-	0.943	243.085
MW22-02-1	SILTY SAND to SILTY CLAY	7	8.5	243.00	241.50	2.70E-08	250.00	0.778	-	-	-	-	-	-	2.194	247.806
MW22-02-2	SILTY SAND	1.62	3.12	248.46	246.96	1.40E-08	250.08	0.829	-	-	-	-	-	-	1.656	248.419
MW22-03-1	CLAY	3.68	5.18	229.32	227.82	1.40E-05	233.00	0.766	-	-	-	-	0.279	232.721	1.018	231.982
MW22-03-2	SILTY CLAY	1.68	3.12	231.29	229.85	3.40E-08	232.97	0.735	-	-	-	-	0.385	232.585	0.94	232.03
MW22-04-1	SILTY SAND	9.06	10.56	231.11	229.61	1.50E-05	240.17	0.775	-	-	-	-	-	-	6.693	233.477
MW22-04-2	SILTY SAND	3.26	4.76	236.94	235.44	-	240.20	0.763	-	-	-	-	-	-	4.41	235.788
MW22-05-1	SILTY SAND to SANDY SILT	3.05	4.57	211.95	210.43	1.50E-07	215.00	0.806	-	-	-	-	0.034	214.966	0.134	214.866
MW22-05-2	SILTY SAND to SANDY SILT	1.52	3.05	213.47	211.94	7.70E-07	214.99	0.789	-	-	-	-	0.166	214.82	0.181	214.805
MW22-06-1	SAND to SILT	9.14	10.67	210.86	209.33	1.20E-04	220.00	0.875	-	-	-	-	5.035	214.965	5.319	214.681
MW22-06-2	SAND	6.1	7.62	213.91	212.39	3.60E-04	220.01	0.753	-	-	-	-	5.037	214.98	5.317	214.695
MW22-07-1	SANDY SILT to CLAYEY SILT	9.14	10.67	158.86	157.33	-	168.00	0.734	-	-	-	-	-	-	6.954	161.046
MW22-07-2	SANDY SILT to CLAYEY SILT	6.1	7.62	162.04	160.52	-	168.14	0.79	-	-	-	-	-	-	4.263	163.876
MW22-07-3	SANDY SILT to CLAYEY SILT	6.1	7.62	163.29	161.77	2.60E-07	169.39	0.747	-	-	-	-	-	-	5.649	163.739
MW22-07-4	SANDY SILT to CLAYEY SILT	6.1	7.62	162.50	160.98	9.30E-08	168.60	0.775	-	-	-	-	-	-	4.713	163.891
MW22-08-1	CLAY	5.18	6.71	165.82	164.29	8.90E-07	171.00	0.859	-	-	-	-	0.731	170.269	0.985	170.015
MW22-08-2	CLAY to SILT	1.52	3.05	169.41	167.88	2.10E-07	170.93	0.769	-	-	-	-	0.456	170.474	0.683	170.247
MW22-09-1	SILT and CLAY	3.51	5.03	168.49	166.97	4.60E-07	172.00	0.755	-	-	-	-	0.465	171.535	0.368	171.632
MW22-09-2	SILT to SILT and CLAY	1.22	2.74	170.77	169.25	4.80E-07	171.99	0.875	-	-	-	-	0.445	171.547	0.43	171.562
MW22-10-1	CLAY to SILT	0.34	3.86	233.66	230.14	3.70E-07	234.00	0.737	-	-	-	-	0.724	233.276	0.818	233.182
MW22-10-2	SILT to CLAY	0.91	2.44	233.16	231.63	1.30E-06	234.07	0.886	-	-	-	-	0.729	233.337	0.782	233.284
MW22-10-3	SILT to CLAY	1.07	2.59	232.74	231.22	6.30E-07	233.81	0.677	-	-	-	-	0.553	233.254	0.486	233.321
MW22-10-4	SILT to CLAY	1.07	2.59	231.46	229.94	1.40E-05	232.53	0.92	-	-	-	-	0.505	232.021	0.483	232.043
MW22-11-1	SILTY SAND	4.08	5.6	228.92	227.40	9.80E-05	233.00	1.025	-	-	-	-	0.035	232.965	0.09	232.91
MW22-12-1	SILTY SAND	9.14	10.67	218.86	217.33	1.80E-07	228.00	1	-	-	-	-	-0.285	228.285	-0.096	228.096
MW22-12-2	SILTY CLAY	4.57	6.1	223.41	221.88	2.20E-08	227.98	1.02	-	-	-	-	0.09	227.886	1.3	226.676
MW22-12-3	SILTY SAND	4.57	6.1	223.51	221.98	3.20E-07	228.08	0.943	-	-	-	-	-0.153	228.229	0.26	227.816
MW22-12-4	SILTY CLAY	4.57	6.1	223.77	222.24	3.80E-06	228.34	1.035	-	-	-	-	-0.265	228.606	0.041	228.3
MW22-13-1	SAND	6.1	7.62	224.90	223.38	2.50E-05	231.00	0.863	-	-	-	-	-0.213	231.213	0.271	230.729
MW22-13-2	SITLY SAND to SAND	3.05	4.57	227.89	226.37	7.00E-07	230.94	1.004	-	-	-	-	-0.204	231.145	0.341	230.6
MW22-14-1	SITLY SAND to GRAVELLY SAND	4.57	6.1	245.43	243.90	1.20E-07	250.00	0.921	-	-	-	-	0.889	249.111	2.459	247.541
MW22-14-2	SAND to SILTY SAND	1.52	3.05	248.47	246.94	2.50E-07	249.99	0.918	-	-	-	-	0.792	249.197	1.745	248.244
MW22-15-1	BEDROCK	4.44	5.97	272.56	271.03	5.10E-07	277.00	1.02	-	-	0.54	276.46	1.08	275.92	2.351	274.649
MW22-15-2	GRAVELLY SILTY and SAND	1.37	2.9	275.62	274.09	-	276.99	0.889	-	-	0.441	276.548	1.011	275.978	2.327	274.662
MW22-15-3	GRAVELLY SILTY and SAND	1.07	2.59	274.71	273.19	1.50E-07	275.78	1.038	-	-	-0.308	276.084	0.422	275.354	1.109	274.667
MW22-15-4	GRAVELLY SILTY and SAND	0.76	2.29	274.97	273.44	1.70E-05	275.73	1.142	-	-	-0.017	275.744	0.343	275.384	0.985	274.742
MW23-16-1	BEDROCK	3.66	5.18	259.34	257.82	7.50E-06	263.00	0.705	-	-	0.82	262.18	1.435	261.565	2.355	260.645
MW22-16-2	SAMDY SILT to SILT	1.83	3.35	261.03	259.51	1.60E-06	262.86	0.881	1.082	261.77	0.639	262.217	1.215	261.641	2.184	260.672
MW22-17-1	BEDROCK	4.78	6.3	288.22	286.70	3.50E-05	293.00	0.942	-	-	0.118	292.882	0.283	292.717	0.68	292.32
MW22-17-2	SAND and GRAVEL	2.13	3.66	290.95	289.42	1.60E-07	293.08	0.747	-	-	3.853	289.231	0.367	292.717	0.823	292.261
MW22-18-1	BEDROCK	4.78	6.3	283.22	281.70	1.10E-07	288.00	1.342	-	-	0.138	287.862	0.283	287.717	1.758	286.242
MW22-18-2	BEDROCK	1.52	3.05	286.63	285.10	1.30E-05	288.15	1.069	-	-	0.246	287.906	1.586	286.566	1.845	286.307
MW22-19-1	GRAVEL	3.66	5.18	247.34	245.82	1.30E-07	251.00	0.827	-	-	-	-	2.108	248.892	4.192	246.808
MW22-19-2	SAND to SILTY SAND	1.52	3.05	249.46	247.93	-	250.98	0.86	-	-	-	-	1.33	249.654	2.804	248.18
MW22-20-1	BEDROCK	3.66	5.18	239.34	237.82	1.50E-06	243.00	0.737	-	-	-	-	0.303	242.697	0.51	242.49
MW22-20-2	SITLY CLAY	0.91	2.44	242.07	240.54	1.20E-06	242.98	0.736	-	-	-	-	0.264	242.717	0.484	242.497
MW22-20-3	SITLY CLAY	0.91	2.44	242.34	240.81	1.90E-07	243.25	0.794	-	-	-	-	0.475	242.772	0.882	242.365
MW22-20-4	SITLY CLAY	0.46	1.98	242.82	241.30	2.10E-06	243.28	0.822	-	-	-	-	0.503	242.776	0.977	242.302

Notes:
mbgs - metres below ground surface
masl - metres above sea level
- groundwater level not taken

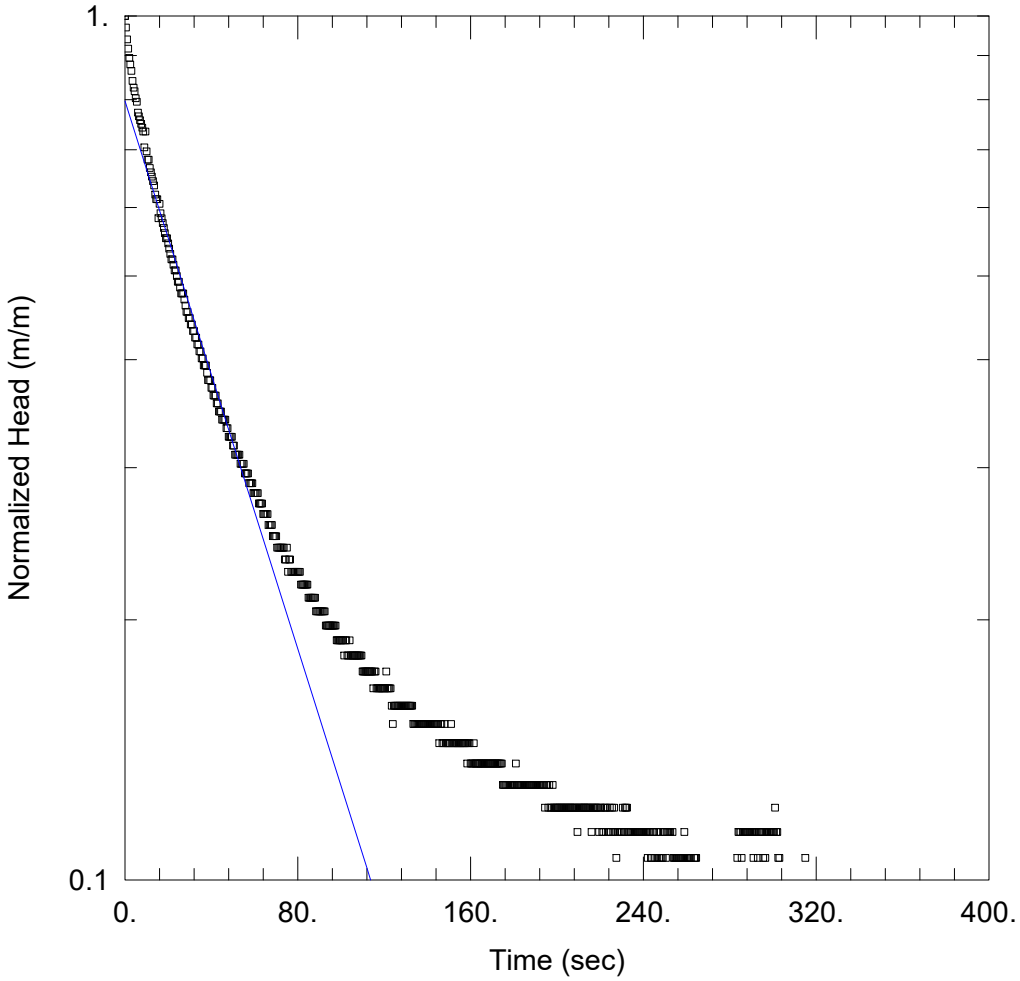
Prepared by : AGB
Checked by :

Monitoring Well ID	Unit Screened	Screen Interval (mbgs)		Screen Interval (masl)		Hydraulic Conductivity (m/s)	Grade Elevation (masl)	Stick-up (m)	20 to 25 Sep, 2023		03 to 10 Jun, 2024		11 to 15 Aug, 2024		29 Sep to 03 Oct, 2024	
									(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)
MW22-01-1	SILTY SAND	6.1	7.6	237.90	236.40	7.60E-06	244.00	0.563	-0.023	243.46	0	244	0.09	243.91	0.4	243.6
MW22-01-2	SILTY CLAY to SILTY SAND	3.7	5.2	240.33	238.83	1.20E-07	244.03	0.672	0.303	243.725	0.058	243.97	0.093	243.935	0.289	243.739
MW22-02-1	SILTY SAND to SILTY CLAY	7	8.5	243.00	241.50	2.70E-08	250.00	0.778	1.602	248.398	0.612	249.388	0.587	249.413	1.332	248.668
MW22-02-2	SILTY SAND	1.62	3.12	248.46	246.96	1.40E-08	250.08	0.829	0.871	249.204	0.281	249.794	0.306	249.769	1.041	249.034
MW22-03-1	CLAY	3.68	5.18	229.32	227.82	1.40E-05	233.00	0.766	1.274	231.726	-0.156	233.156	-	-	0.844	232.156
MW22-03-2	SILTY CLAY	1.68	3.12	231.29	229.85	3.40E-08	232.97	0.735	1.145	231.825	-0.048	233.018	-	-	0.683	232.287
MW22-04-1	SILTY SAND	9.06	10.56	231.11	229.61	1.50E-05	240.17	0.775	6.915	233.255	6.895	233.275	6.675	233.495	6.865	233.305
MW22-04-2	SILTY SAND	3.26	4.76	236.94	235.44	-	240.20	0.763	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW22-05-1	SILTY SAND to SANDY SILT	3.05	4.57	211.95	210.43	1.50E-07	215.00	0.806	0.189	214.811	-	-	0.134	214.866	0.239	214.761
MW22-05-2	SILTY SAND to SANDY SILT	1.52	3.05	213.47	211.94	7.70E-07	214.99	0.789	0.291	214.695	-	-	0.176	214.81	0.241	214.745
MW22-06-1	SAND to SILT	9.14	10.67	210.86	209.33	1.20E-04	220.00	0.875	5.54	214.46	-	-	5.34	214.66	5.49	214.51
MW22-06-2	SAND	6.1	7.62	213.91	212.39	3.60E-04	220.01	0.753	5.547	214.465	-	-	5.342	214.67	5.505	214.507
MW22-07-1	SANDY SILT to CLAYEY SILT	9.14	10.67	158.86	157.33	-	168.00	0.734	7.161	160.839	5.652	162.348	6.386	161.614	7.406	160.594
MW22-07-2	SANDY SILT to CLAYEY SILT	6.1	7.62	162.04	160.52	-	168.14	0.79	4.75	163.389	4.022	164.117	-	-	4.645	163.494
MW22-07-3	SANDY SILT to CLAYEY SILT	6.1	7.62	163.29	161.77	2.60E-07	169.39	0.747	5.943	163.445	6.053	163.335	5.533	163.855	5.763	163.625
MW22-07-4	SANDY SILT to CLAYEY SILT	6.1	7.62	162.50	160.98	9.30E-08	168.60	0.775	5.095	163.509	4.134	164.47	4.685	163.919	4.955	163.649
MW22-08-1	CLAY	5.18	6.71	165.82	164.29	8.90E-07	171.00	0.859	0.816	170.184	0.468	170.532	0.481	170.519	0.592	170.408
MW22-08-2	CLAY to SILT	1.52	3.05	169.41	167.88	2.10E-07	170.93	0.769	0.543	170.387	0.306	170.624	0.313	170.617	0.405	170.525
MW22-09-1	SILT and CLAY	3.51	5.03	168.49	166.97	4.60E-07	172.00	0.755	0.55	171.45	0.315	171.685	0.355	171.645	0.385	171.615
MW22-09-2	SILT to SILT and CLAY	1.22	2.74	170.77	169.25	4.80E-07	171.99	0.875	0.495	171.497	0.23	171.762	0.285	171.707	0.332	171.66
MW22-10-1	CLAY to SILT	0.34	3.86	233.66	230.14	3.70E-07	234.00	0.737	1.093	232.907	-	-	0.518	233.482	0.753	233.247
MW22-10-2	SILT to CLAY	0.91	2.44	233.16	231.63	1.30E-06	234.07	0.886	1.124	232.942	-	-	0.549	233.517	0.706	233.36
MW22-10-3	SILT to CLAY	1.07	2.59	232.74	231.22	6.30E-07	233.81	0.677	0.803	233.004	-	-	0.318	233.489	0.473	233.334
MW22-10-4	SILT to CLAY	1.07	2.59	231.46	229.94	1.40E-05	232.53	0.92	0.776	231.75	-	-	0.235	232.291	0.47	232.056
MW22-11-1	SILTY SAND	4.08	5.6	228.92	227.40	9.80E-05	233.00	1.025	0.205	232.795	-	-	0.075	232.925	0.063	232.937
MW22-12-1	SILTY SAND	9.14	10.67	218.86	217.33	1.80E-07	228.00	1	0.135	227.865	-0.142	228.142	-0.08	228.08	0.017	227.983
MW22-12-2	SILTY CLAY	4.57	6.1	223.41	221.88	2.20E-08	227.98	1.02	0.65	227.326	-0.009	227.985	0.01	227.966	0.2	228.796
MW22-12-3	SILTY SAND	4.57	6.1	223.51	221.98	3.20E-07	228.08	0.943	0.402	227.674	0.052	228.024	0.012	228.064	0.137	227.939
MW22-12-4	SILTY CLAY	4.57	6.1	223.77	222.24	3.80E-06	228.34	1.035	0.315	228.026	0.122	228.219	0.115	228.226	0.19	228.151
MW22-13-1	SAND	6.1	7.62	224.90	223.38	2.50E-05	231.00	0.863	0.682	230.318	0.437	230.563	0.352	230.648	0.577	230.423
MW22-13-2	SITLY SAND to SAND	3.05	4.57	227.89	226.37	7.00E-07	230.94	1.004	0.591	230.35	0.306	230.635	0.236	230.705	0.456	230.485
MW22-14-1	SITLY SAND to GRAVELLY SAND	4.57	6.1	245.43	243.90	1.20E-07	250.00	0.921	2.064	247.936	0.369	249.631	0.269	249.731	1.169	248.831
MW22-14-2	SAND to SILTY SAND	1.52	3.05	248.47	246.94	2.50E-07	249.99	0.918	1.982	248.007	0.292	249.697	0.227	249.762	1.132	248.857
MW22-15-1	BEDROCK	4.44	5.97	272.56	271.03	5.10E-07	277.00	1.02	2.23	274.77	0.636	276.364	0.55	276.45	1.85	275.15
MW22-15-2	GRAVELLY SILTY and SAND	1.37	2.9	275.62	274.09	-	276.99	0.889	2.161	274.828	0.561	276.428	0.476	276.513	1.901	275.088
MW22-15-3	GRAVELLY SILTY and SAND	1.07	2.59	274.71	273.19	1.50E-07	275.78	1.038	1.142	274.634	0.322	275.454	0.302	275.474	0.805	274.971
MW22-15-4	GRAVELLY SILTY and SAND	0.76	2.29	274.97	273.44	1.70E-05	275.73	1.142	1.008	274.719	0.223	275.504	0.218	275.509	0.658	275.069
MW23-16-1	BEDROCK	3.66	5.18	259.34	257.82	7.50E-06	263.00	0.705	1.76	261.24	-	-	0.69	262.31	1.875	261.125
MW22-16-2	SAMDY SILT to SILT	1.83	3.35	261.03	259.51	1.60E-06	262.86	0.881	1.569	261.287	-	-	0.499	262.357	1.702	261.154
MW22-17-1	BEDROCK	4.78	6.3	288.22	286.70	3.50E-05	293.00	0.942	0.708	292.292	0.2	292.8	0.178	292.822	0.478	292.522
MW22-17-2	SAND and GRAVEL	2.13	3.66	290.95	289.42	1.60E-07	293.08	0.747	0.818	292.266	0.343	292.741	0.348	292.736	0.563	292.521
MW22-18-1	BEDROCK	4.78	6.3	283.22	281.70	1.10E-07	288.00	1.342	1.483	286.517	0.181	287.819	0.208	287.792	1.141	286.859
MW22-18-2	BEDROCK	1.52	3.05	286.63	285.10	1.30E-05	288.15	1.069	1.521	286.631	1.996	286.156	0.281	287.871	1.261	286.891
MW22-19-1	GRAVEL	3.66	5.18	247.34	245.82	1.30E-07	251.00	0.827	5.048	245.952	1.673	249.327	2.288	248.712	3.783	247.217
MW22-19-2	SAND to SILTY SAND	1.52	3.05	249.46	247.93	-	250.98	0.86	DRY	DRY	1.25	249.734	1.875	249.109	DRY	DRY
MW22-20-1	BEDROCK	3.66	5.18	239.34	237.82	1.50E-06	243.00	0.737	1.113	241.887	0.193	242.807	0.093	242.907	0.443	242.557
MW22-20-2	SITLY CLAY	0.91	2.44	242.07	240.54	1.20E-06	242.98	0.736	0.39	242.591	0.169	242.812	0.104	242.877	0.374	242.607
MW22-20-3	SITLY CLAY	0.91	2.44	242.34	240.81	1.90E-07	243.25	0.794	0.816	242.431	0.266	242.981	0.271	242.976	0.541	242.706
MW22-20-4	SITLY CLAY	0.46	1.98	242.82	241.30	2.10E-06	243.28	0.822	0.688	242.591	0.258	243.021	0.268	243.011	0.513	242.766

Notes:
mbgs - metres below ground surface
masl - metres above sea level
- groundwater level not taken

Prepared by : AGB
Checked by :

Attachment G – Hydraulic Conductivity Testing



MW22-01-01 RHT ANALYSIS

Data Set: C:\...\MW22-01-1 RHT.aqt
Date: 05/23/24 Time: 16:18:39

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-01-01
Test Date: 18/08/2023

AQUIFER DATA

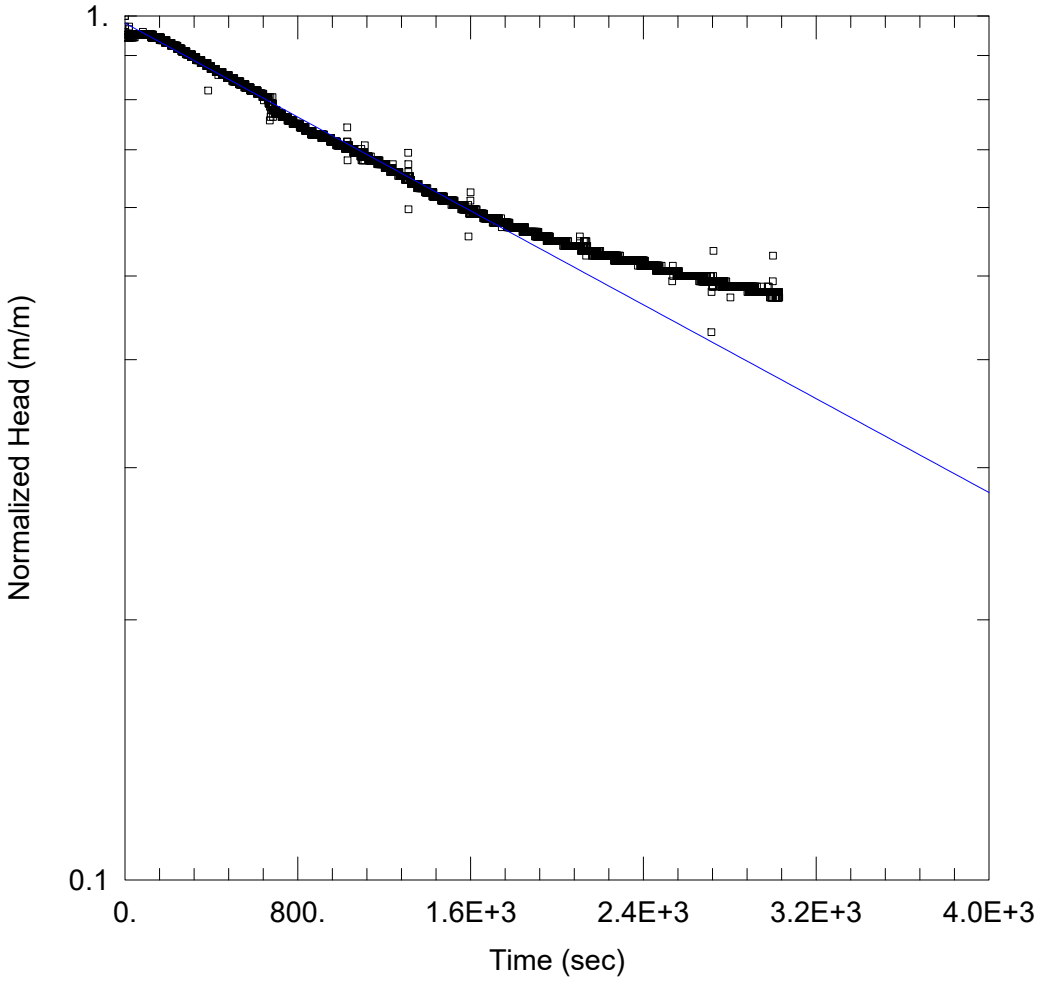
Saturated Thickness: 8.54 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-01-01)

Initial Displacement: 0.132 m
Total Well Penetration Depth: 8.54 m
Casing Radius: 0.019 m
Static Water Column Height: 8.54 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 7.6E-6 m/sec
y0 = 0.1052 m



MW22-01-02 RHT ANALYSIS

Data Set: C:\...\MW22-01-2 RHT.aqt
Date: 05/23/24 Time: 16:14:50

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-01-02
Test Date: 18/08/2023

AQUIFER DATA

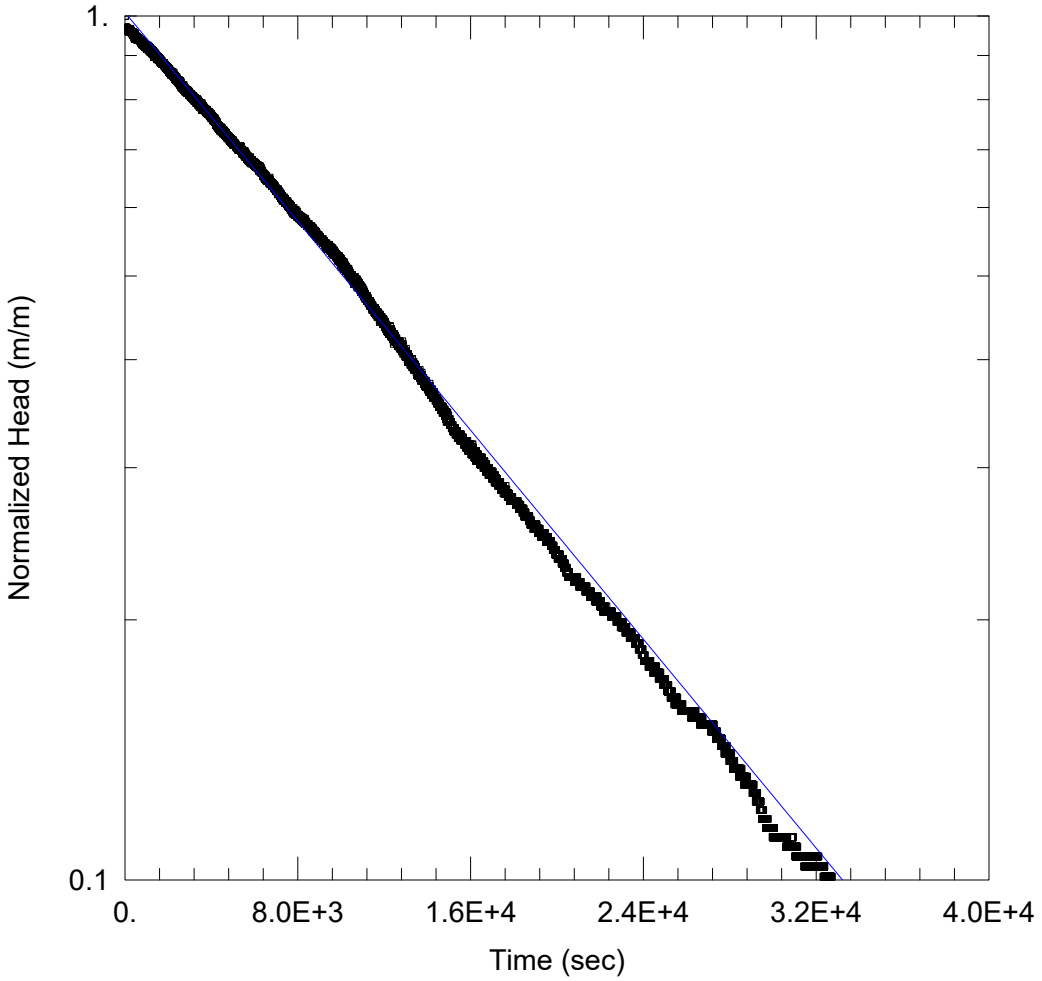
Saturated Thickness: 4.46 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-01-02)

Initial Displacement: 0.144 m
Total Well Penetration Depth: 4.46 m
Casing Radius: 0.019 m
Static Water Column Height: 4.46 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.171E-7 m/sec
y0 = 0.1412 m



MW22-02-01 RHT ANALYSIS

Data Set: C:\...\MW22-02-1 RHT.aqt
Date: 05/23/24 Time: 16:23:21

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-02-01
Test Date: 15/08/2023

AQUIFER DATA

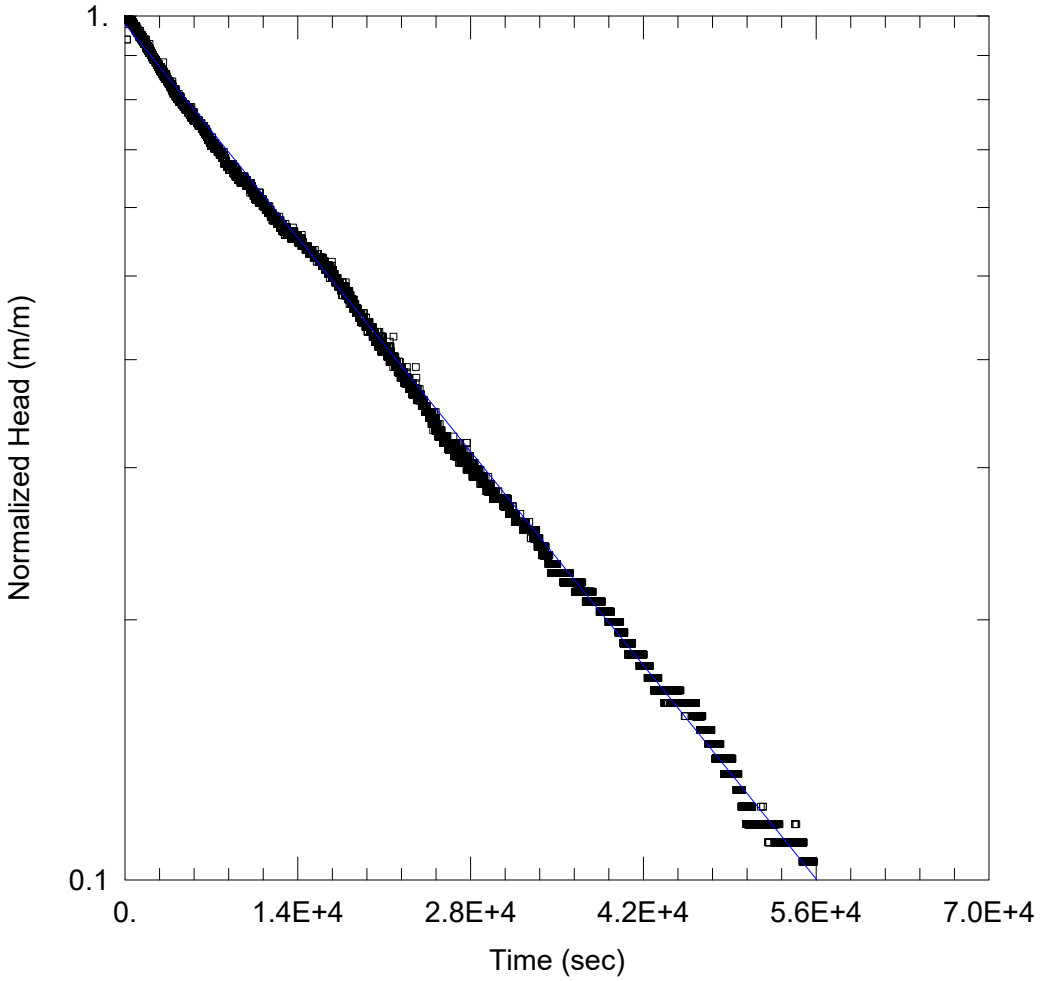
Saturated Thickness: 5.81 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-02-01)

Initial Displacement: 0.357 m
Total Well Penetration Depth: 5.81 m
Casing Radius: 0.019 m
Static Water Column Height: 5.81 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.728E-8 m/sec
y0 = 0.3603 m



MW22-02-02

Data Set: C:\...\MW22-02-2 RHT.aqt
Date: 05/23/24 Time: 16:27:43

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-02-02
Test Date: 15/08/2023

AQUIFER DATA

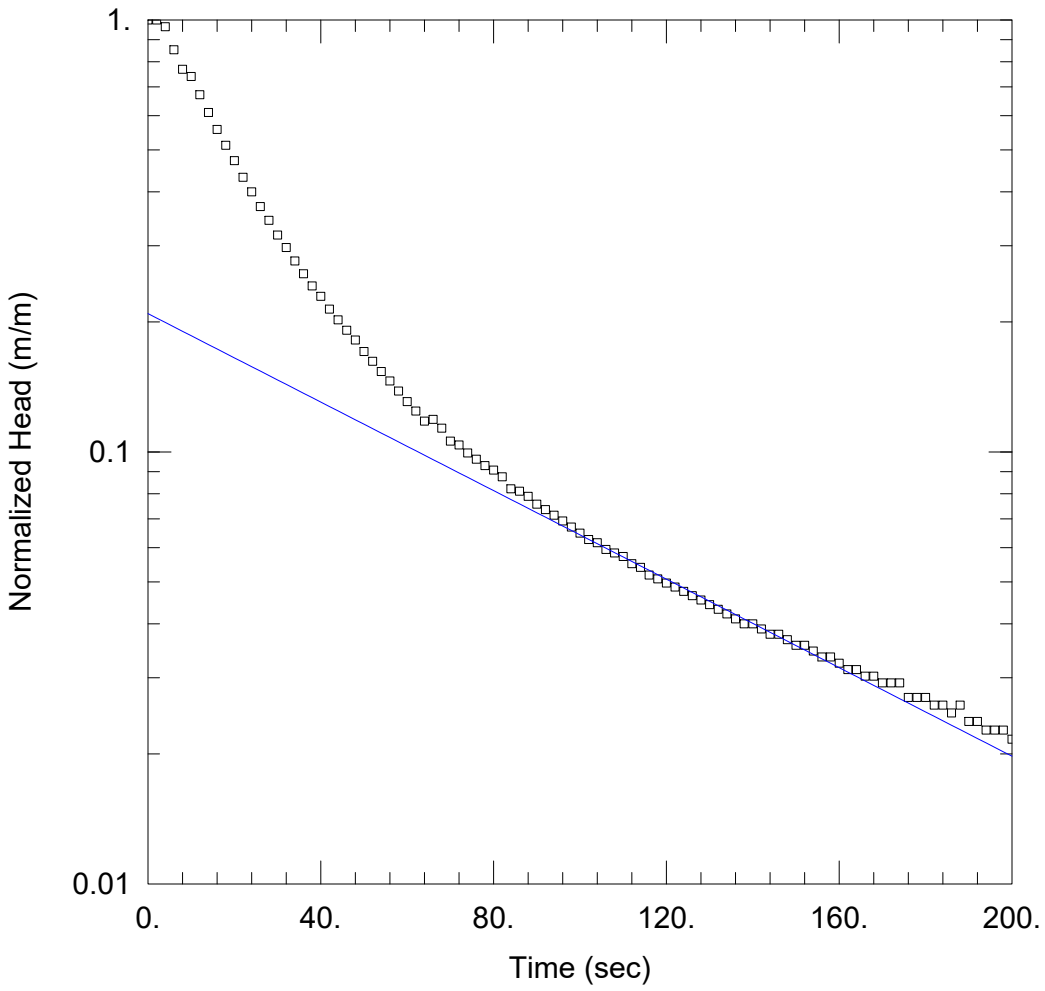
Saturated Thickness: 2.86 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-02-02)

Initial Displacement: 0.181 m
Total Well Penetration Depth: 2.86 m
Casing Radius: 0.019 m
Static Water Column Height: 2.86 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.401E-8 m/sec
y0 = 0.1772 m



MFFN - RHT ANALYSIS

Data Set: C:\...\MW22-03-1 RHT rev.aqt
Date: 01/23/26 Time: 17:26:31

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-03-01
Test Date: 25/09/2023

AQUIFER DATA

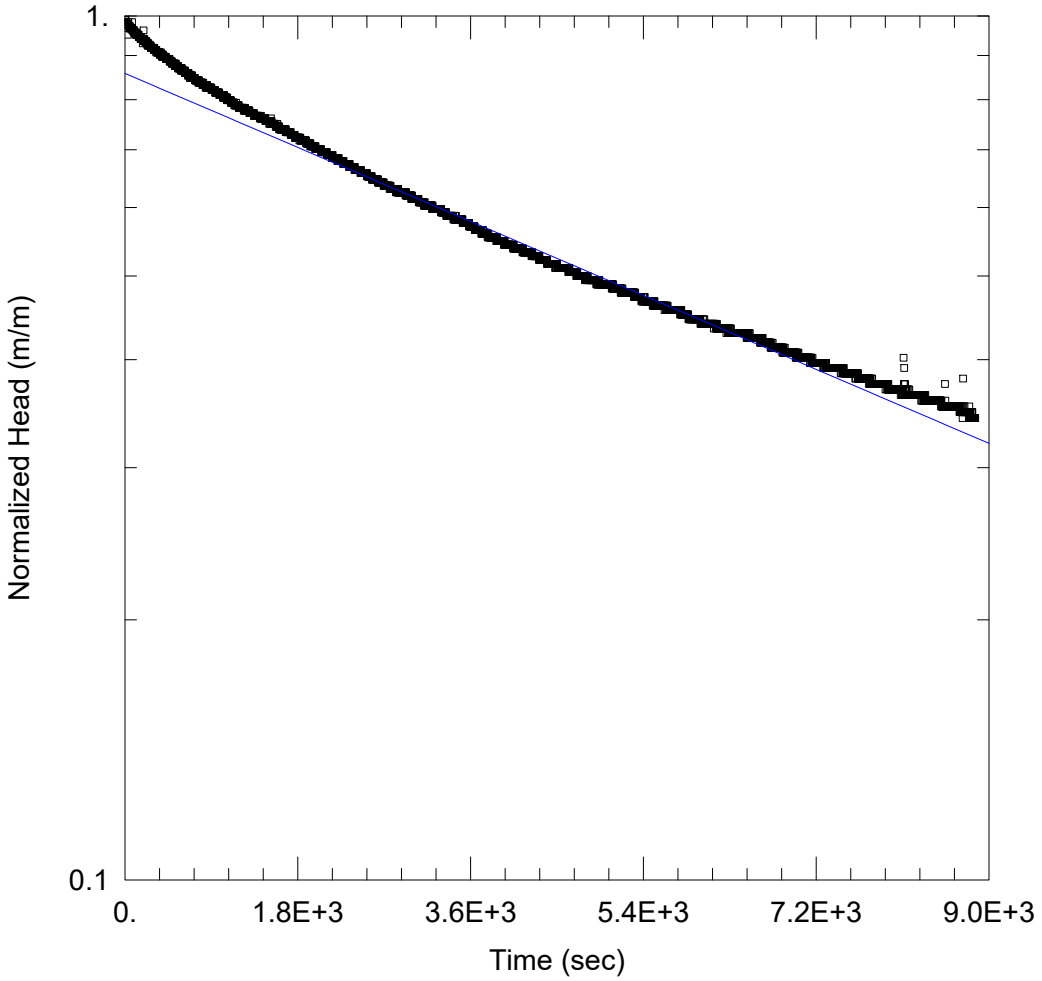
Saturated Thickness: 3.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-03-01)

Initial Displacement: 0.925 m
Total Well Penetration Depth: 3.04 m
Casing Radius: 0.019 m
Static Water Column Height: 3.04 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.11E-6 m/sec
y0 = 0.1934 m



MW22-03-02 RHT ANALYSIS

Data Set: C:\...\MW22-03-2 RHT.aqt
Date: 05/23/24 Time: 16:52:51

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-03-02
Test Date: 25/09/2023

AQUIFER DATA

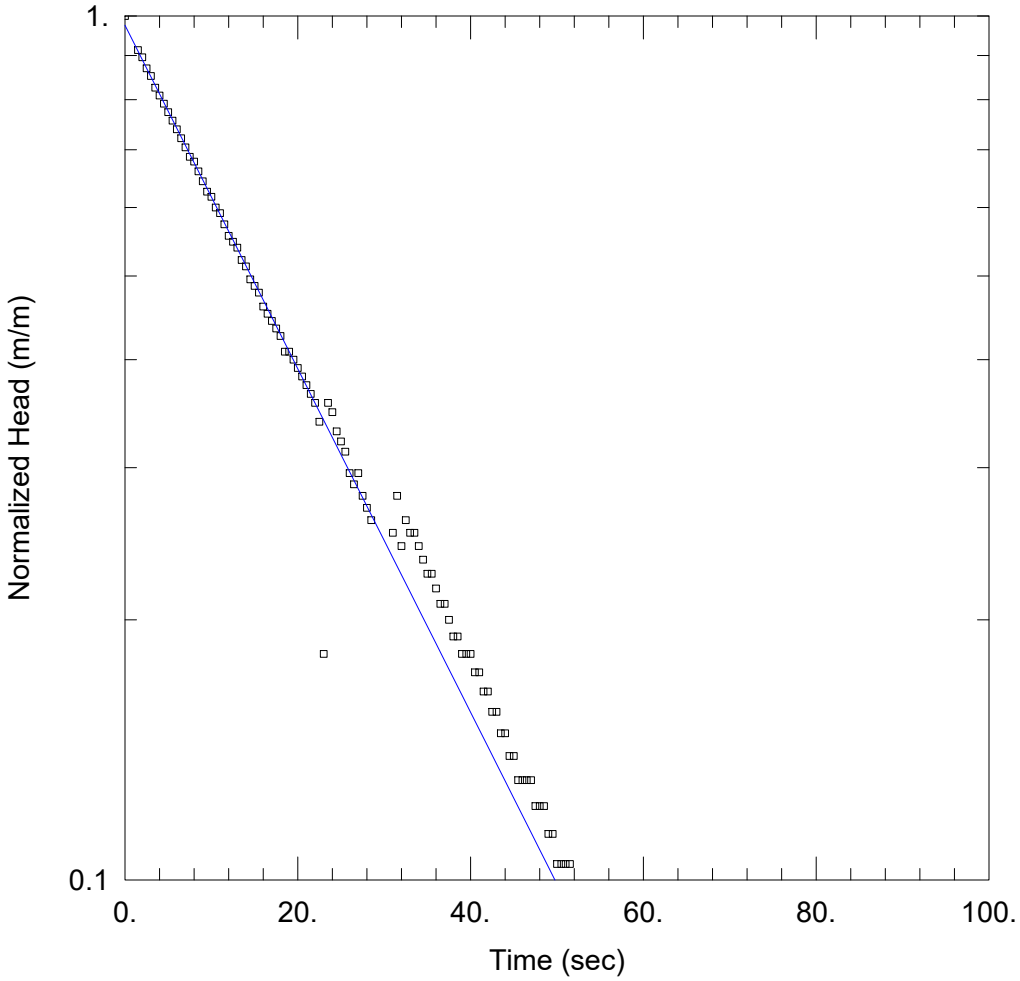
Saturated Thickness: 1.87 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-03-02)

Initial Displacement: 0.184 m Static Water Column Height: 1.87 m
Total Well Penetration Depth: 1.87 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 3.44E-8 m/sec y0 = 0.1578 m



MW22-04-01 RHT ANALYSIS

Data Set: C:\...\MW22-04-1 RHT.aqt
Date: 05/23/24 Time: 17:04:01

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-04-01
Test Date: 13/08/2023

AQUIFER DATA

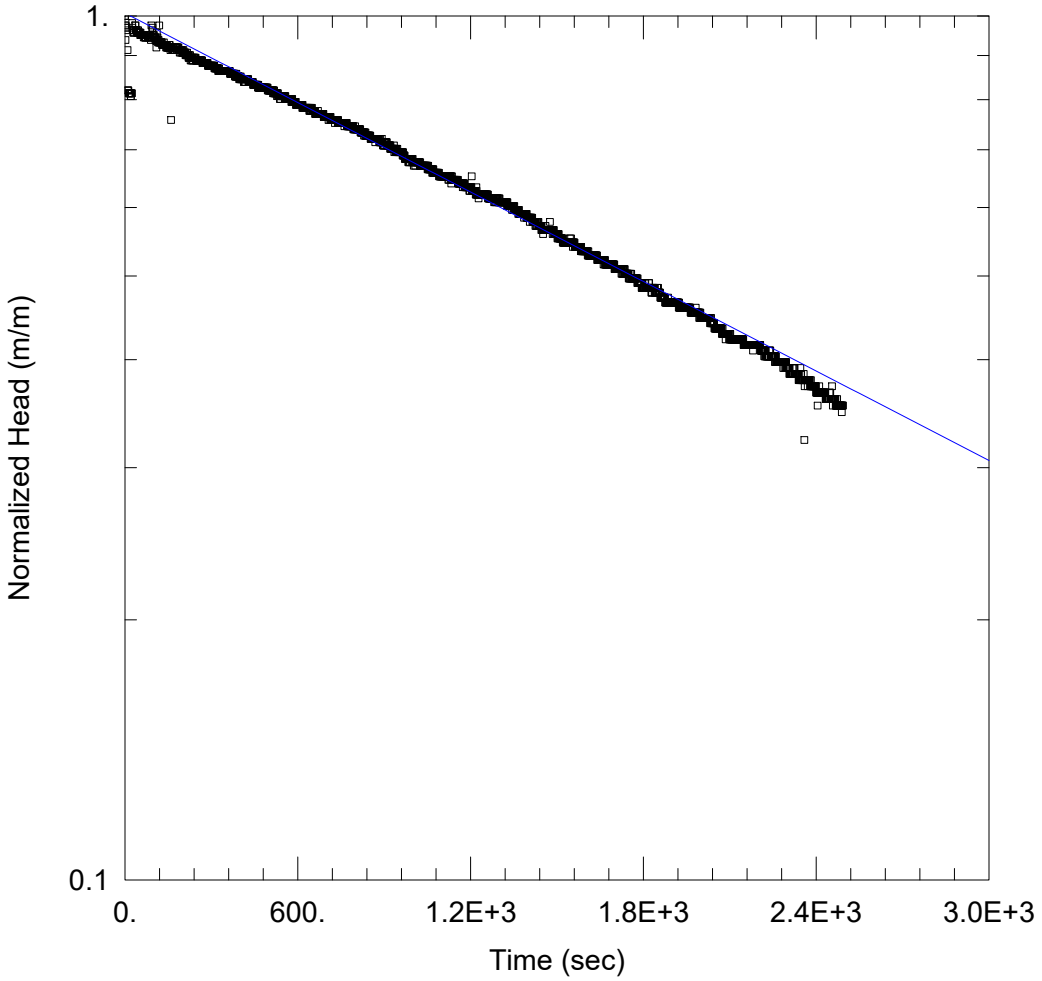
Saturated Thickness: 2.63 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-04-01)

Initial Displacement: 0.115 m
Total Well Penetration Depth: 2.63 m
Casing Radius: 0.019 m
Static Water Column Height: 2.63 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.549E-5 m/sec
y0 = 0.1122 m



MW22-05-01 RHT ANALYSIS

Data Set: C:\...\MW22-05-1 RHT.aqt
Date: 05/23/24 Time: 17:07:34

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-05-01
Test Date: 12/08/2023

AQUIFER DATA

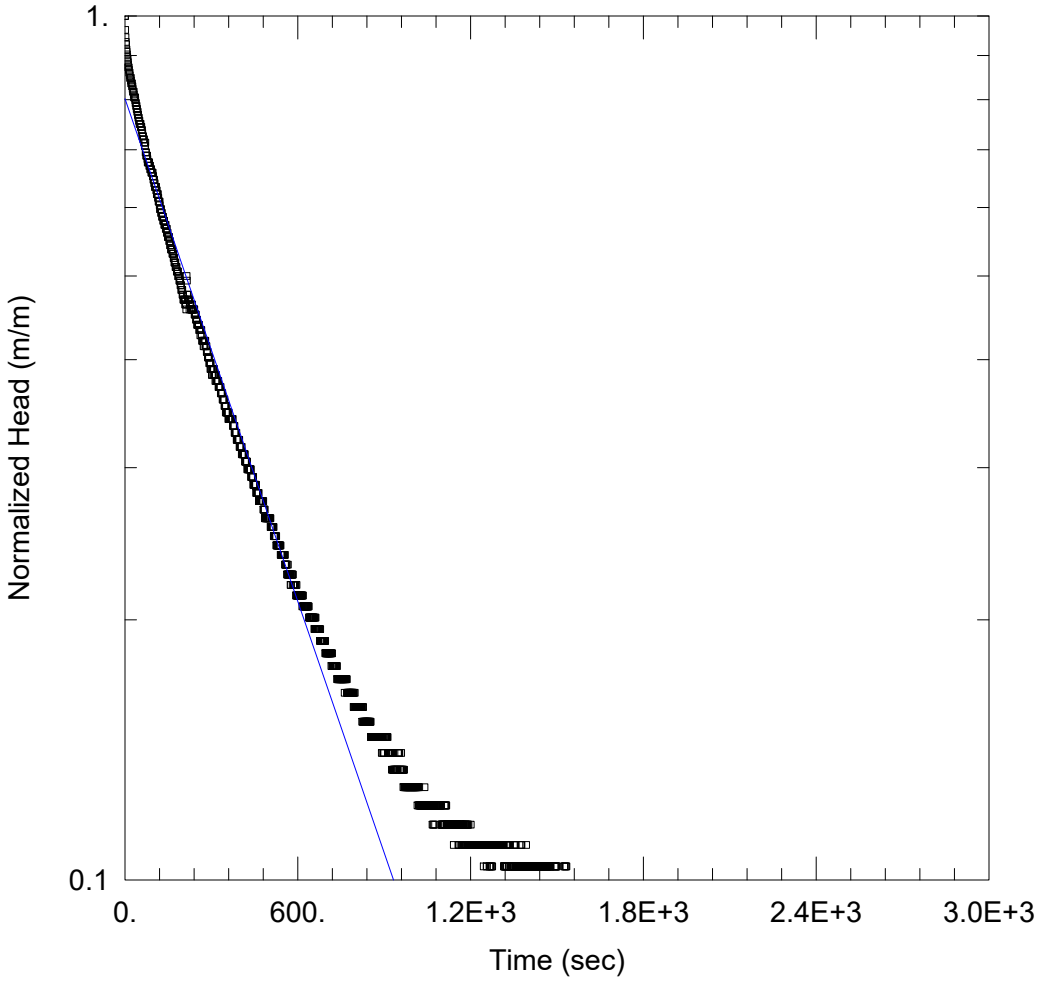
Saturated Thickness: 4.39 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-05-01)

Initial Displacement: 0.161 m
Total Well Penetration Depth: 4.39 m
Casing Radius: 0.019 m
Static Water Column Height: 4.39 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.484E-7 m/sec
y0 = 0.1622 m



MW22-05-02 RHT ANALYSIS

Data Set: C:\...\MW22-05-2 RHT.aqt
Date: 05/23/24 Time: 17:10:45

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-05-02
Test Date: 12/08/2023

AQUIFER DATA

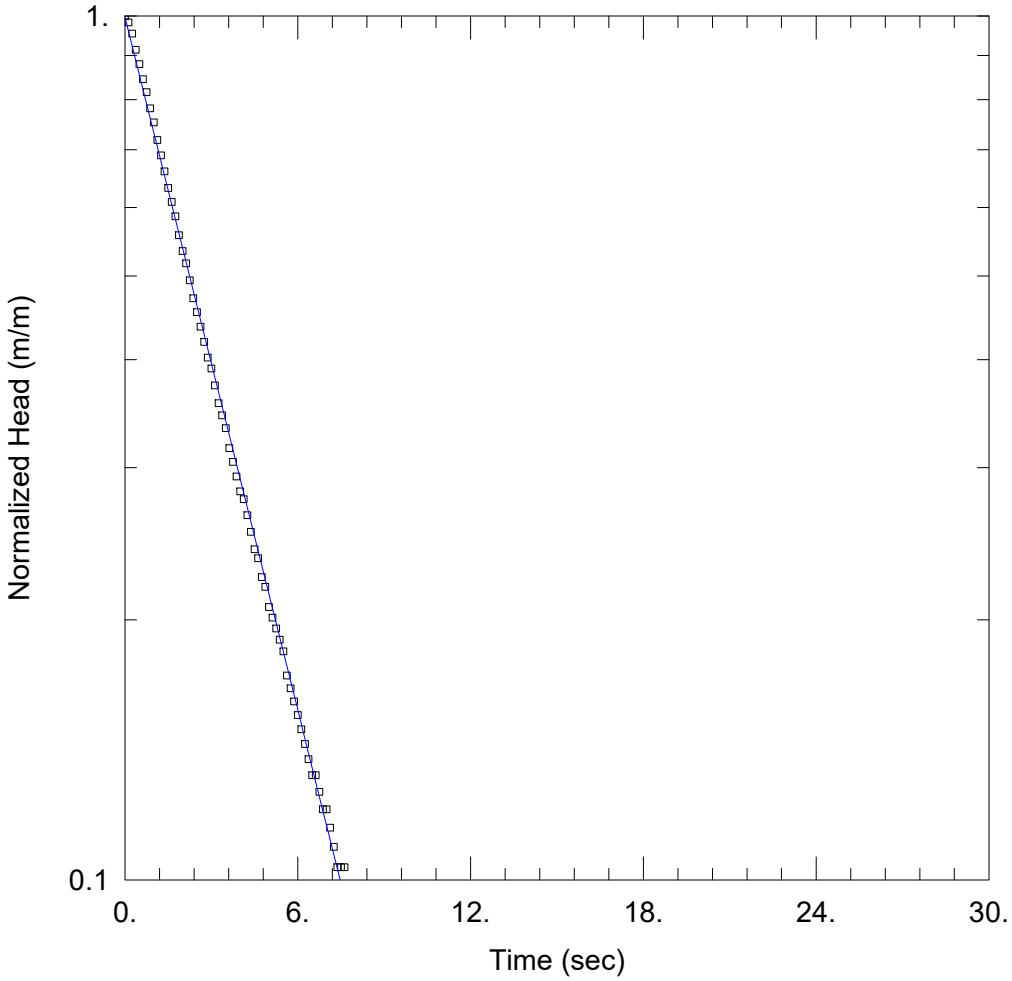
Saturated Thickness: 2.87 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-05-02)

Initial Displacement: 0.164 m
Total Well Penetration Depth: 2.87 m
Casing Radius: 0.019 m
Static Water Column Height: 2.87 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 7.691E-7 m/sec
y0 = 0.1315 m



MW22-06-01 RHT ANALYSIS

Data Set: C:\...\MW22-06-1 RHT.aqt
Date: 05/23/24 Time: 17:20:08

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-06-01
Test Date: 12/08/2023

AQUIFER DATA

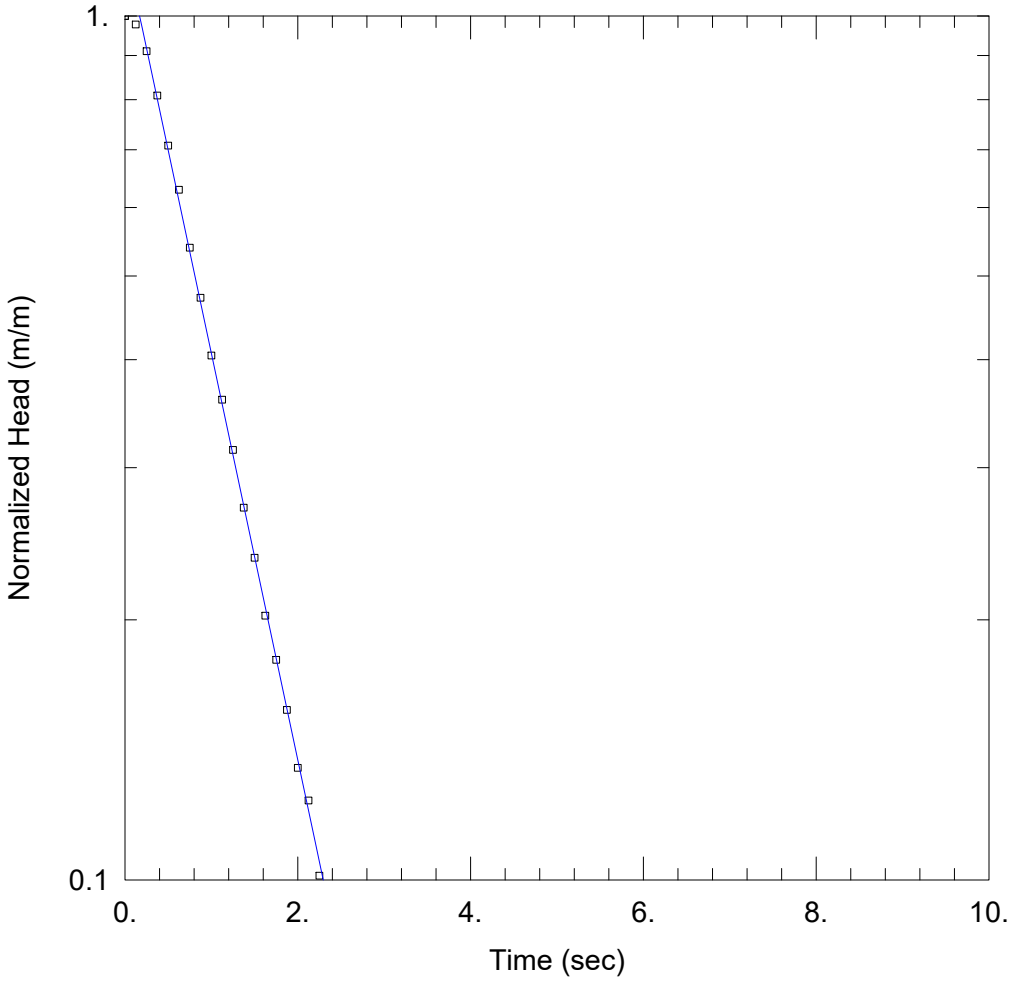
Saturated Thickness: 5.17 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-06-01)

Initial Displacement: 0.174 m
Total Well Penetration Depth: 5.17 m
Casing Radius: 0.019 m
Static Water Column Height: 5.17 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0001182 m/sec
y0 = 0.1734 m



MW22-06-02 RHT ANALYSIS

Data Set: C:\...\MW22-06-2 RHT.aqt
Date: 05/23/24 Time: 17:23:30

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-06-02
Test Date: 12/08/2023

AQUIFER DATA

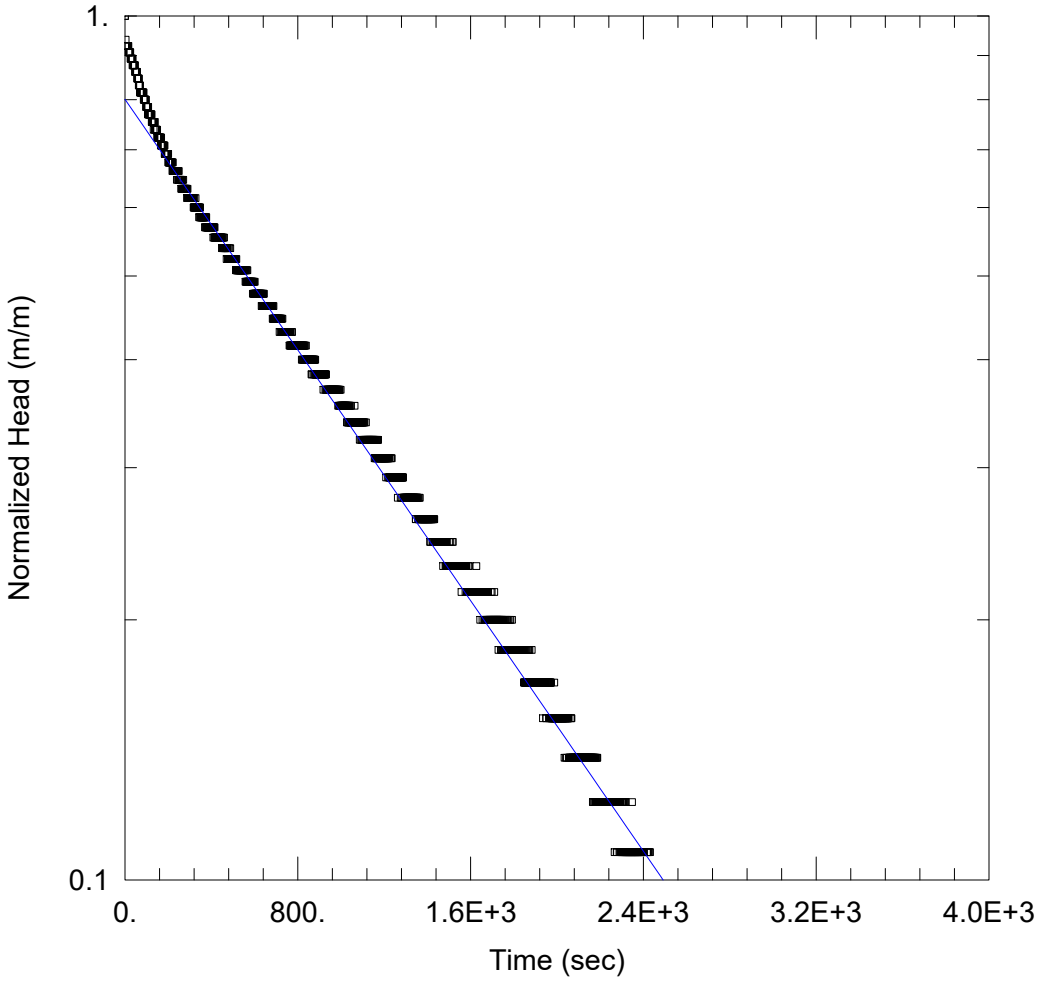
Saturated Thickness: 2.34 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-06-02)

Initial Displacement: 0.089 m
Total Well Penetration Depth: 2.34 m
Casing Radius: 0.019 m
Static Water Column Height: 2.34 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0003576 m/sec
y0 = 0.107 m



MW22-07-03 RHT ANALYSIS

Data Set: C:\...\MW22-07-3 RHT.aqt
Date: 05/24/24 Time: 15:17:06

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-07-03
Test Date: 14/08/2023

AQUIFER DATA

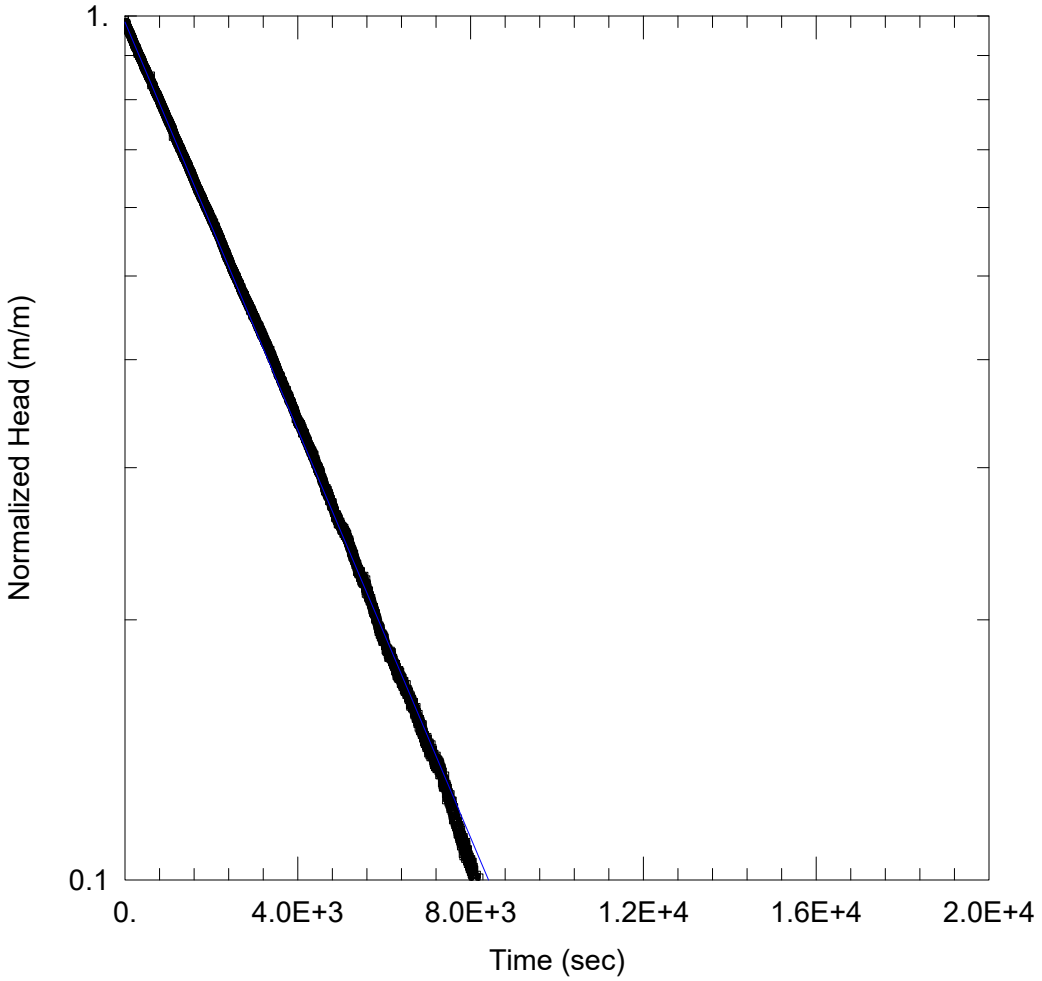
Saturated Thickness: 1.89 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-07-03)

Initial Displacement: 0.065 m Static Water Column Height: 1.89 m
Total Well Penetration Depth: 1.89 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 2.628E-7 m/sec y0 = 0.05205 m



MW22-07-04 RHT ANALYSIS

Data Set: C:\...\MW22-07-4 RHT.aqt
Date: 05/24/24 Time: 15:20:01

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-07-04
Test Date: 14/08/2023

AQUIFER DATA

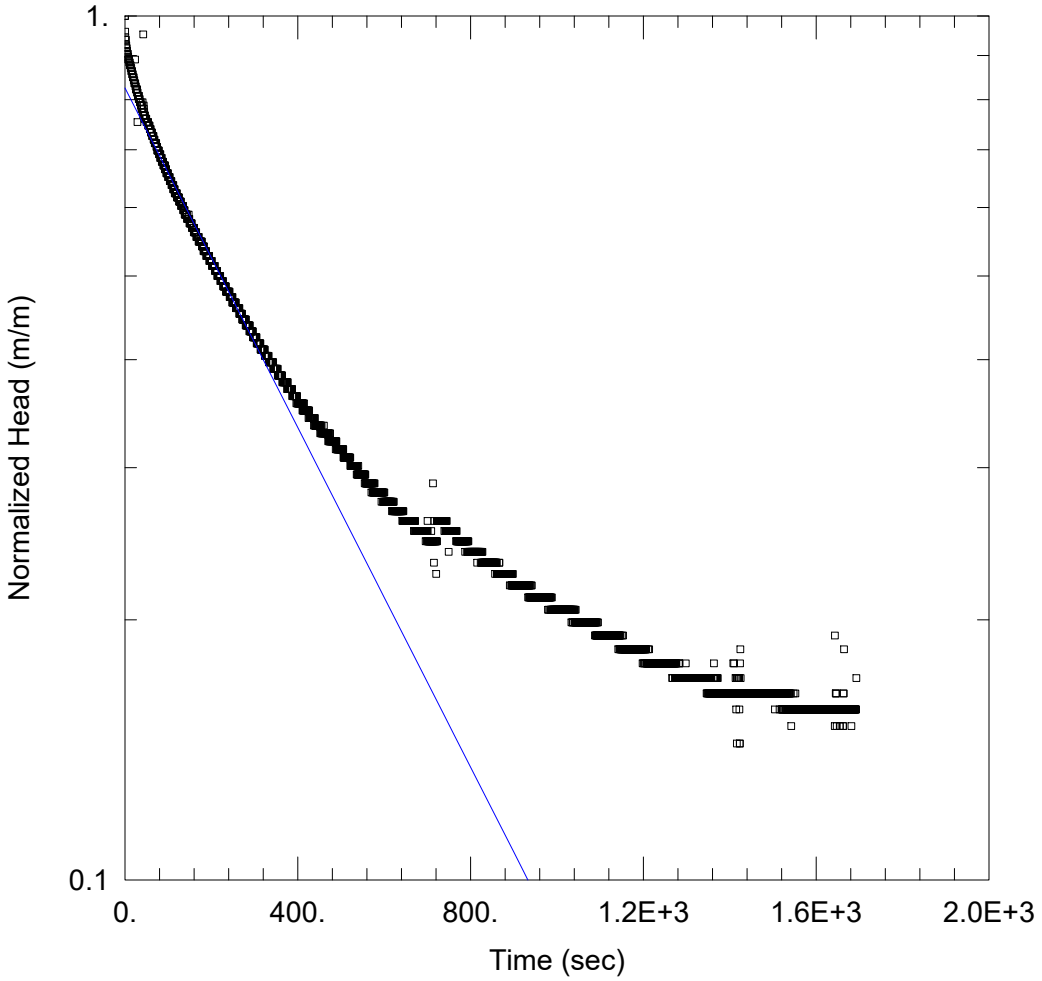
Saturated Thickness: 2.8 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-07-04)

Initial Displacement: 0.14 m Static Water Column Height: 2.8 m
Total Well Penetration Depth: 2.8 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 9.311E-8 m/sec y0 = 0.1377 m



MW22-08-01 RHT ANALYSIS

Data Set: C:\...\MW22-08-1 RHT.aqt
Date: 05/24/24 Time: 15:37:43

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-08-01
Test Date: 14/08/2023

AQUIFER DATA

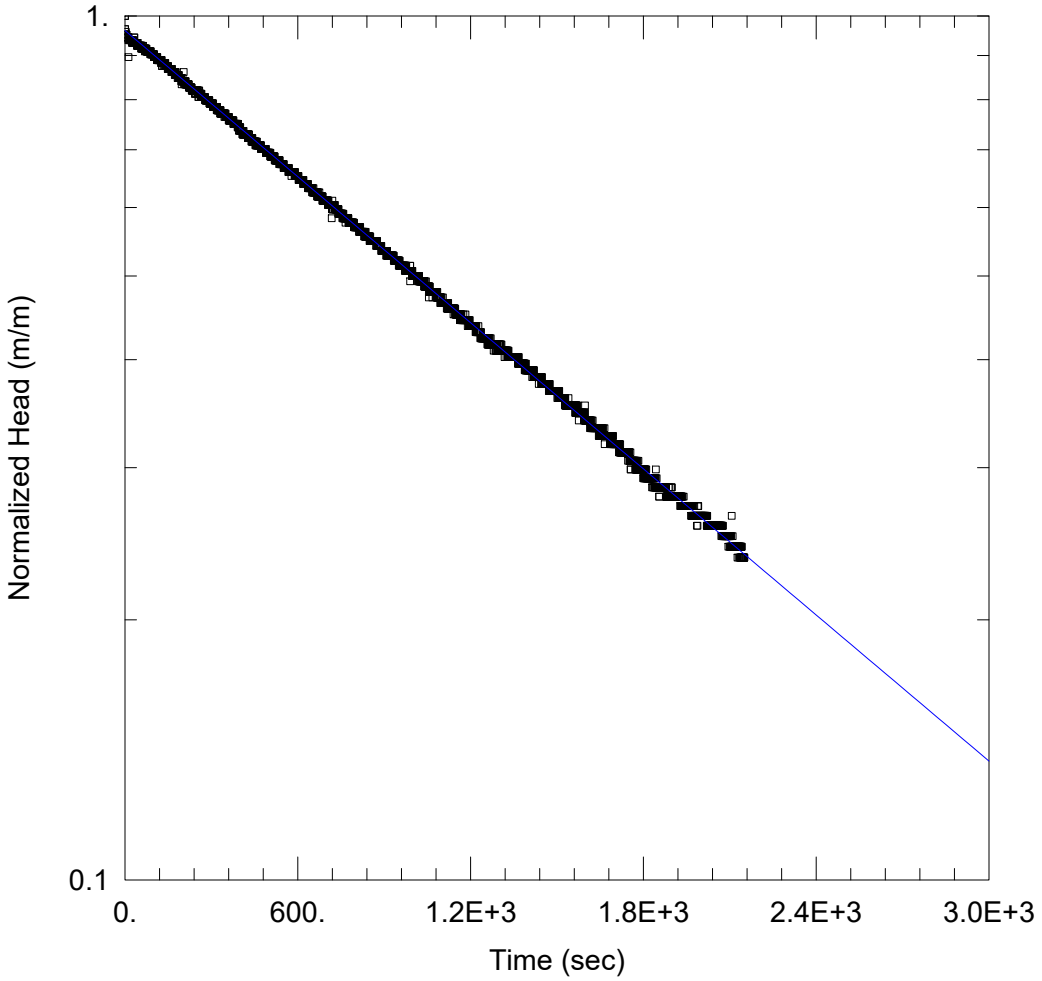
Saturated Thickness: 5.98 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-08-01)

Initial Displacement: 0.146 m
Total Well Penetration Depth: 5.98 m
Casing Radius: 0.019 m
Static Water Column Height: 5.98 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 8.91E-7 m/sec
y0 = 0.1205 m



MW22-08-02 RHT ANALYSIS

Data Set: C:\...\MW22-08-2 RHT.aqt
Date: 05/24/24 Time: 15:41:50

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-08-02
Test Date: 14/08/2023

AQUIFER DATA

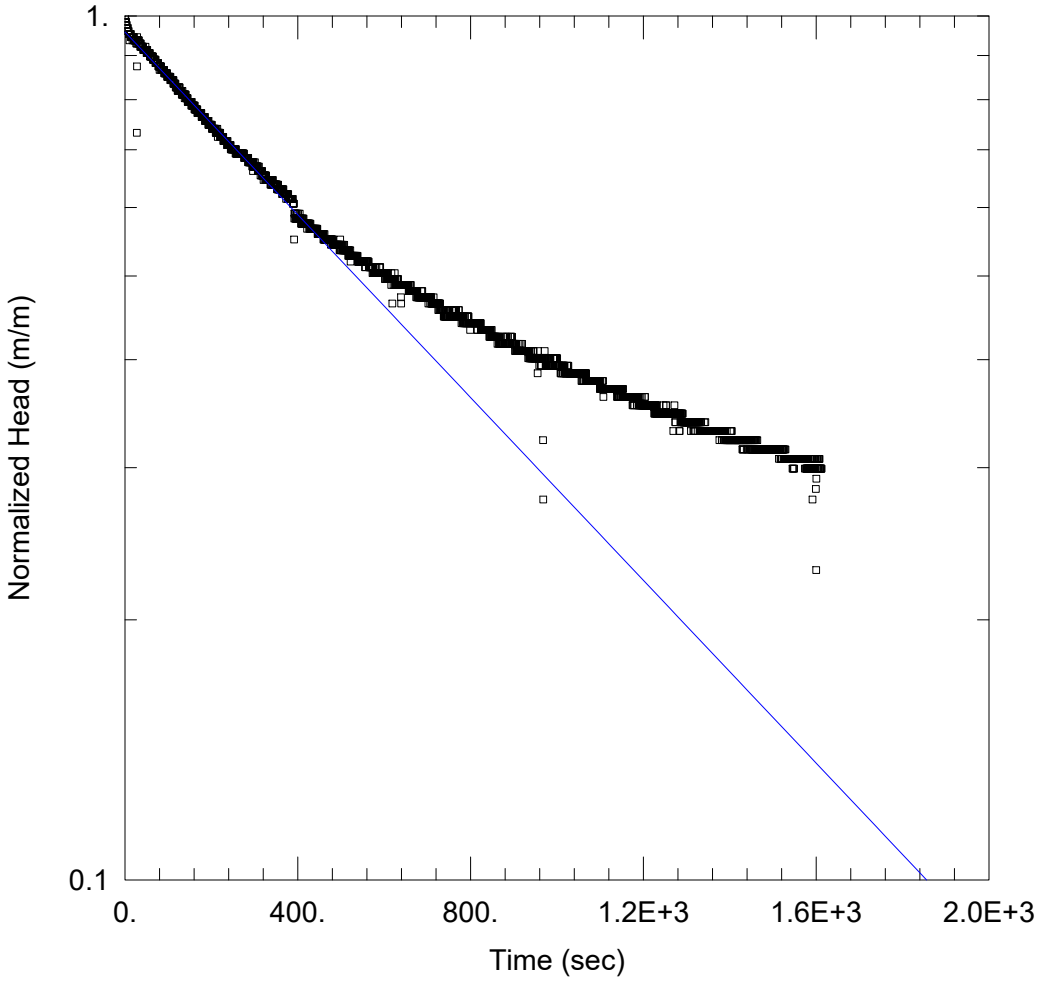
Saturated Thickness: 2.35 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-08-02)

Initial Displacement: 0.144 m
Total Well Penetration Depth: 2.35 m
Casing Radius: 0.019 m
Static Water Column Height: 2.35 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.144E-7 m/sec
y0 = 0.1385 m



MW22-09-01 RHT ANALYSIS

Data Set: C:\...\MW22-09-1 RHT.aqt
Date: 05/24/24 Time: 15:46:17

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-09-01
Test Date: 13/08/2023

AQUIFER DATA

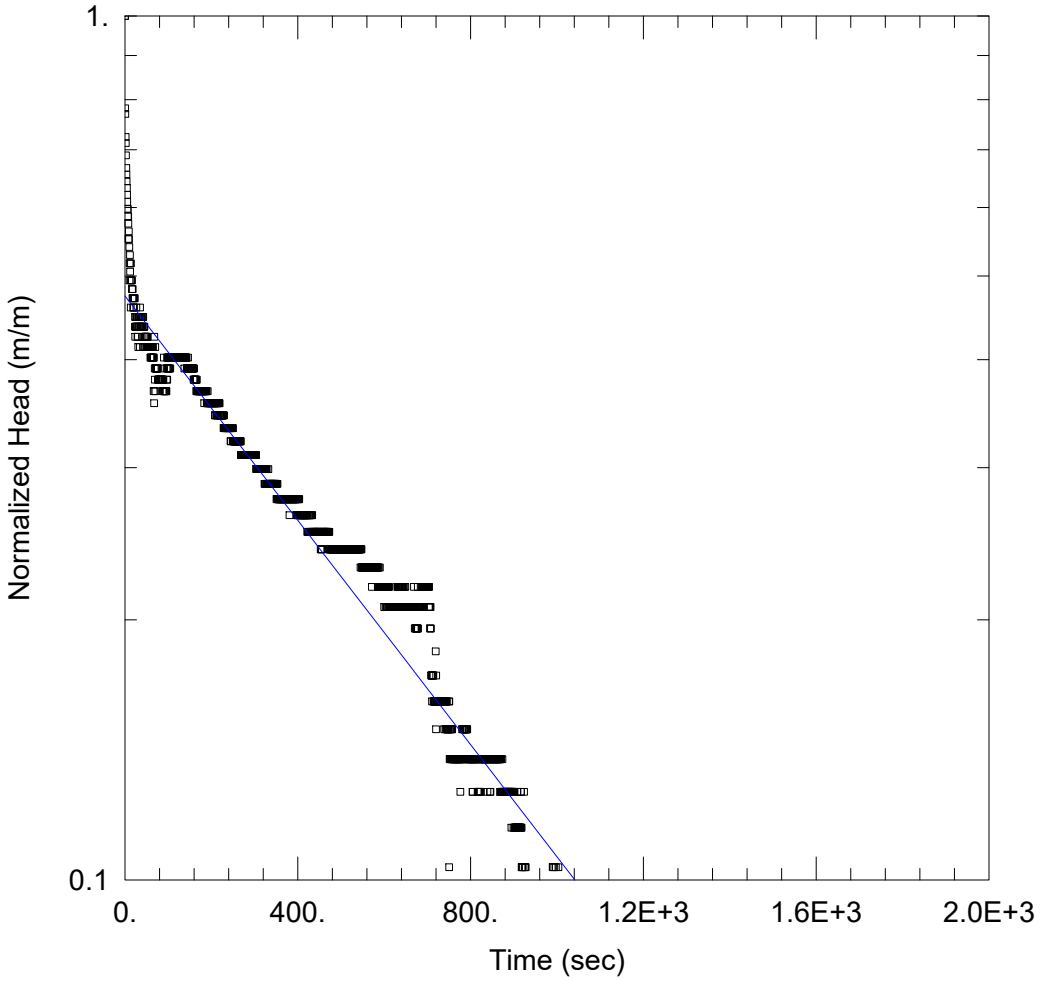
Saturated Thickness: 4.4 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-09-01)

Initial Displacement: 0.127 m
Total Well Penetration Depth: 4.4 m
Casing Radius: 0.019 m
Static Water Column Height: 4.4 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.55E-7 m/sec
y0 = 0.1217 m



MW22-06-2 RHT ANALYSIS

Data Set: C:\...\MW22-09-2 RHT.aqt
Date: 05/24/24 Time: 15:54:04

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-09-02
Test Date: 13/08/2023

AQUIFER DATA

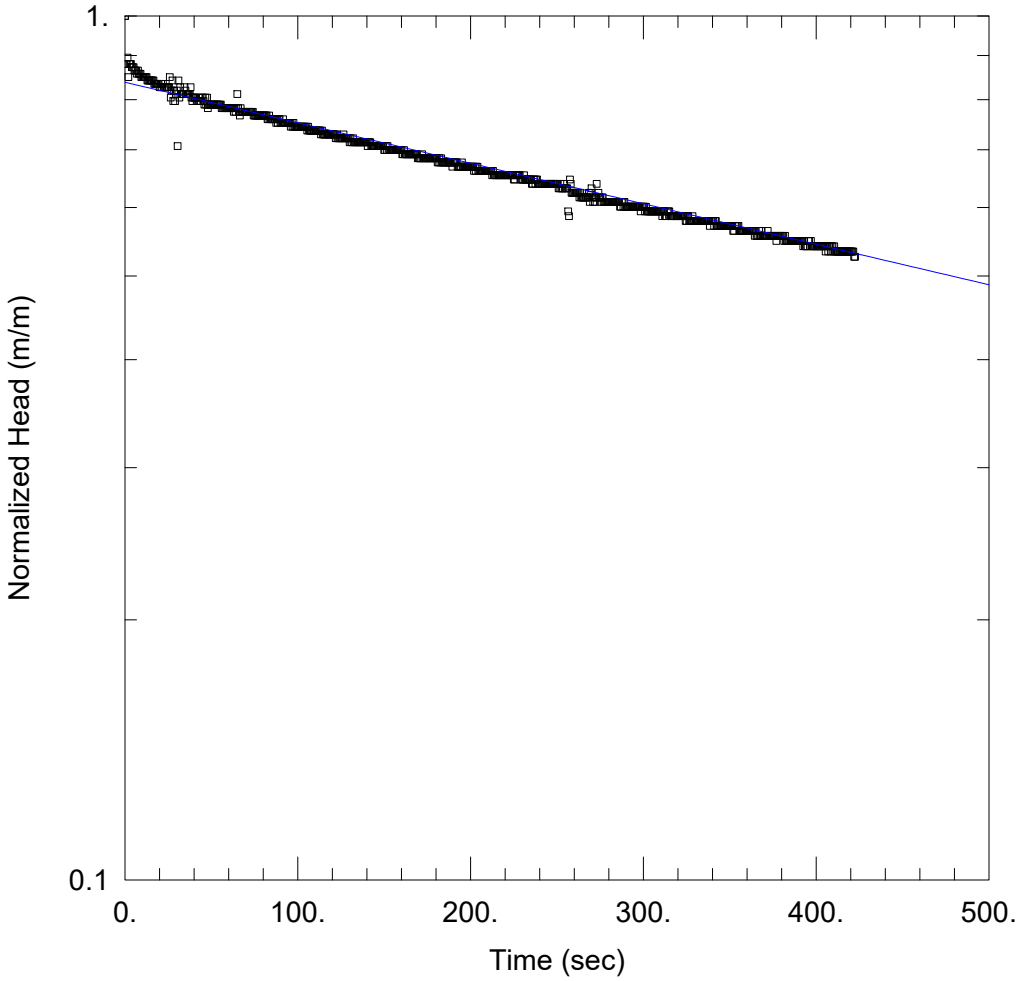
Saturated Thickness: 2.16 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-09-02)

Initial Displacement: 0.087 m Static Water Column Height: 2.16 m
Total Well Penetration Depth: 2.16 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 4.848E-7 m/sec y0 = 0.04124 m



MW22-10-01 RHT ANALYSIS

Data Set: C:\...\MW22-10-1 RHT.aqt
Date: 05/24/24 Time: 15:56:34

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-10-01
Test Date: 14/08/2023

AQUIFER DATA

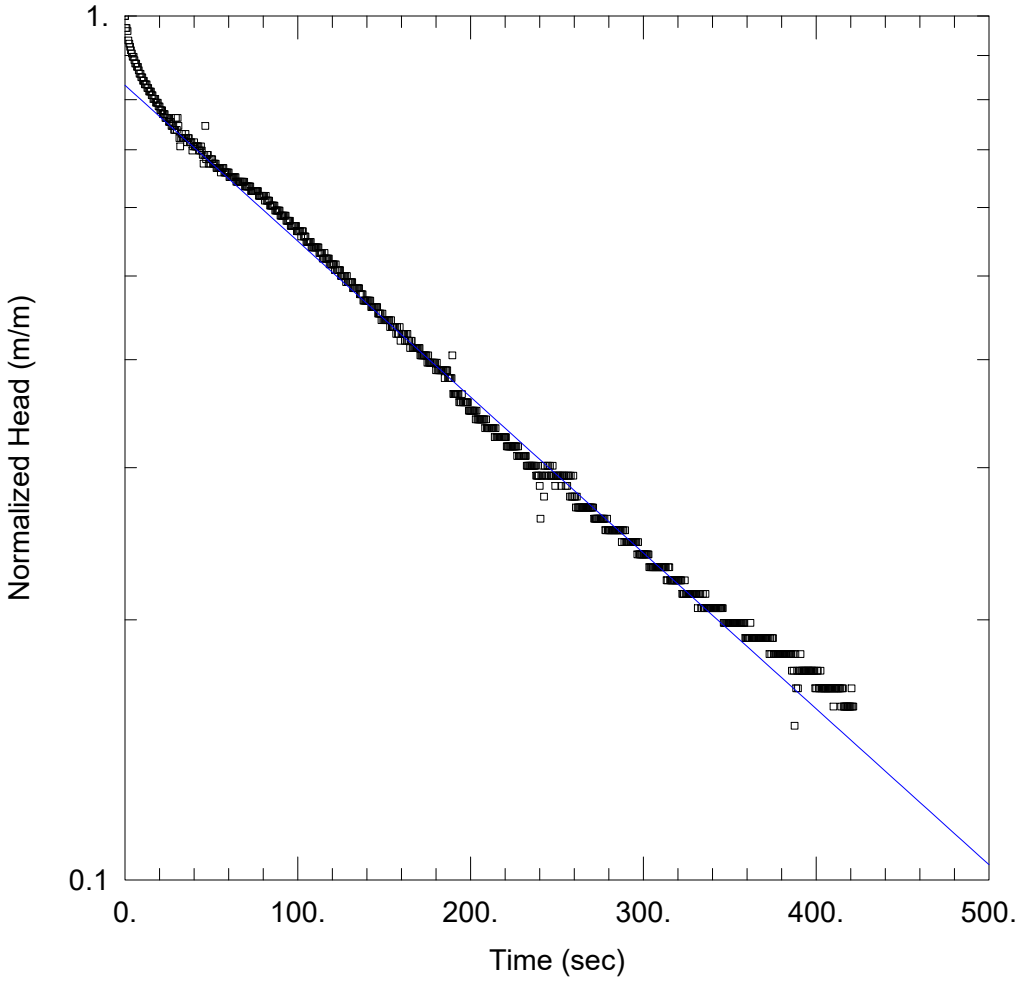
Saturated Thickness: 2.82 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-10-01)

Initial Displacement: 0.133 m
Total Well Penetration Depth: 2.82 m
Casing Radius: 0.019 m
Static Water Column Height: 2.82 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.704E-7 m/sec
y0 = 0.1114 m



MW22-10-02 RHT ANALYSIS

Data Set: C:\...\MW22-10-2 RHT.aqt
Date: 05/24/24 Time: 15:59:53

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-10-02
Test Date: 14/08/2023

AQUIFER DATA

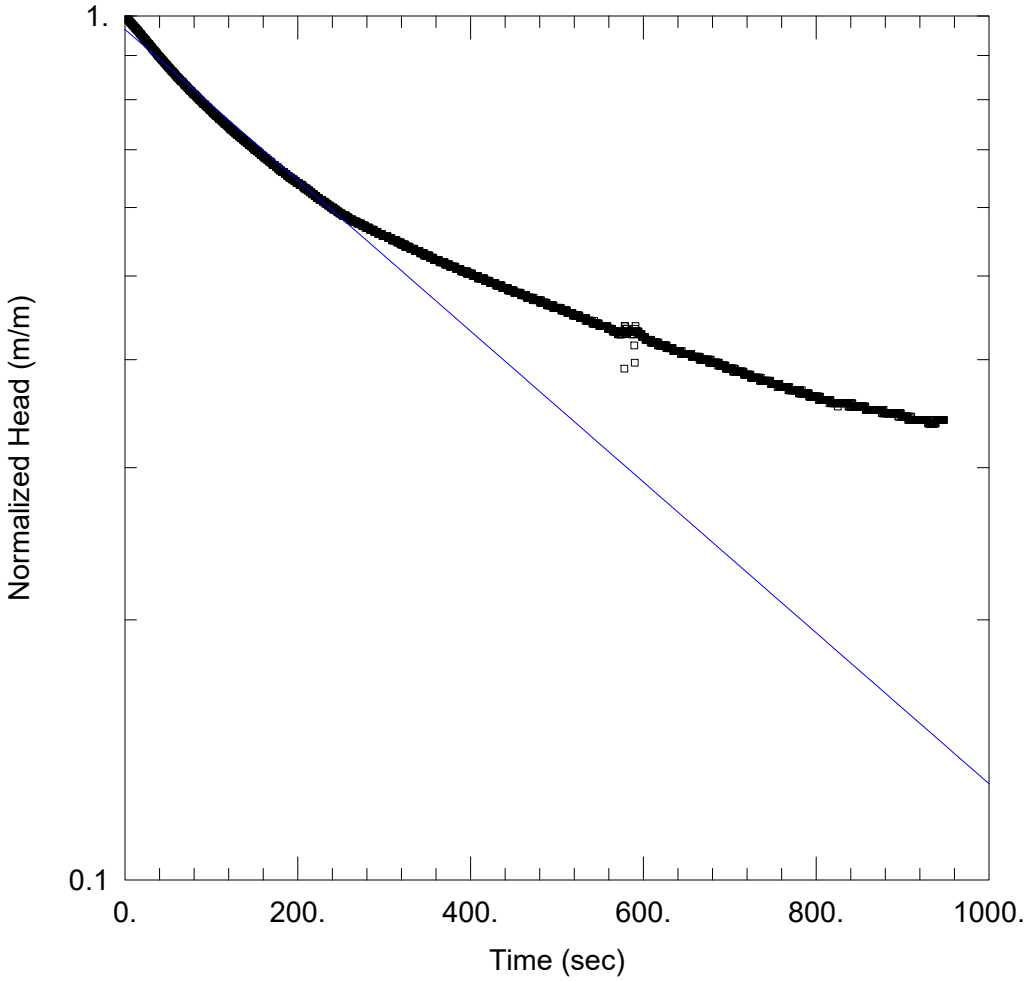
Saturated Thickness: 1.71 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-10-2)

Initial Displacement: 0.126 m Static Water Column Height: 1.71 m
Total Well Penetration Depth: 1.71 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 1.277E-6 m/sec y0 = 0.1047 m



MW22-10-03 RHT ANALYSIS

Data Set: C:\...\MW22-10-3 RHT.aqt
Date: 05/24/24 Time: 16:03:06

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-10-03
Test Date: 14/08/2023

AQUIFER DATA

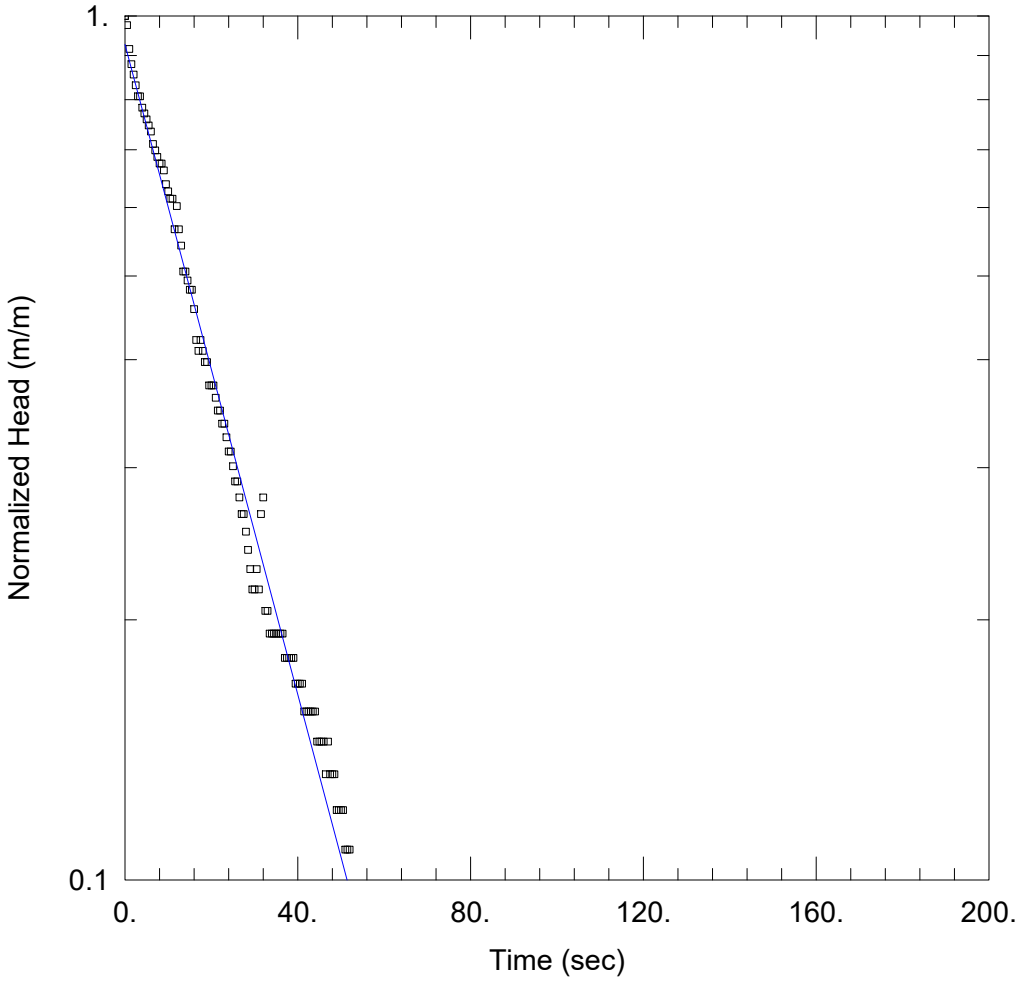
Saturated Thickness: 1.88 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-10-03)

Initial Displacement: 0.32 m Static Water Column Height: 1.88 m
Total Well Penetration Depth: 1.88 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 6.32E-7 m/sec y0 = 0.3087 m



MW22-10-04 RHT ANALYSIS

Data Set: C:\...\MW22-10-4 RHT.aqt
Date: 05/24/24 Time: 16:05:19

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-10-04
Test Date: 14/08/2023

AQUIFER DATA

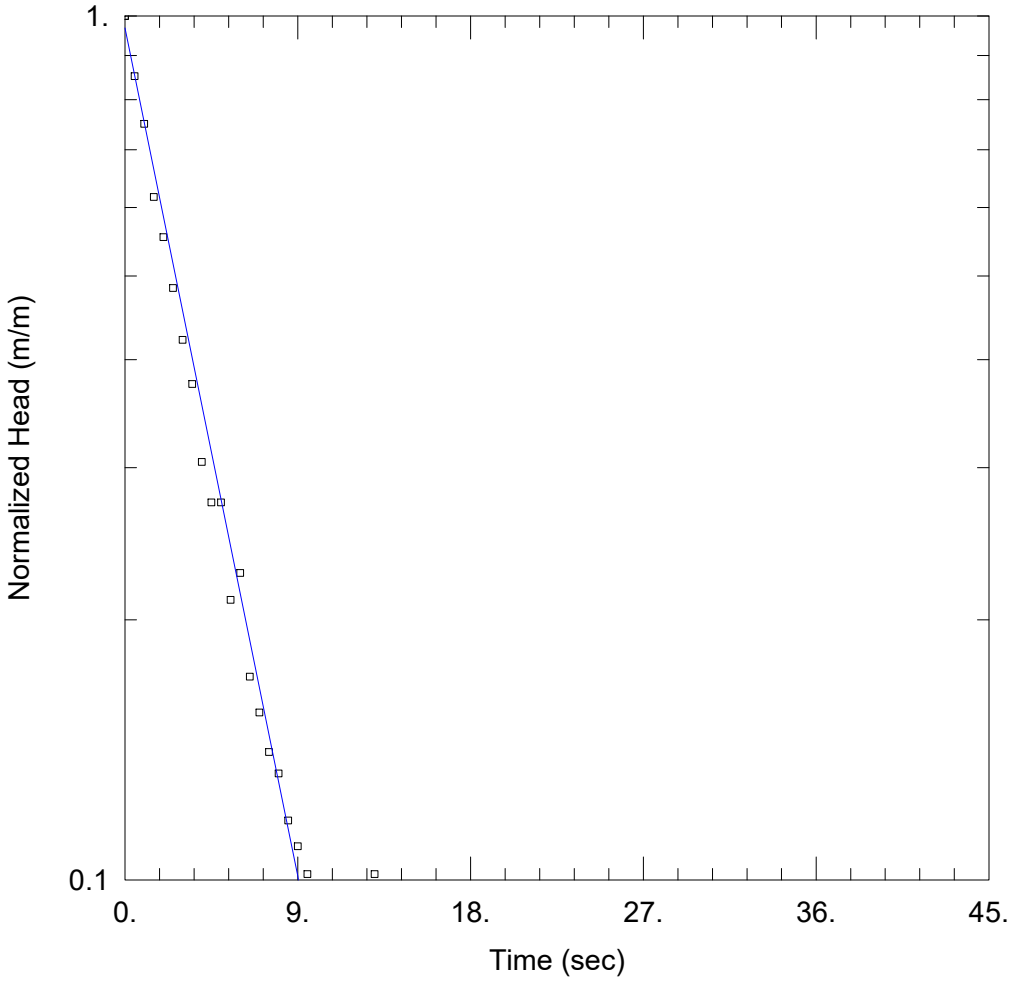
Saturated Thickness: 1.99 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-10-04)

Initial Displacement: 0.083 m Static Water Column Height: 1.99 m
Total Well Penetration Depth: 1.99 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 1.379E-5 m/sec y0 = 0.0769 m



MW22-11-1 RHT ANALYSIS

Data Set: C:\...\MW22-11-1 RHT.aqt
Date: 05/24/24 Time: 16:47:06

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-11-1
Test Date: 14/08/2023

AQUIFER DATA

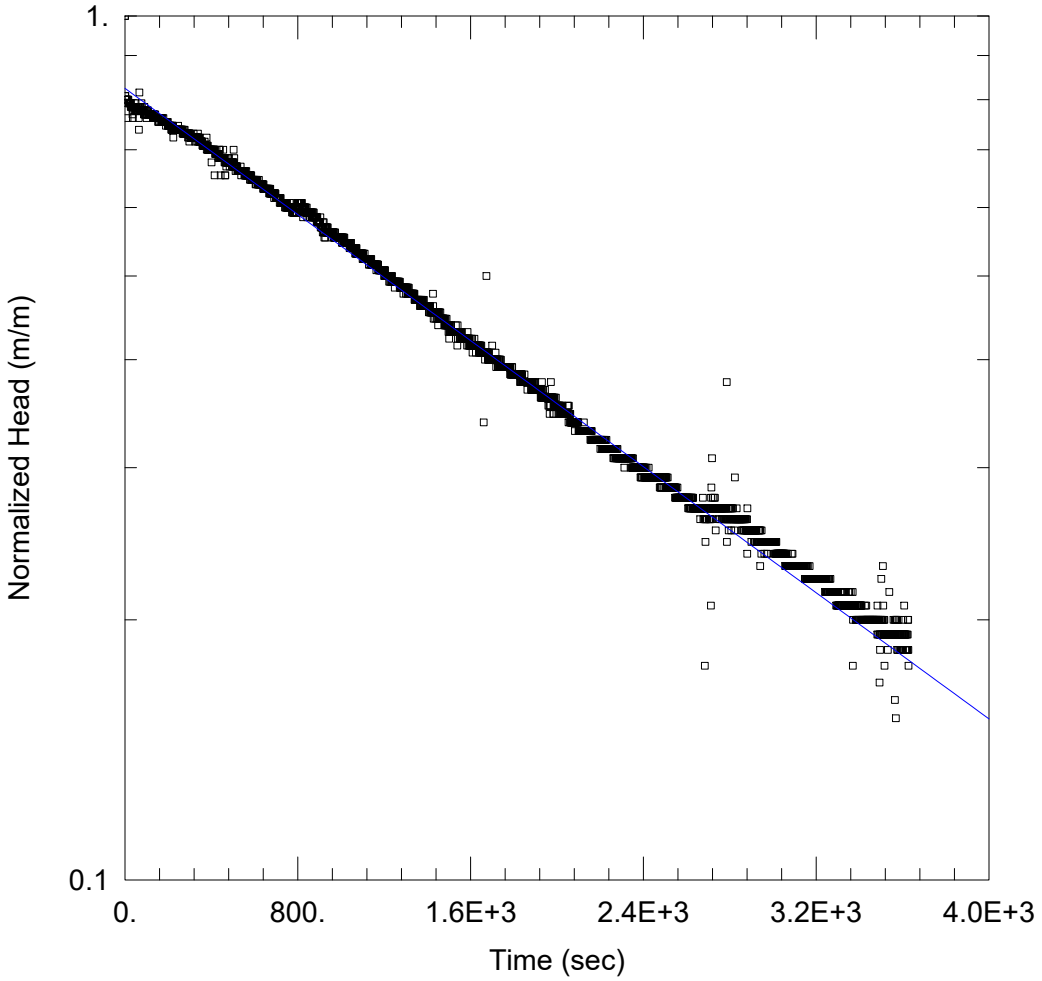
Saturated Thickness: 5.51 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-11-1)

Initial Displacement: 0.128 m
Total Well Penetration Depth: 5.51 m
Casing Radius: 0.019 m
Static Water Column Height: 5.51 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 9.755E-5 m/sec
y0 = 0.124 m



MW22-12-1 RHT ANALYSIS

Data Set: C:\...\MW22-12-1 RHT.aqt
Date: 05/24/24 Time: 16:53:19

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-12-1
Test Date: 13/08/2023

AQUIFER DATA

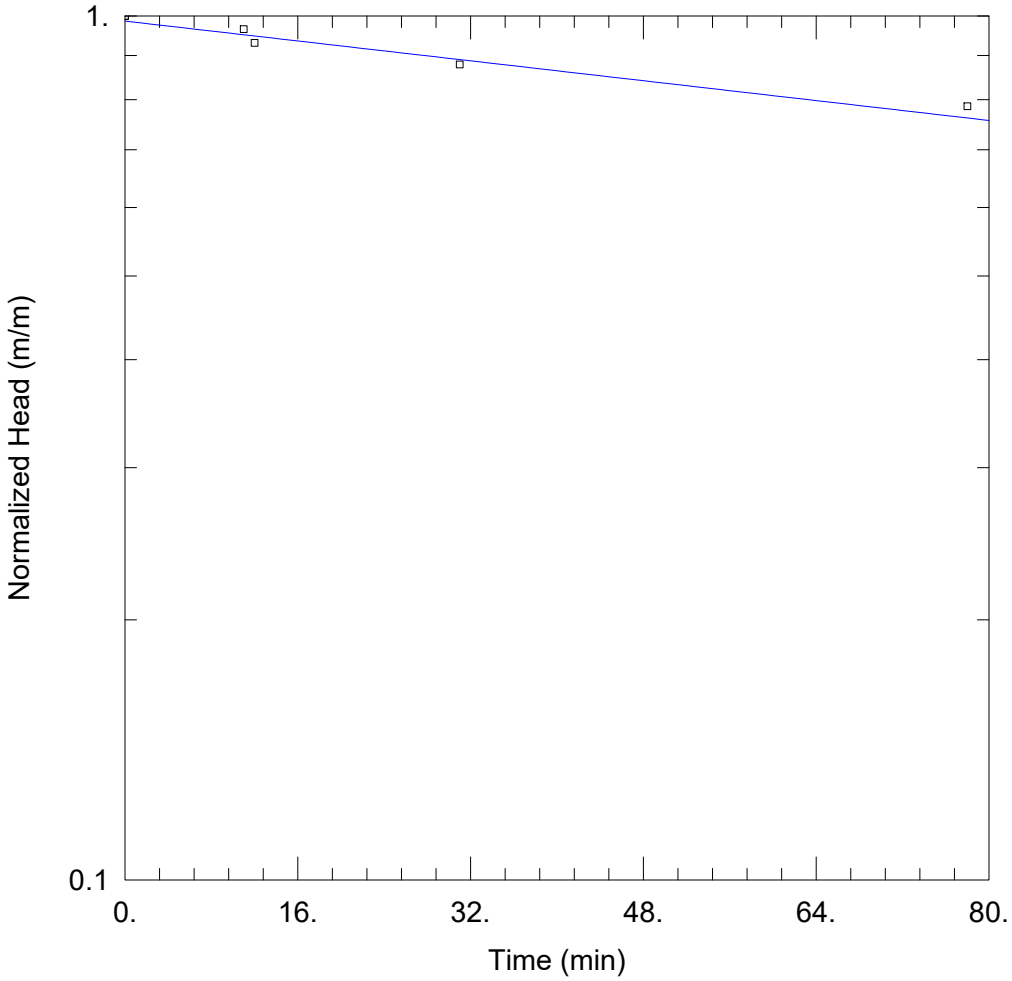
Saturated Thickness: 10.37 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-12-1)

Initial Displacement: 0.13 m
Total Well Penetration Depth: 10.37 m
Casing Radius: 0.019 m
Static Water Column Height: 10.37 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.8E-7 m/sec
y0 = 0.1072 m



MW22-12-2 RHT ANALYSIS

Data Set: C:\...\MW22-12-2 RHT.aqt
Date: 05/24/24 Time: 17:05:44

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-12-2
Test Date: 13/08/2023

AQUIFER DATA

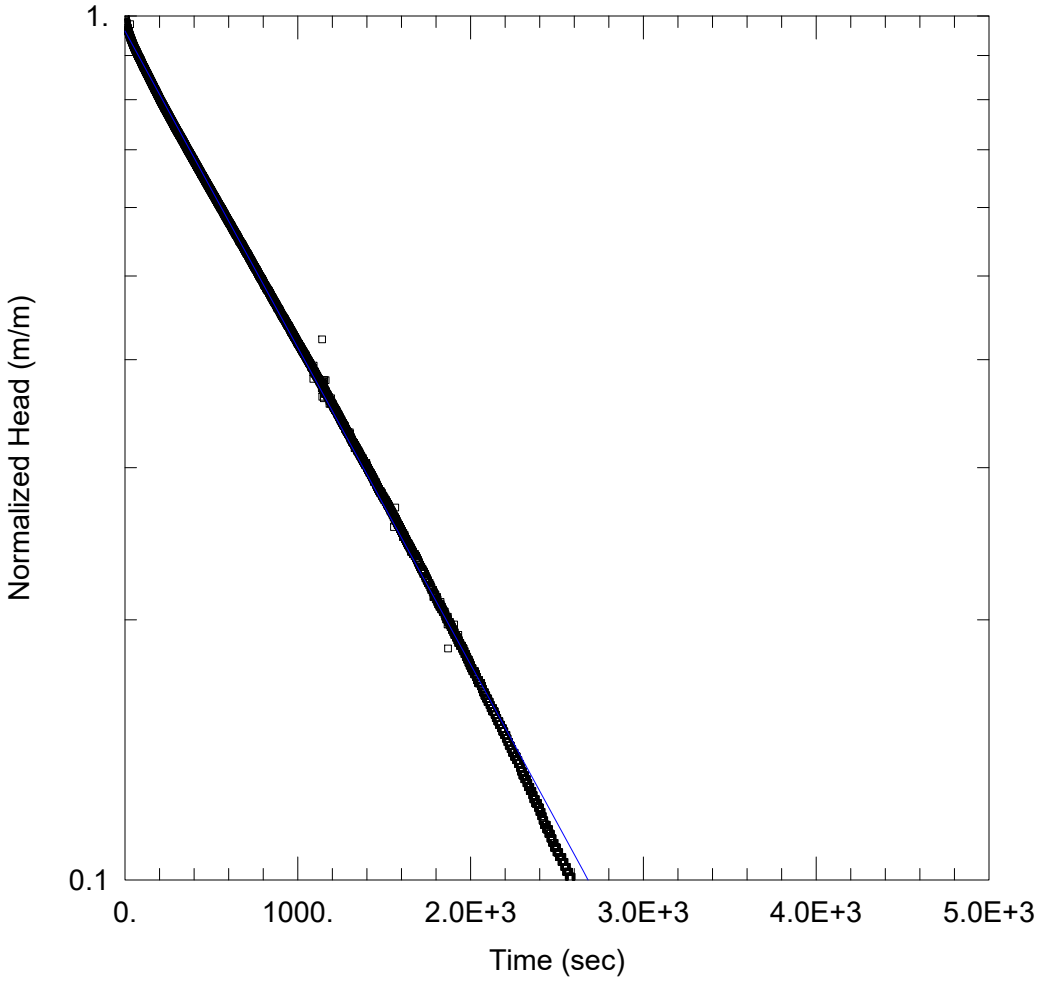
Saturated Thickness: 6.21 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-12-2)

Initial Displacement: 1.73 m
Total Well Penetration Depth: 6.21 m
Casing Radius: 0.019 m
Static Water Column Height: 6.21 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.185E-8 m/sec
y0 = 1.706 m



MW22-12-3 RHT ANALYSIS

Data Set: C:\...\MW22-12-3 RHT.aqt
Date: 05/24/24 Time: 17:28:45

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-12-3
Test Date: 13/08/2023

AQUIFER DATA

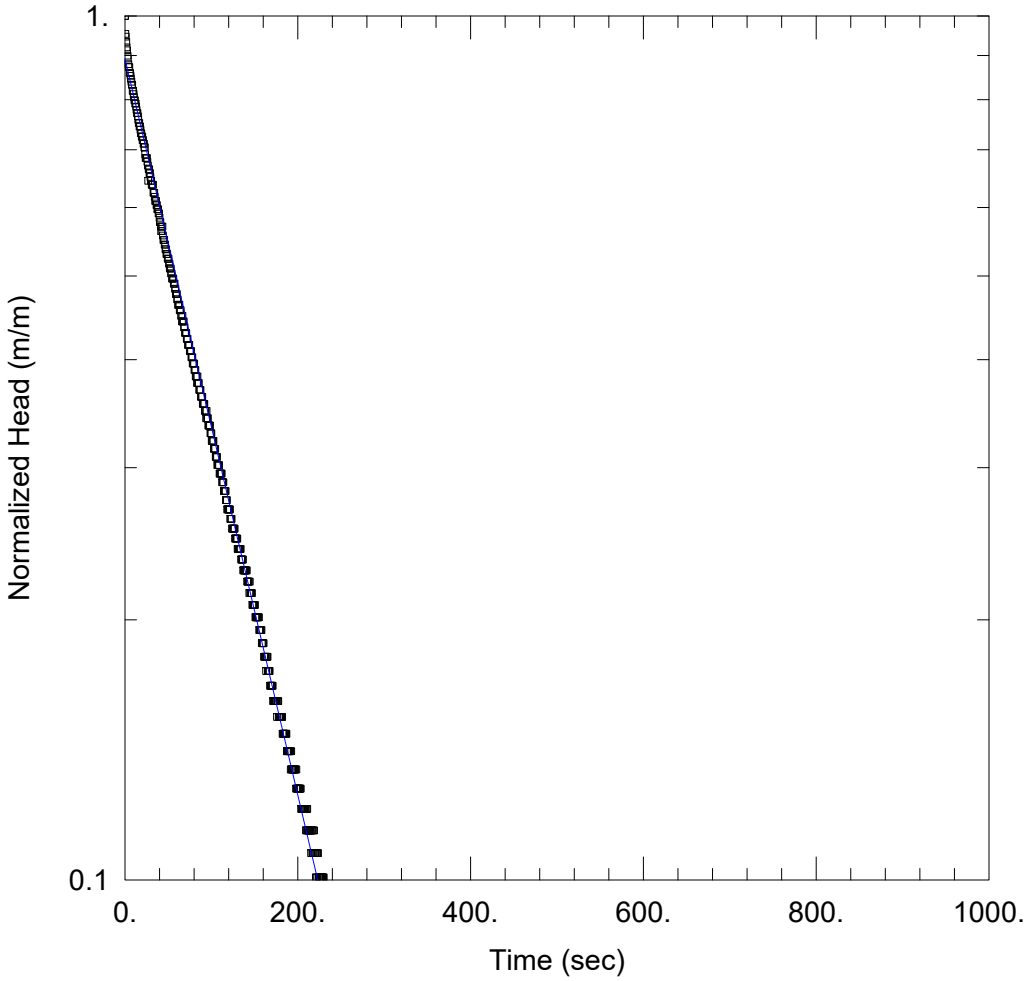
Saturated Thickness: 5.09 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-12-3)

Initial Displacement: 0.734 m
Total Well Penetration Depth: 5.09 m
Casing Radius: 0.019 m
Static Water Column Height: 5.09 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.235E-7 m/sec
y0 = 0.705 m



MW22-12-4 RHT ANALYSIS

Data Set: C:\...\MW22-12-4 RHT.aqt
Date: 05/24/24 Time: 17:48:55

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-12-4
Test Date: 13/08/2023

AQUIFER DATA

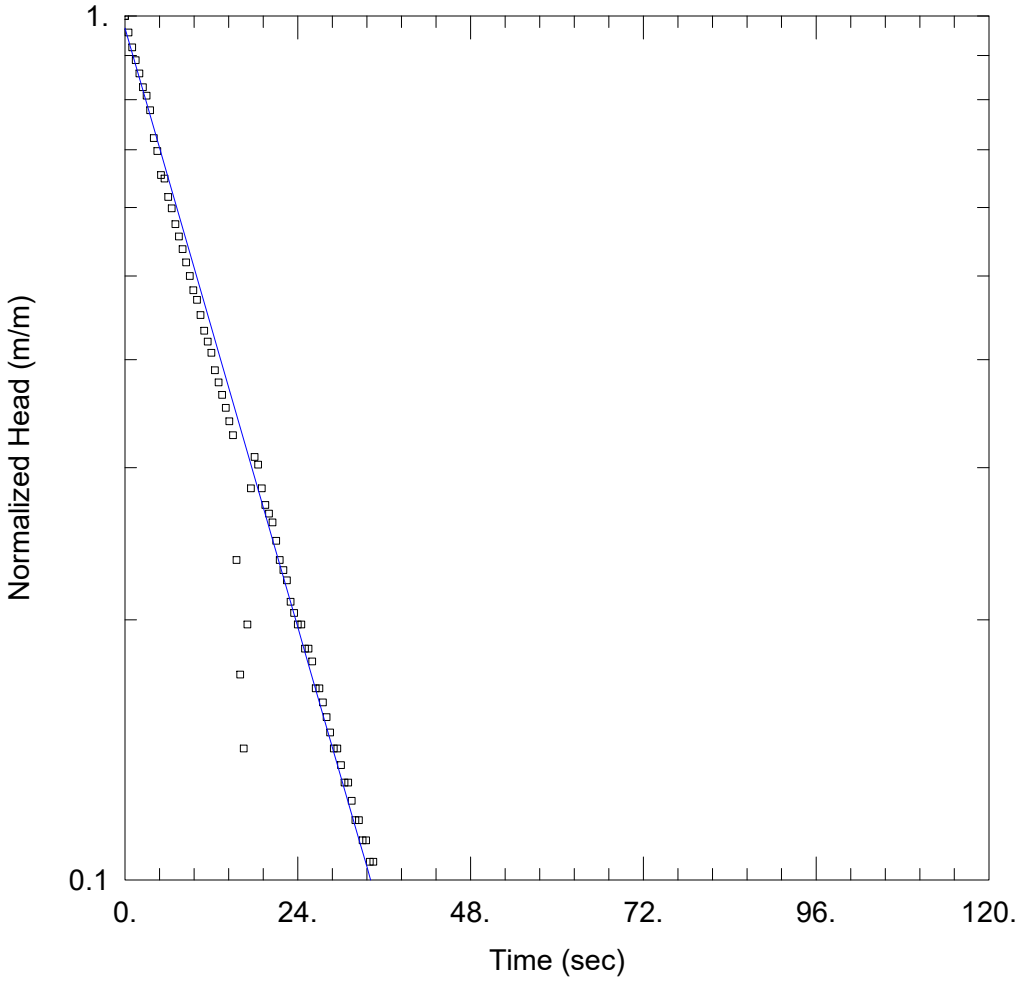
Saturated Thickness: 5.55 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-12-4)

Initial Displacement: 0.149 m Static Water Column Height: 5.55 m
Total Well Penetration Depth: 5.55 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 3.815E-6 m/sec y0 = 0.1329 m



MW22-13-01 RHT ANALYSIS

Data Set: C:\...\MW22-13-1 RHT.aqt
Date: 05/27/24 Time: 09:45:45

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-13-01
Test Date: 13/08/2023

AQUIFER DATA

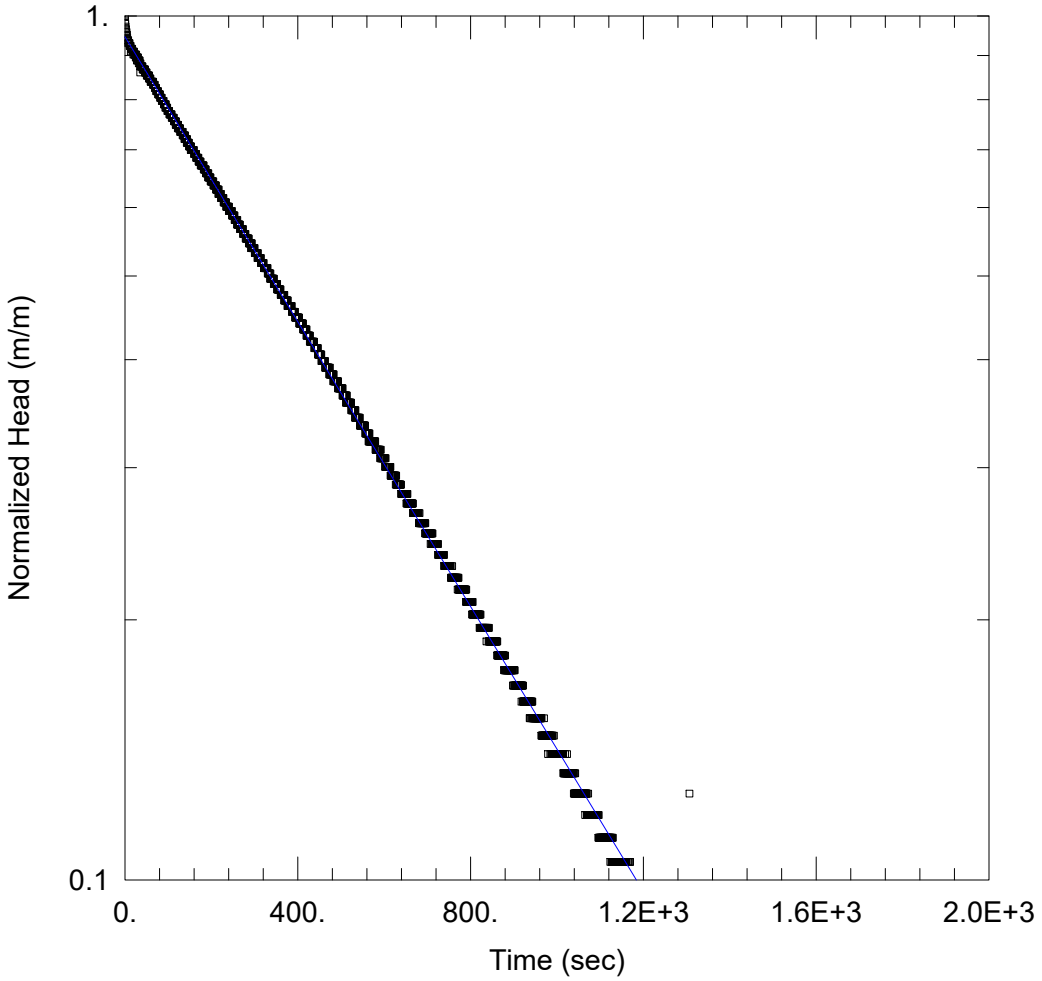
Saturated Thickness: 4.47 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-13-01)

Initial Displacement: 0.162 m
Total Well Penetration Depth: 4.47 m
Casing Radius: 0.019 m
Static Water Column Height: 4.47 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.492E-5 m/sec
y0 = 0.1568 m



MW22-13-02 RHT ANALYSIS

Data Set: C:\...\MW22-13-2 RHT.aqt
Date: 05/27/24 Time: 09:53:12

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-13-02
Test Date: 13/08/2023

AQUIFER DATA

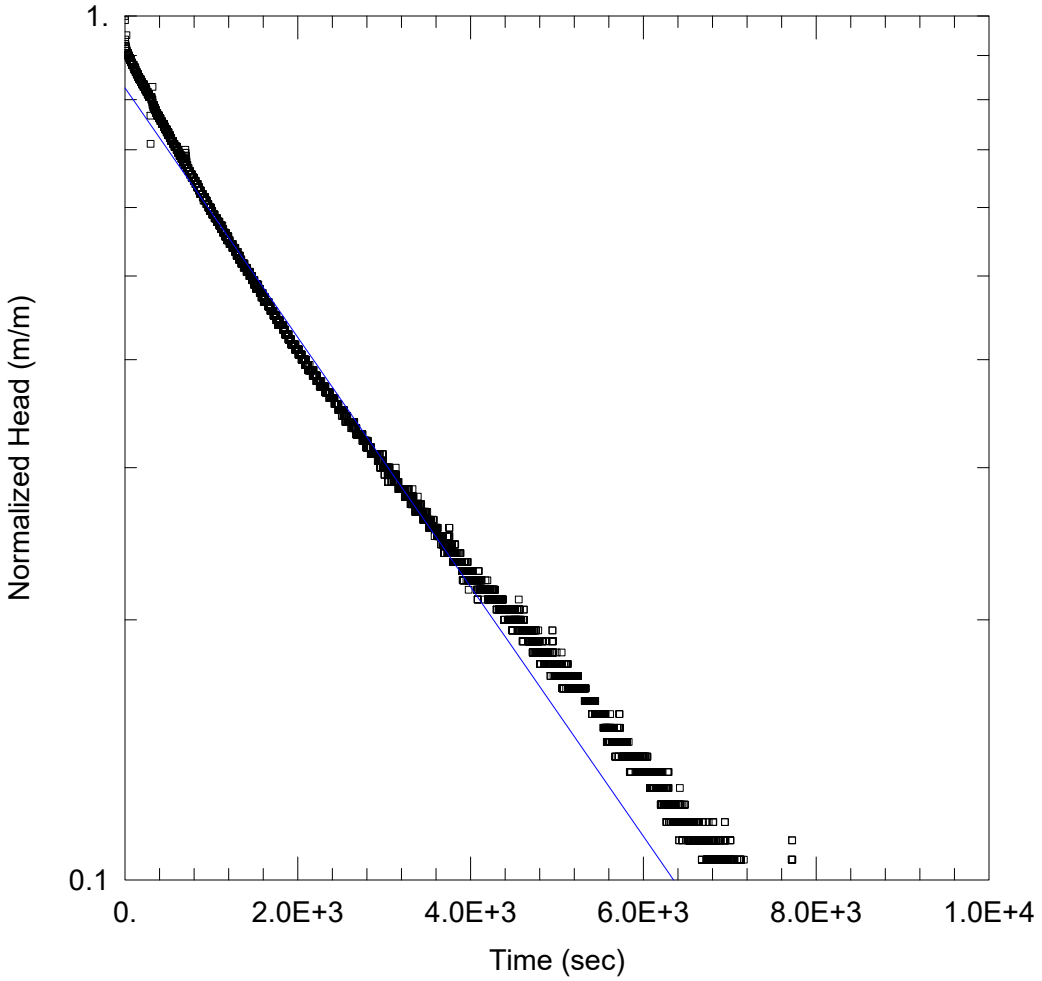
Saturated Thickness: 3.93 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-13-02)

Initial Displacement: 0.143 m
Total Well Penetration Depth: 3.93 m
Casing Radius: 0.019 m
Static Water Column Height: 3.93 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.947E-7 m/sec
y0 = 0.1352 m



MW22-14-01 RHT ANALYSIS

Data Set: C:\...\MW22-14-1 RHT.aqt
Date: 05/27/24 Time: 11:07:41

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-14-01
Test Date: 17/08/2023

AQUIFER DATA

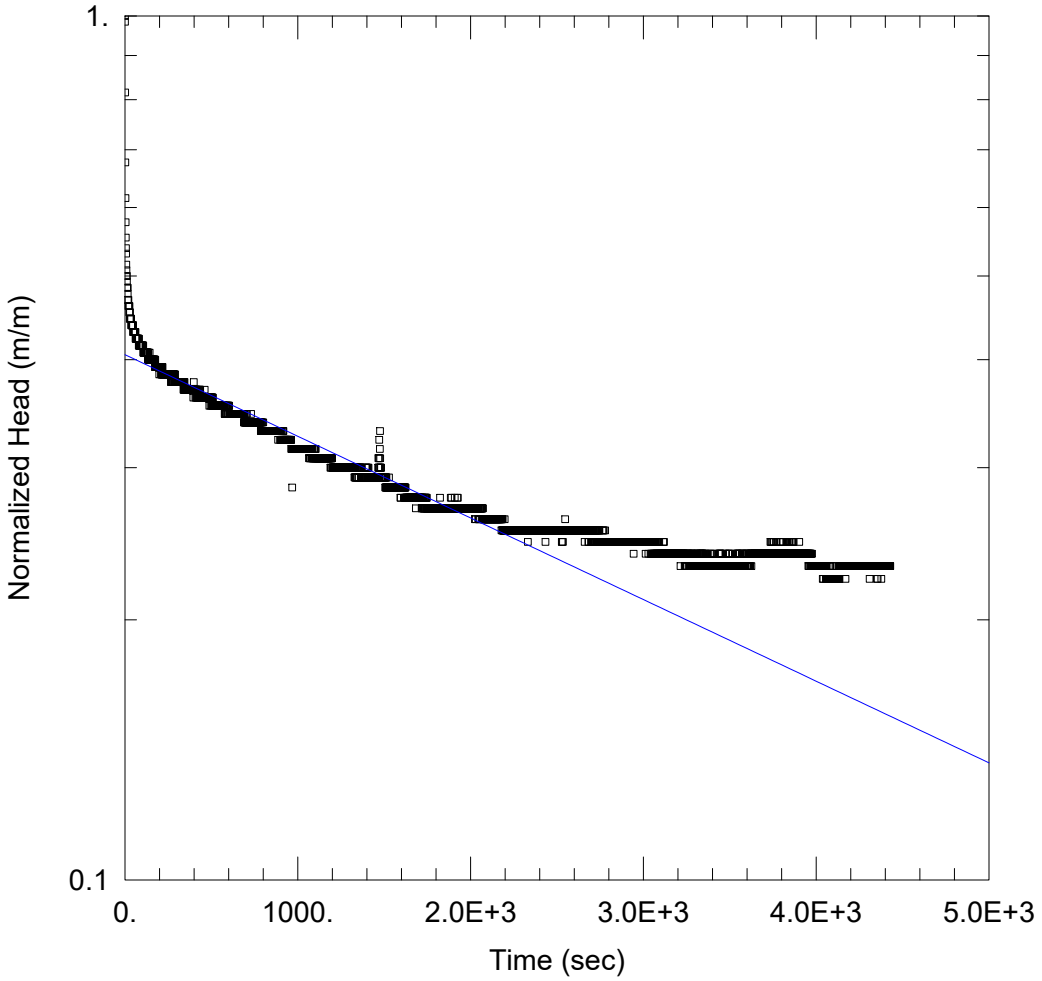
Saturated Thickness: 4.07 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-14-01)

Initial Displacement: 0.18 m
Total Well Penetration Depth: 4.07 m
Casing Radius: 0.019 m
Static Water Column Height: 4.07 m
Screen Length: 1.52 m
Well Radius: 0.054 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.224E-7 m/sec
y0 = 0.1486 m



MW22-14-02 RHT ANALYSIS

Data Set: C:\...\MW22-14-2 RHT.aqt
Date: 05/27/24 Time: 11:13:36

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-14-02
Test Date: 17/08/2023

AQUIFER DATA

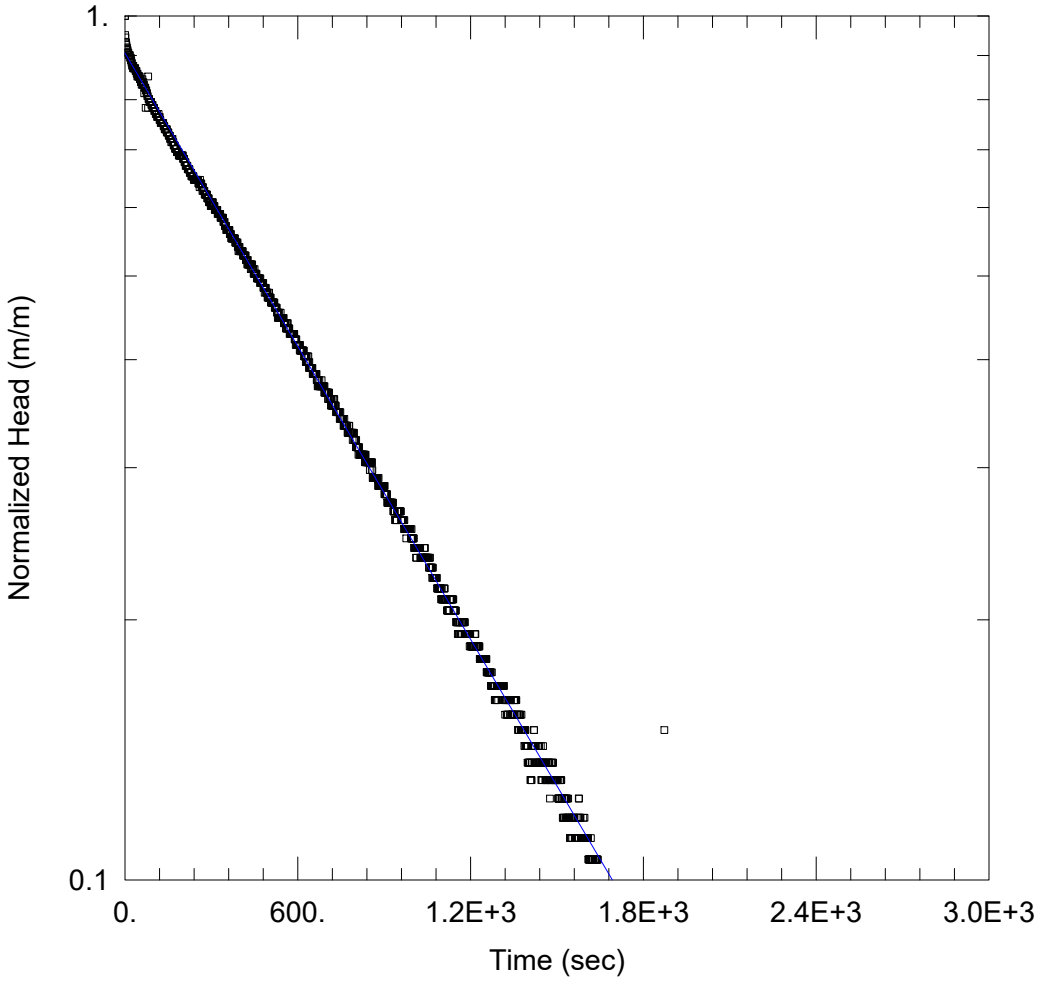
Saturated Thickness: 1.11 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-14-02)

Initial Displacement: 0.13 m
Total Well Penetration Depth: 1.11 m
Casing Radius: 0.019 m
Static Water Column Height: 1.11 m
Screen Length: 1.11 m
Well Radius: 0.054 m
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.48E-7 m/sec
y0 = 0.05271 m



MW22-15-01 RHT ANALYSIS

Data Set: C:\...\MW22-15-1 RHT.aqt
Date: 05/27/24 Time: 11:25:45

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-15-01
Test Date: 15/08/2023

AQUIFER DATA

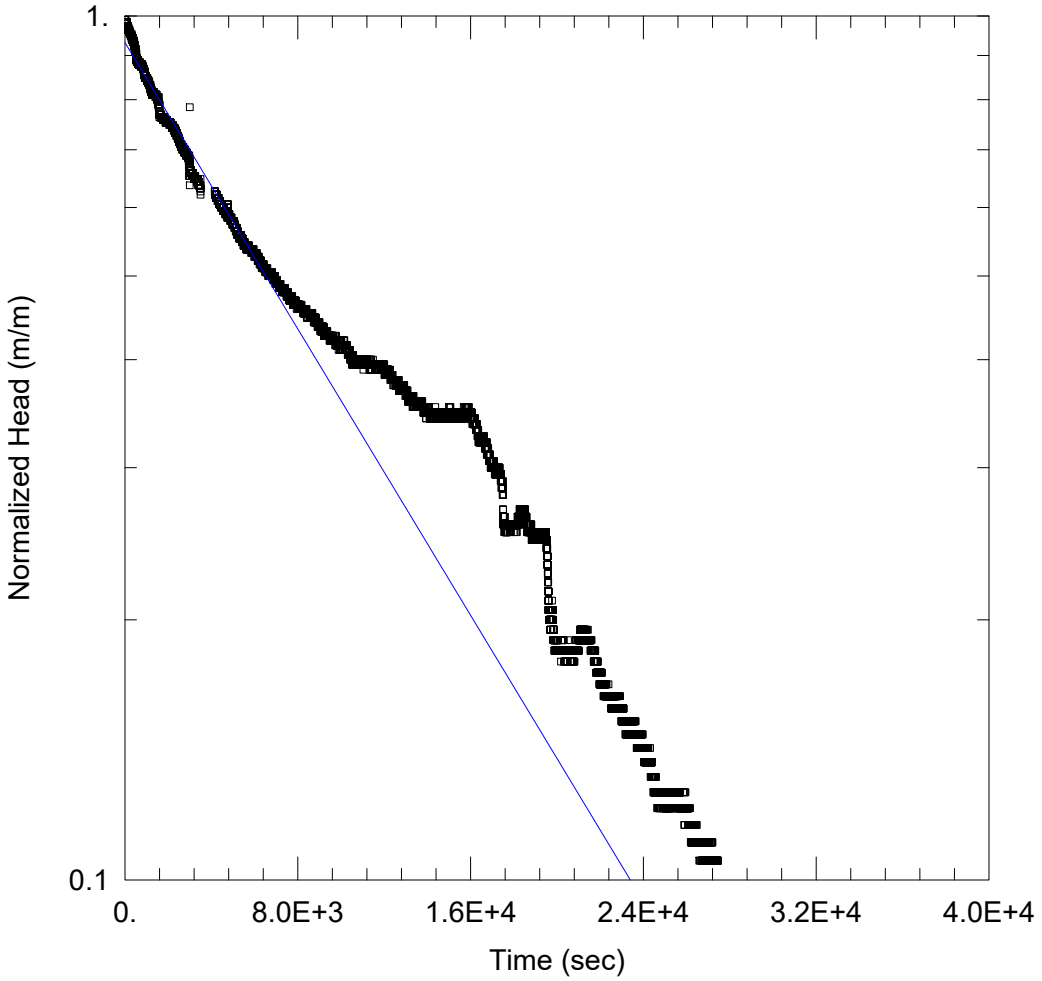
Saturated Thickness: 3.46 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-15-01)

Initial Displacement: 0.161 m Static Water Column Height: 3.46 m
Total Well Penetration Depth: 3.46 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.038 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 5.133E-7 m/sec y0 = 0.1458 m



MW22-15-03 RHT ANALYSIS

Data Set: C:\...\MW22-15-03 RHT.aqt
Date: 05/27/24 Time: 11:41:41

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-15-03
Test Date: 15/08/2023

AQUIFER DATA

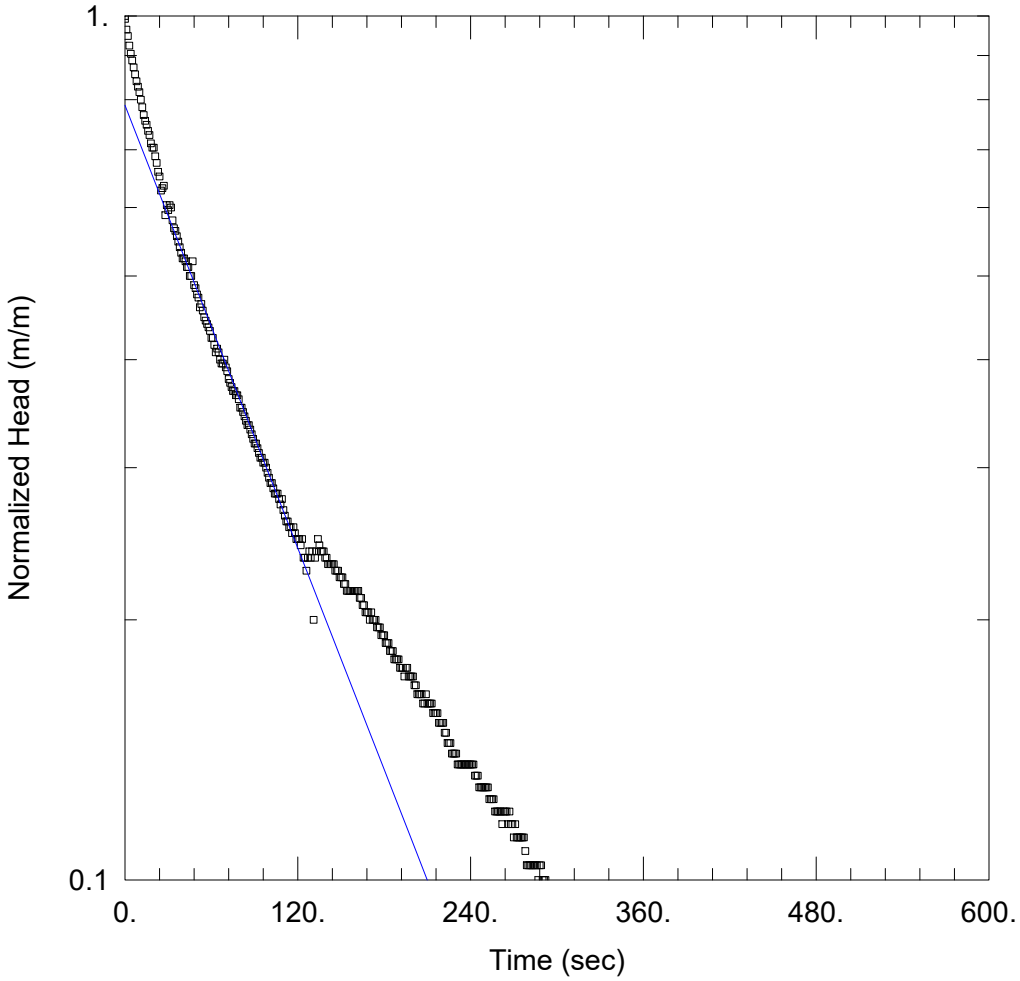
Saturated Thickness: 1.33 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-15-03)

Initial Displacement: 0.19 m
Total Well Penetration Depth: 1.33 m
Casing Radius: 0.019 m
Static Water Column Height: 1.33 m
Screen Length: 1.33 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.5E-7 m/sec
y0 = 0.1769 m



MW22-15-04 RHT ANALYSIS

Data Set: C:\...\MW22-15-4 RHT.aqt
Date: 05/27/24 Time: 12:25:21

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-15-04
Test Date: 15/08/2023

AQUIFER DATA

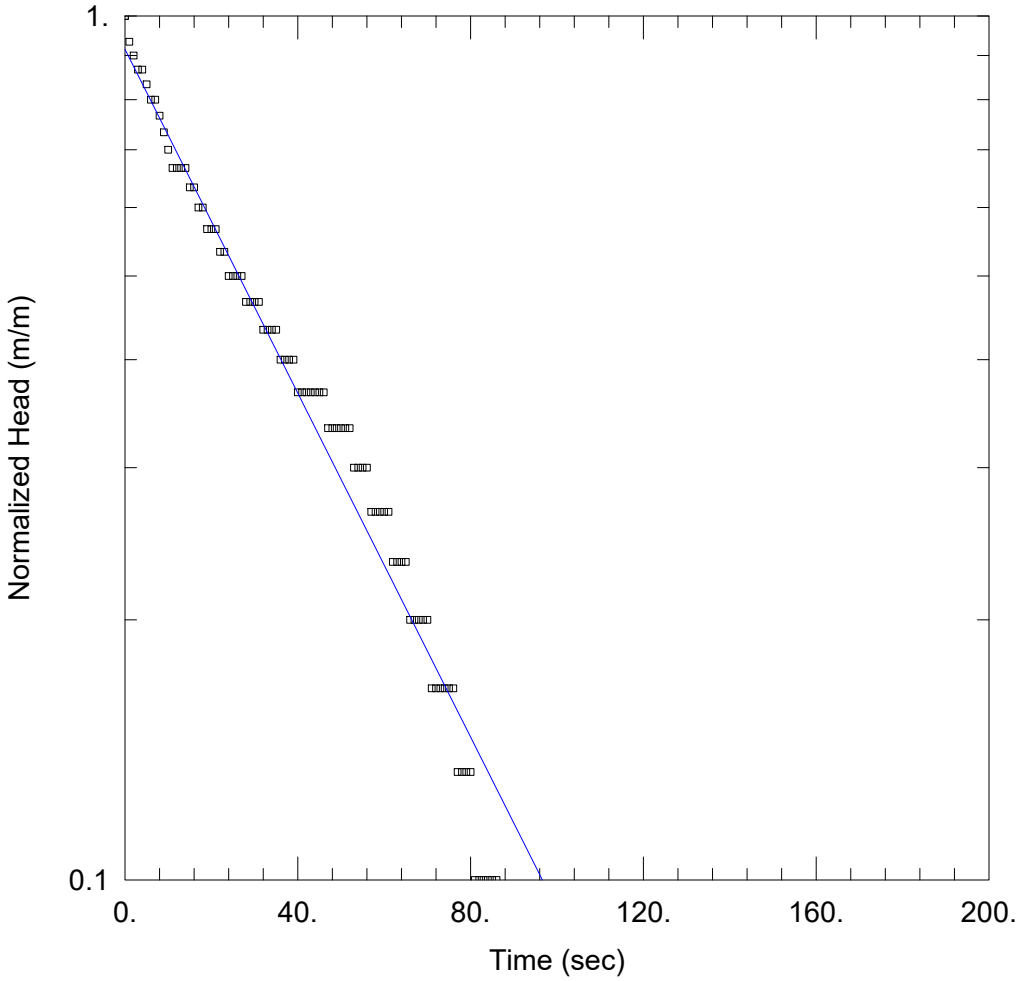
Saturated Thickness: 1.16 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-15-04)

Initial Displacement: 0.25 m
Total Well Penetration Depth: 1.16 m
Casing Radius: 0.019 m
Static Water Column Height: 1.16 m
Screen Length: 1.16 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.675E-5 m/sec
y0 = 0.197 m



MW22-16-01 RHT ANALYSIS

Data Set: C:\...\MW22-16-1 RHT.aqt
Date: 05/27/24 Time: 13:15:45

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-16-01
Test Date: 17/08/2023

AQUIFER DATA

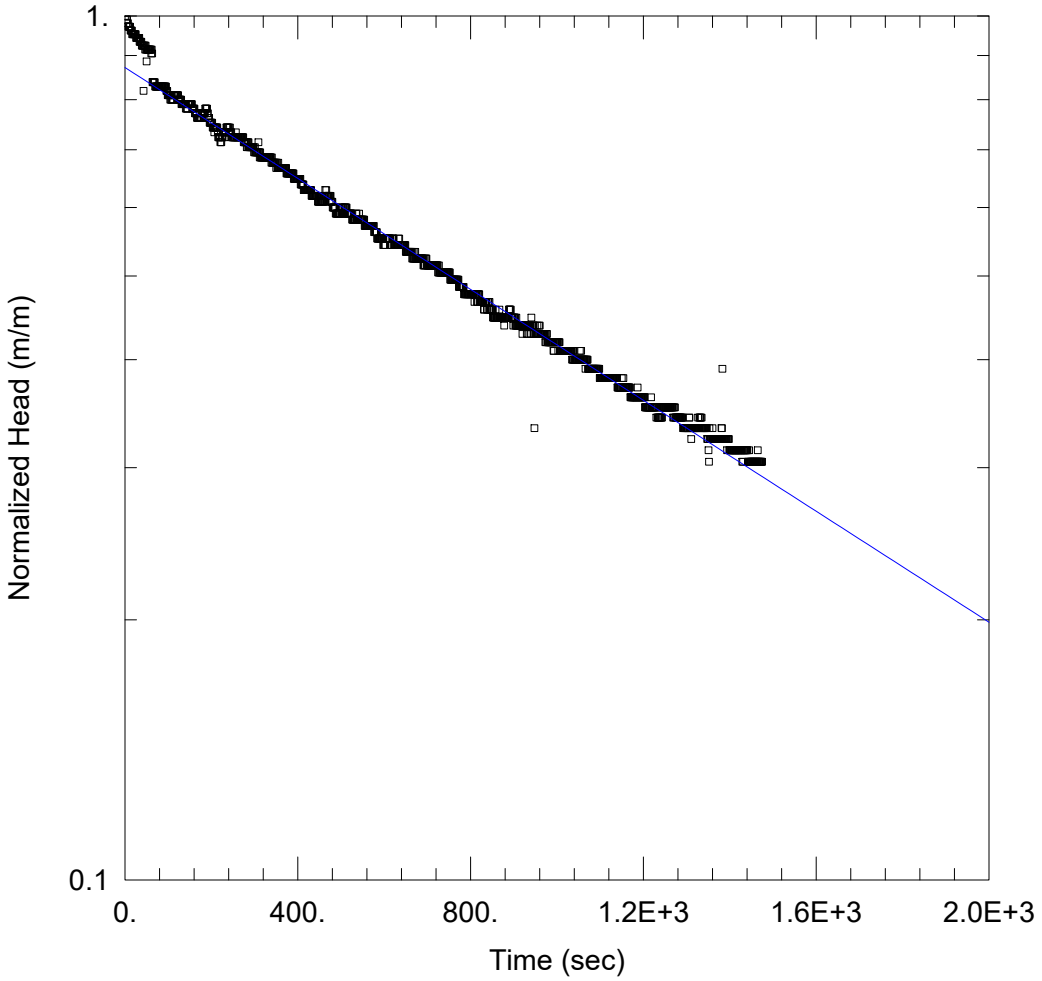
Saturated Thickness: 3.79 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-16-01)

Initial Displacement: 0.03 m
Total Well Penetration Depth: 3.79 m
Casing Radius: 0.019 m
Static Water Column Height: 3.79 m
Screen Length: 1.52 m
Well Radius: 0.076 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 7.466E-6 m/sec
y0 = 0.02745 m



MW22-16-02 RHT

Data Set: C:\...\MW22-16-2 RHT.aqt
Date: 05/27/24 Time: 13:26:49

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-16-02
Test Date: 17/08/2023

AQUIFER DATA

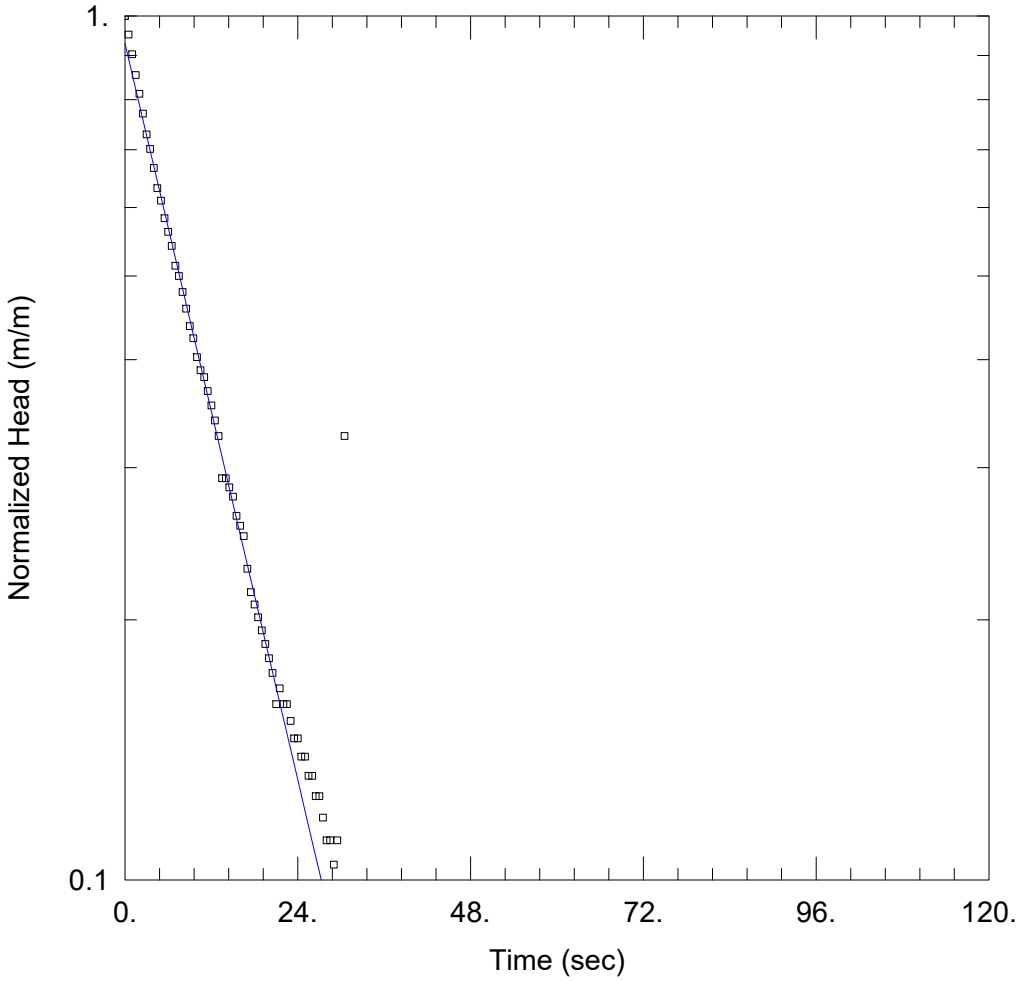
Saturated Thickness: 0.8 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-16-02)

Initial Displacement: 0.105 m
Total Well Penetration Depth: 0.8 m
Casing Radius: 0.019 m
Static Water Column Height: 0.8 m
Screen Length: 0.8 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.55E-6 m/sec
y0 = 0.0915 m



MW22-17-01 RHT ANALYSIS

Data Set: C:\...\MW22-17-1 RHT.aqt
Date: 05/27/24 Time: 13:31:11

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-17-01
Test Date: 15/08/2023

AQUIFER DATA

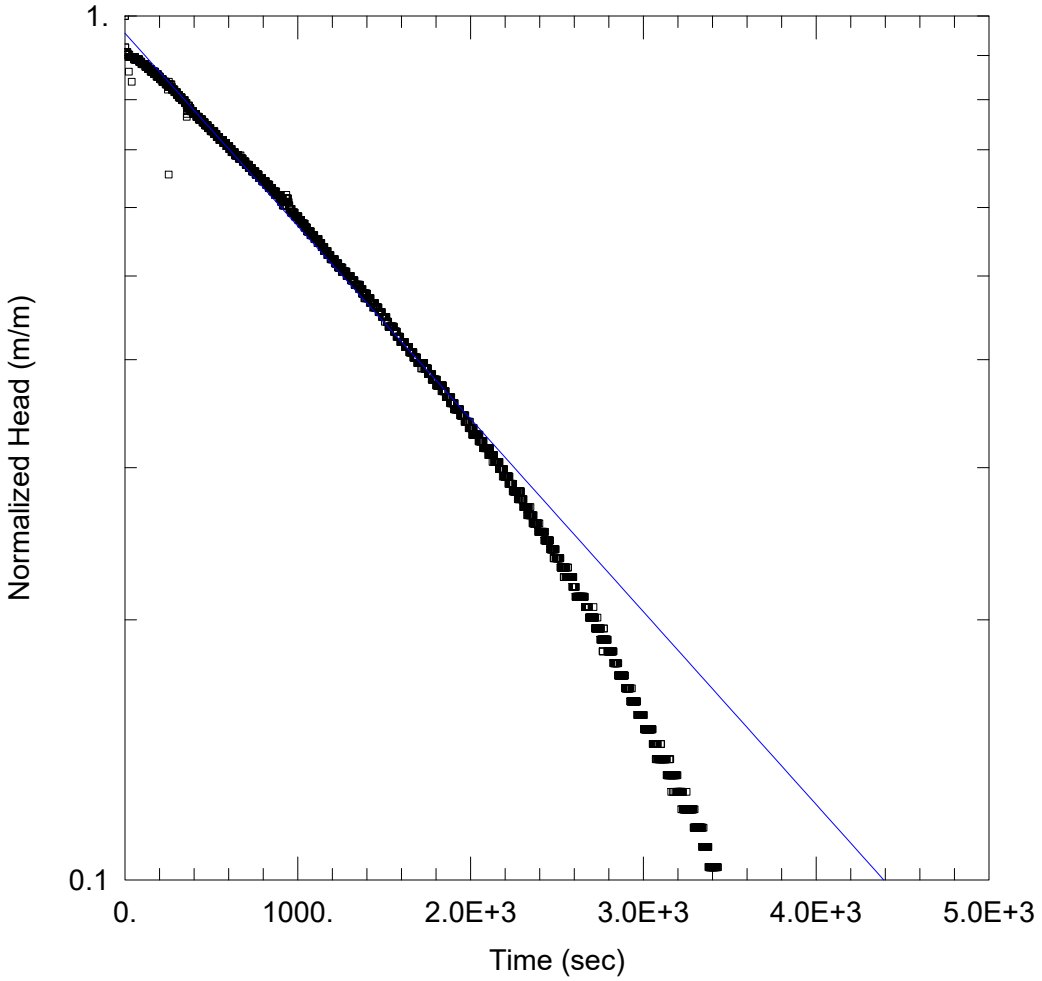
Saturated Thickness: 5.37 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-17-01)

Initial Displacement: 0.144 m
Total Well Penetration Depth: 5.37 m
Casing Radius: 0.019 m
Static Water Column Height: 5.37 m
Screen Length: 1.52 m
Well Radius: 0.038 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.472E-5 m/sec
y0 = 0.1338 m



MW22-17-02 RHT ANALYSIS

Data Set: C:\...\MW22-17-2 RHT.aqt
Date: 05/27/24 Time: 13:43:01

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-17-02
Test Date: 15/08/2023

AQUIFER DATA

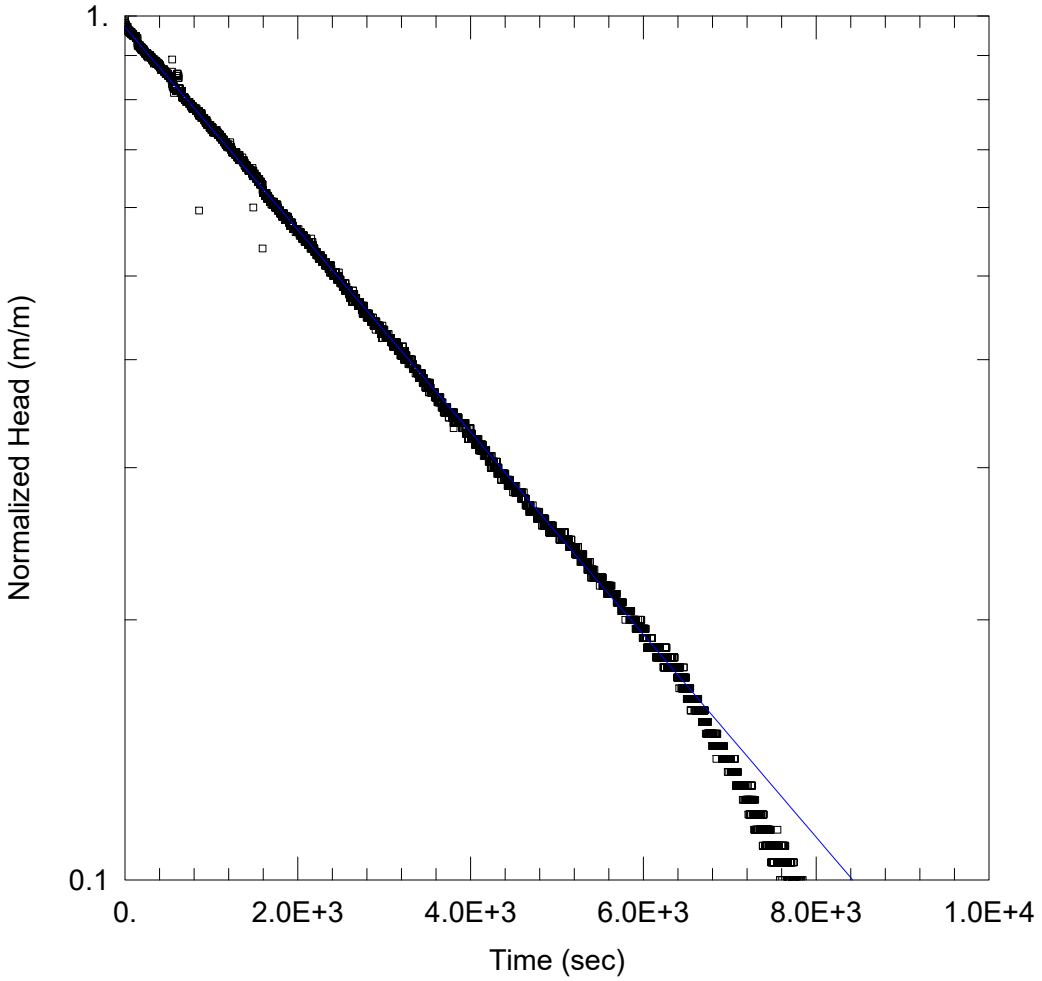
Saturated Thickness: 3.07 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-17-02)

Initial Displacement: 0.174 m
Total Well Penetration Depth: 3.07 m
Casing Radius: 0.019 m
Static Water Column Height: 3.07 m
Screen Length: 1.52 m
Well Radius: 0.076 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.604E-7 m/sec
y0 = 0.1661 m



MW22-18-01 RHT ANALYSIS

Data Set: C:\...\MW22-18-1 RHT.aqt
Date: 05/27/24 Time: 13:48:01

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-18-01
Test Date: 17/08/2023

AQUIFER DATA

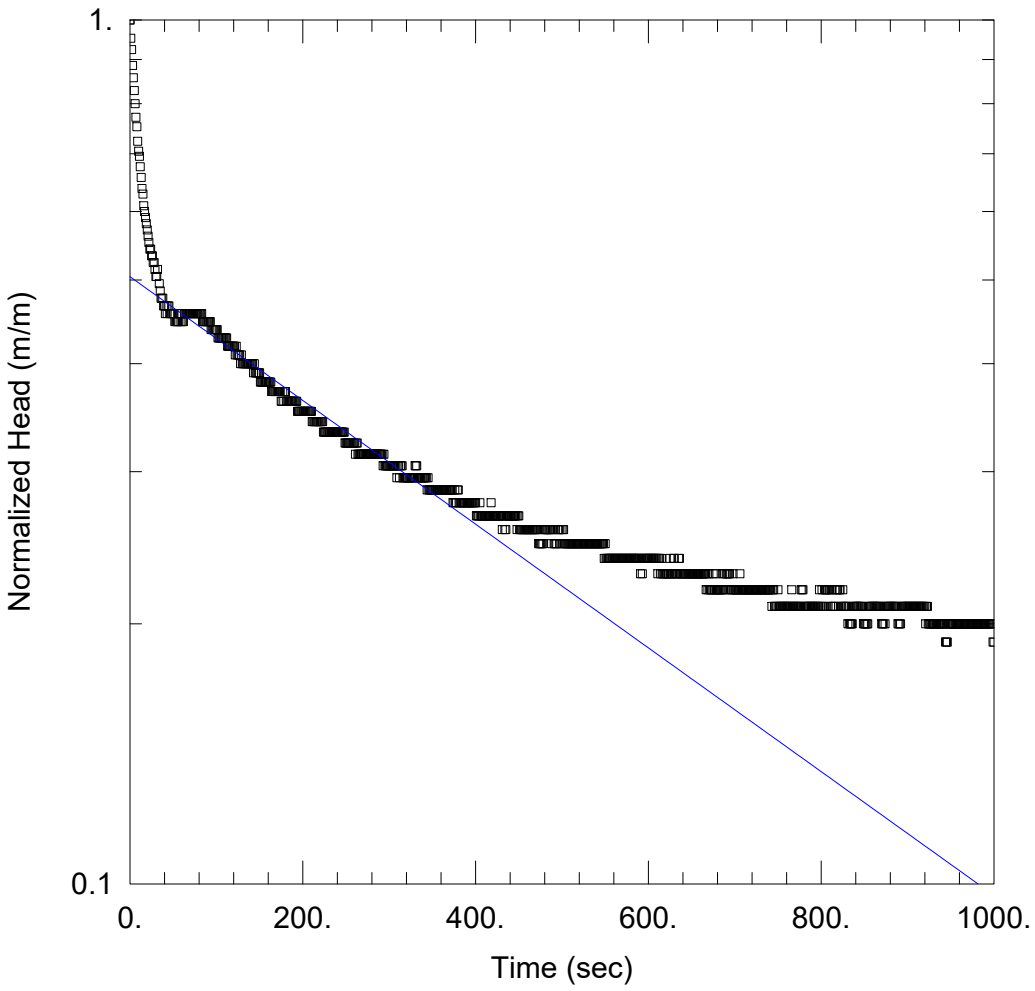
Saturated Thickness: 4.16 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-18-01)

Initial Displacement: 0.21 m
Total Well Penetration Depth: 4.16 m
Casing Radius: 0.019 m
Static Water Column Height: 4.16 m
Screen Length: 1.52 m
Well Radius: 0.038 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.099E-7 m/sec
y0 = 0.2038 m



MW-18-02 RHT ANALYSIS

Data Set: C:\...\MW22-18-2 RHT rev.aqt
Date: 01/23/26 Time: 17:28:02

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-18-02
Test Date: 17/08/2023

AQUIFER DATA

Saturated Thickness: 1.05 m Anisotropy Ratio (Kz/Kr): 1.

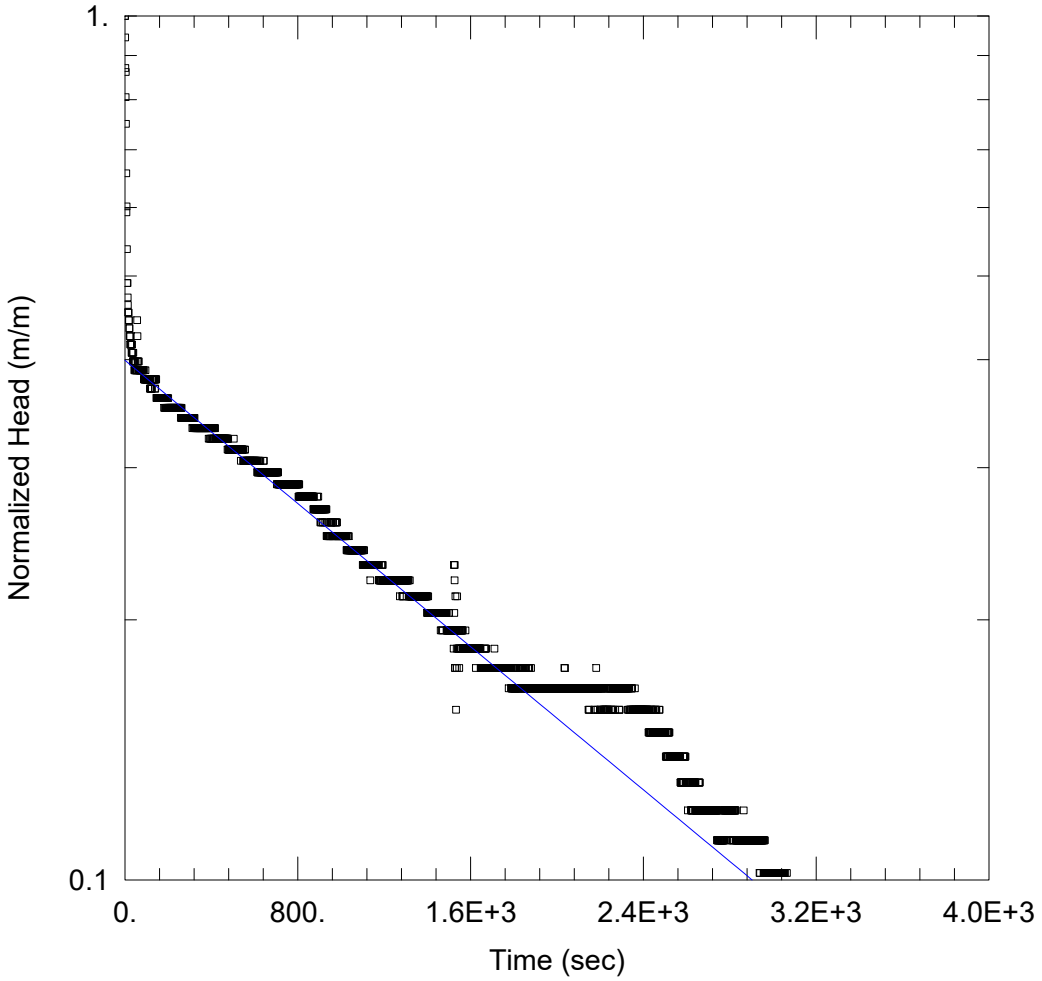
WELL DATA (MW22-18-02)

Initial Displacement: 0.105 m
Total Well Penetration Depth: 1.05 m
Casing Radius: 0.019 m
Static Water Column Height: 1.05 m
Screen Length: 1.05 m
Well Radius: 0.038 m
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.346E-6 m/sec y0 = 0.05297 m



MW22-19-01 RHT ANALYSIS

Data Set: C:\...\MW22-19-1 RHT.aqt
Date: 05/27/24 Time: 15:13:05

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-19-01
Test Date: 15/08/2023

AQUIFER DATA

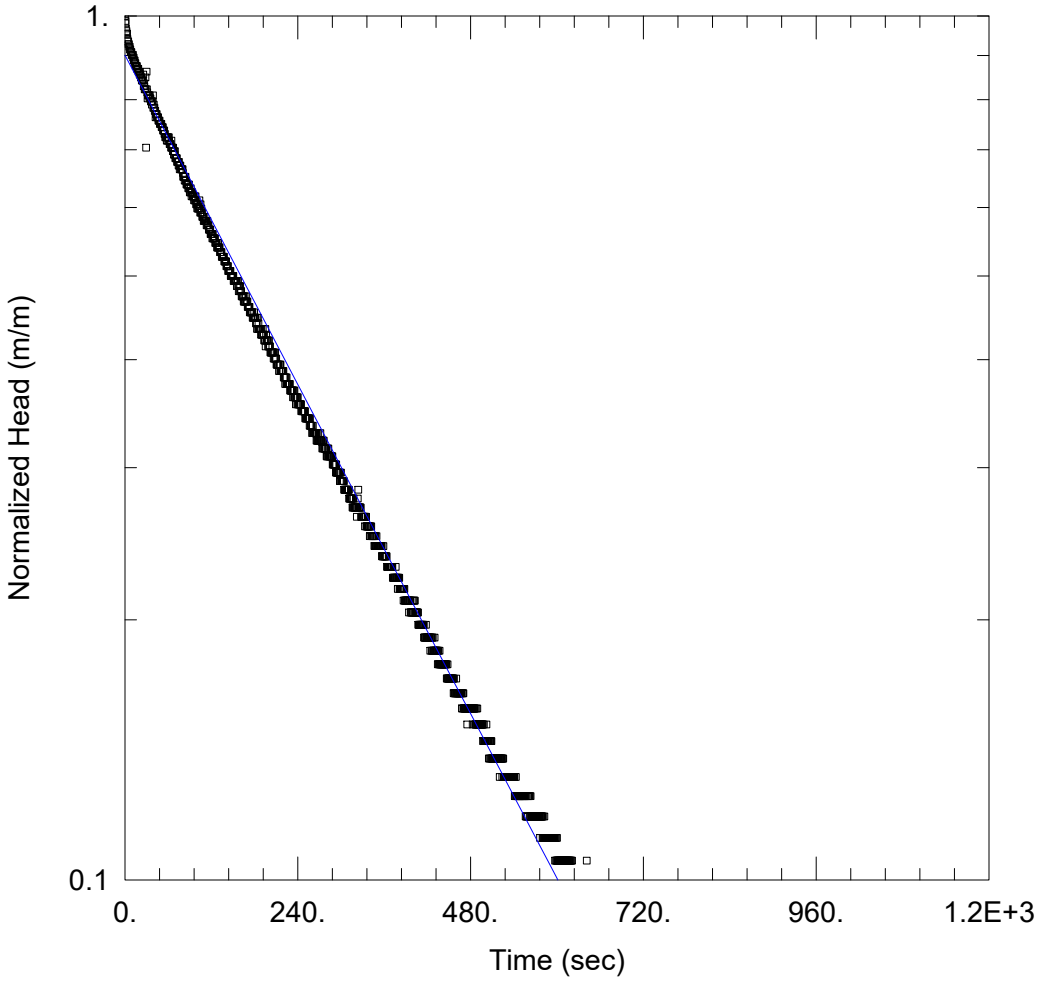
Saturated Thickness: 1.63 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-09-01)

Initial Displacement: 0.108 m
Total Well Penetration Depth: 1.63 m
Casing Radius: 0.019 m
Static Water Column Height: 1.63 m
Screen Length: 1.52 m
Well Radius: 0.076 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.282E-7 m/sec
y0 = 0.04313 m



MW22-20-01 RHT ANALYSIS

Data Set: C:\...\MW22-20-1 RHT.aqt
Date: 05/27/24 Time: 15:18:10

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-20-01
Test Date: 15/08/2023

AQUIFER DATA

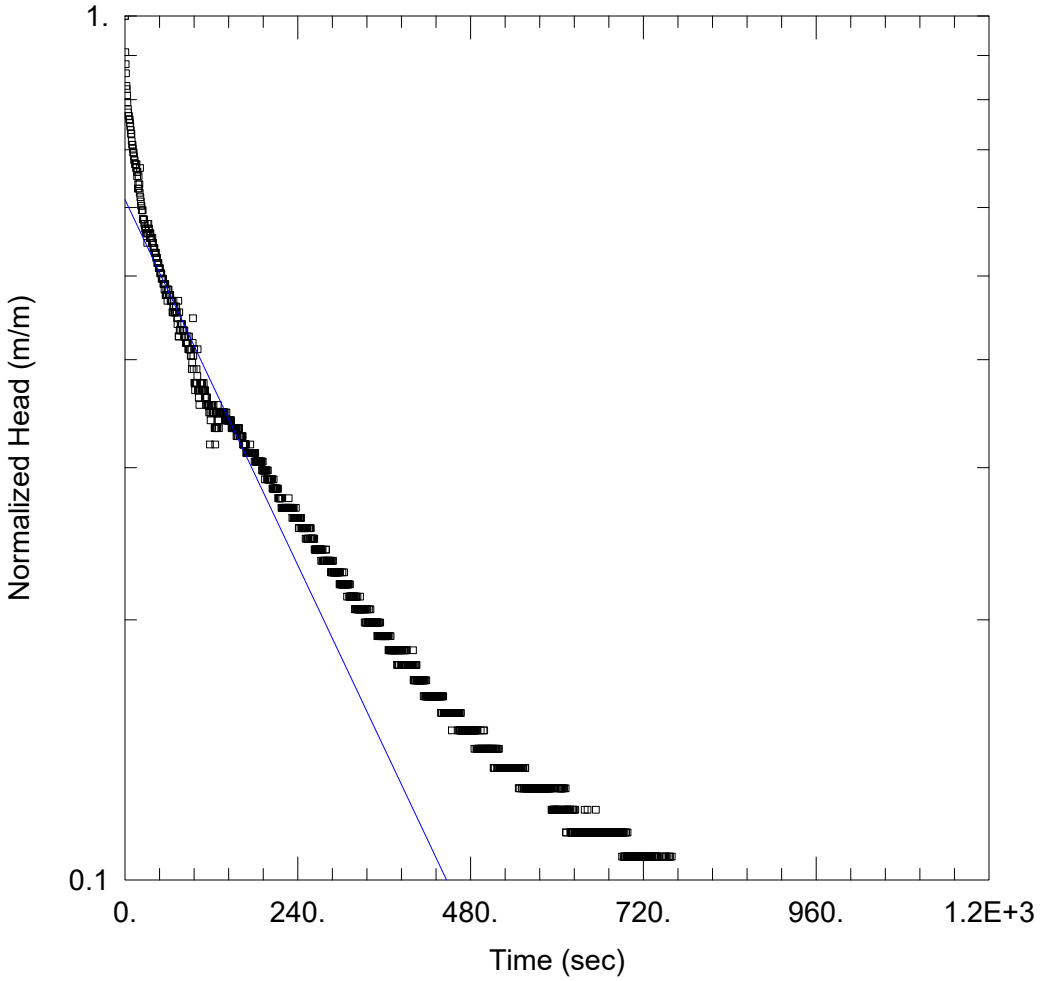
Saturated Thickness: 4.49 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-20-01)

Initial Displacement: 0.152 m
Total Well Penetration Depth: 4.49 m
Casing Radius: 0.019 m
Static Water Column Height: 4.49 m
Screen Length: 1.52 m
Well Radius: 0.038 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.508E-6 m/sec
y0 = 0.1369 m



MW22-20-02 RHT ANALYSIS

Data Set: C:\...\MW22-20-2 RHT.aqt
Date: 05/27/24 Time: 15:28:14

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-20-02
Test Date: 15/08/2023

AQUIFER DATA

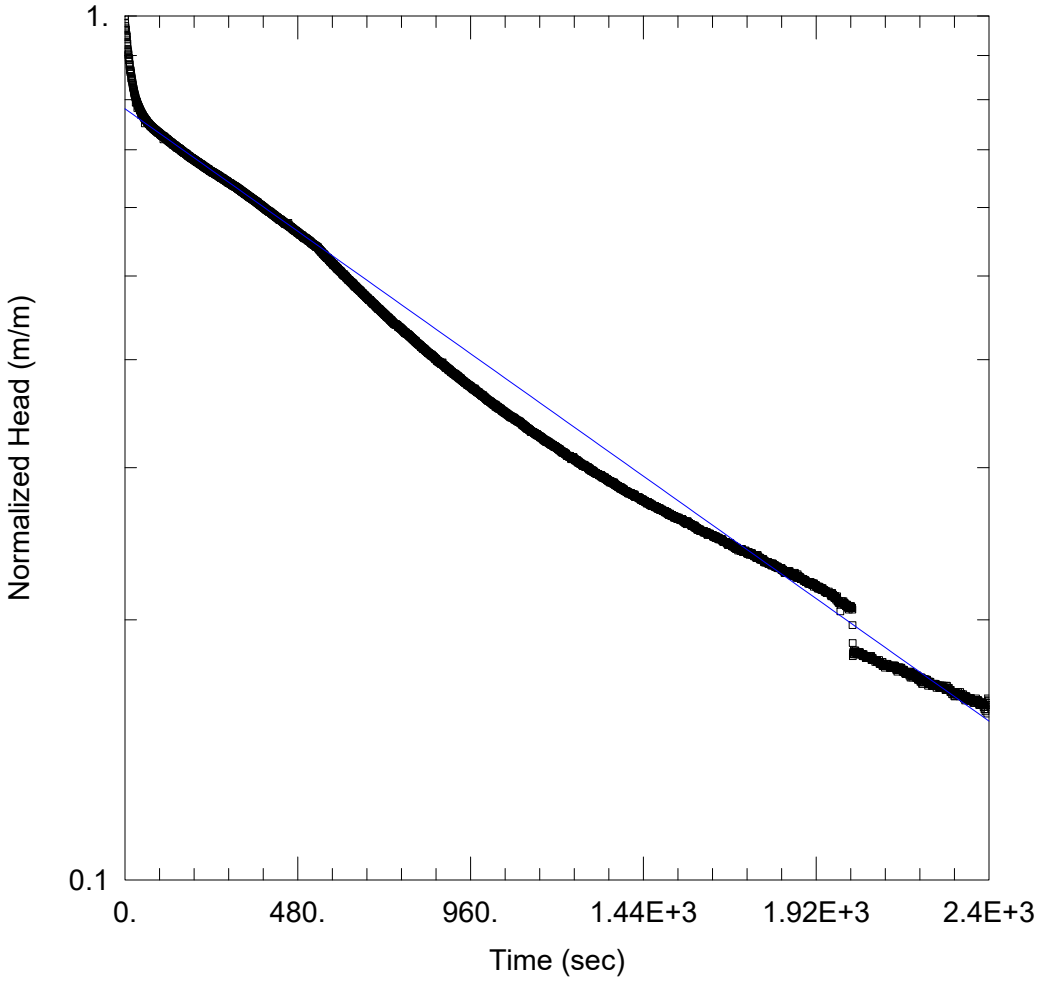
Saturated Thickness: 2.29 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-20-02)

Initial Displacement: 0.141 m
Total Well Penetration Depth: 2.29 m
Casing Radius: 0.019 m
Static Water Column Height: 2.29 m
Screen Length: 1.52 m
Well Radius: 0.076 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.187E-6 m/sec
y0 = 0.08642 m



MW22-20-03 RHT ANALYSIS

Data Set: C:\...\MW22-20-3 RHT.aqt
Date: 05/27/24 Time: 16:52:59

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-20-03
Test Date: 15/08/2023

AQUIFER DATA

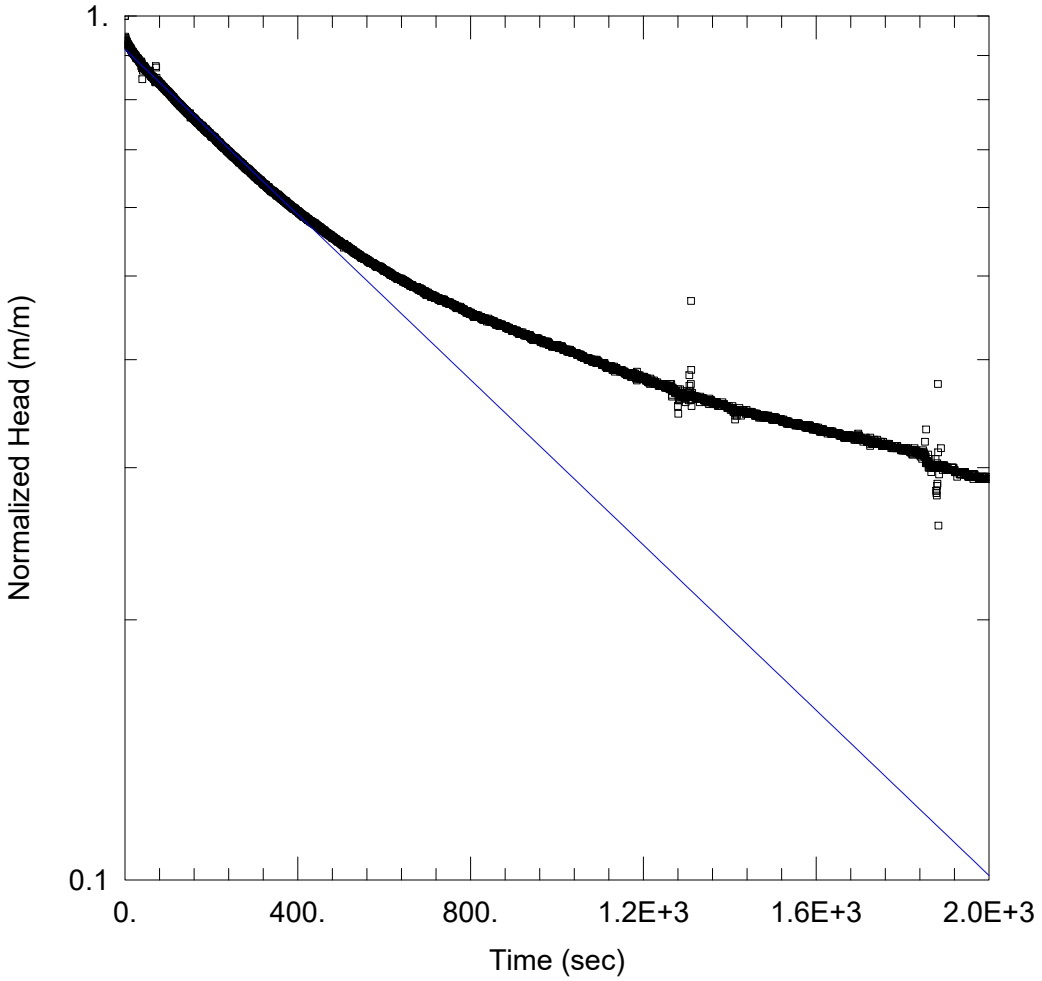
Saturated Thickness: 1.96 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW22-20-03)

Initial Displacement: 1.085 m Static Water Column Height: 1.96 m
Total Well Penetration Depth: 1.96 m Screen Length: 1.52 m
Casing Radius: 0.019 m Well Radius: 0.076 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 1.915E-7 m/sec y0 = 0.8471 m



MW22-20-04 RHT ANALYSIS

Data Set: C:\...\MW22-20-4 RHT.aqt
Date: 05/27/24 Time: 17:02:46

PROJECT INFORMATION

Company: WSP
Client: AECOM
Project: 21455151
Location: Marten Falls
Test Well: MW22-20-04
Test Date: 15/08/2023

AQUIFER DATA

Saturated Thickness: 0.94 m
Anisotropy Ratio (Kz/Kr): 1.

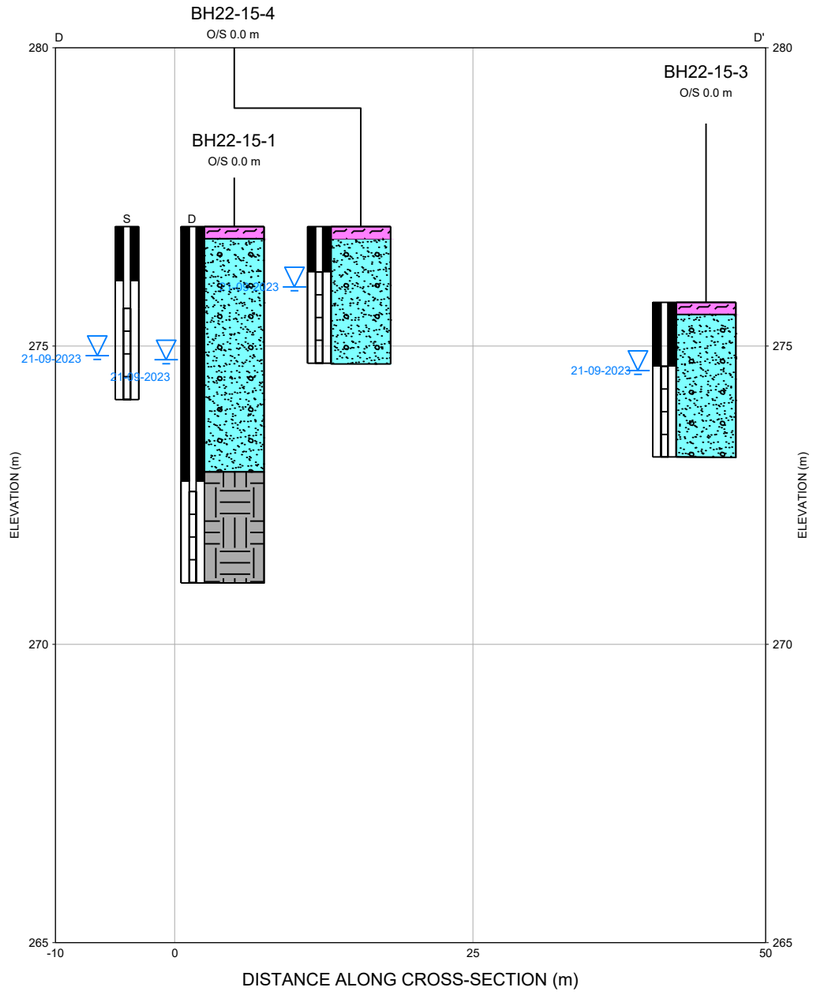
WELL DATA (MW22-20-04)

Initial Displacement: 0.56 m
Total Well Penetration Depth: 0.94 m
Casing Radius: 0.019 m
Static Water Column Height: 0.94 m
Screen Length: 0.94 m
Well Radius: 0.076 m
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.113E-6 m/sec
y0 = 0.5122 m

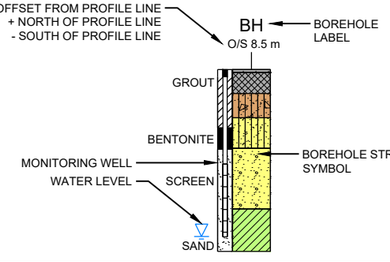
Attachment H – Detailed Groundwater Monitoring Station Cross-Sections



SOIL STRATIGRAPHY

- ORGANICS/TOPSOIL
- GRAVELLY SILT AND SAND
- BEDROCK

LEGEND



0 2.5 5
1:100 VERTICAL SCALE METRES

0 10 20
1:500 HORIZONTAL SCALE METRES

CLIENT
AECOM

CONSULTANT
wsp

PROJECT
MARTEN FALLS COMMUNITY ACCESS ROAD

TITLE
INTERPRETED SOIL STRATIGRAPHY CROSS SECTION D-D'

YYYY-MM-DD	2024-07-18
DESIGNED	XXX
PREPARED	NM
REVIEWED	XXX
APPROVED	XXX

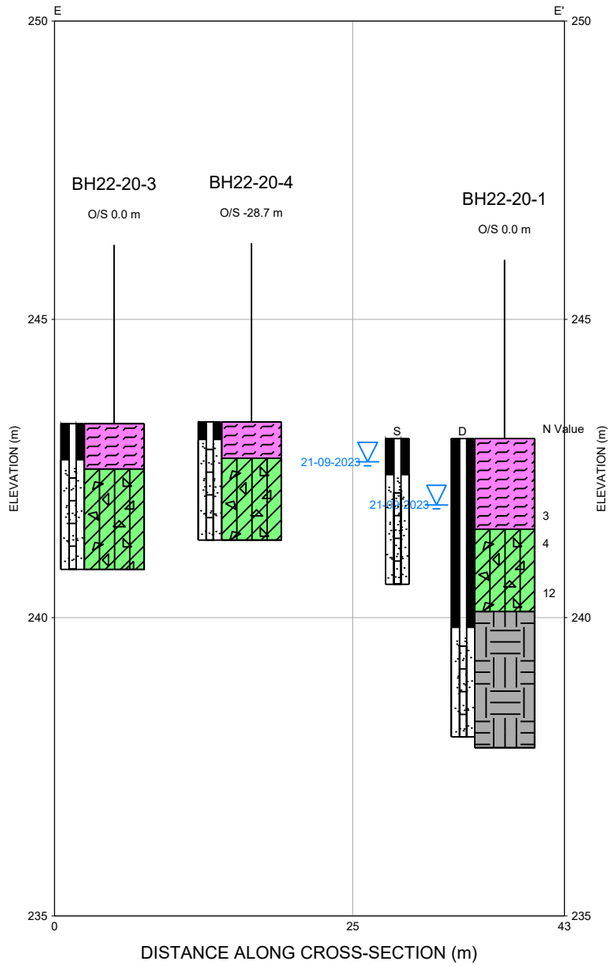
PROJECT NO.	CONTROL	REV.	FIGURE
21455151	0001	----	4

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

25 mm

0

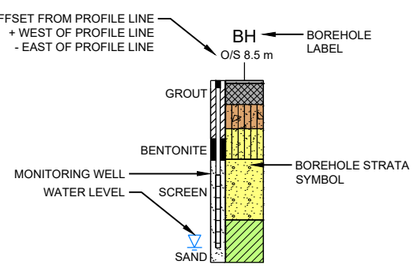
Path: \\corp.pbwan.net\CA\CAMIS300.CTX_Data\SIM\Clients\MartenFalls_FirstNation\Northern, Ontario\02_DATA\DWG\Marten_Falls_Access_Road\PROJ.A | File Name: 21455151-001_Cross_Sections_0000.dwg



SOIL STRATIGRAPHY

- ORGANICS/TOPSOIL
- SILTY CLAY
- BEDROCK

LEGEND



0 2.5 5
1:100 VERTICAL SCALE METRES

0 10 20
1:500 HORIZONTAL SCALE METRES

CLIENT
AECOM

CONSULTANT
wsp

PROJECT
MARTEN FALLS COMMUNITY ACCESS ROAD

TITLE
INTERPRETED SOIL STRATIGRAPHY CROSS SECTION E-E'

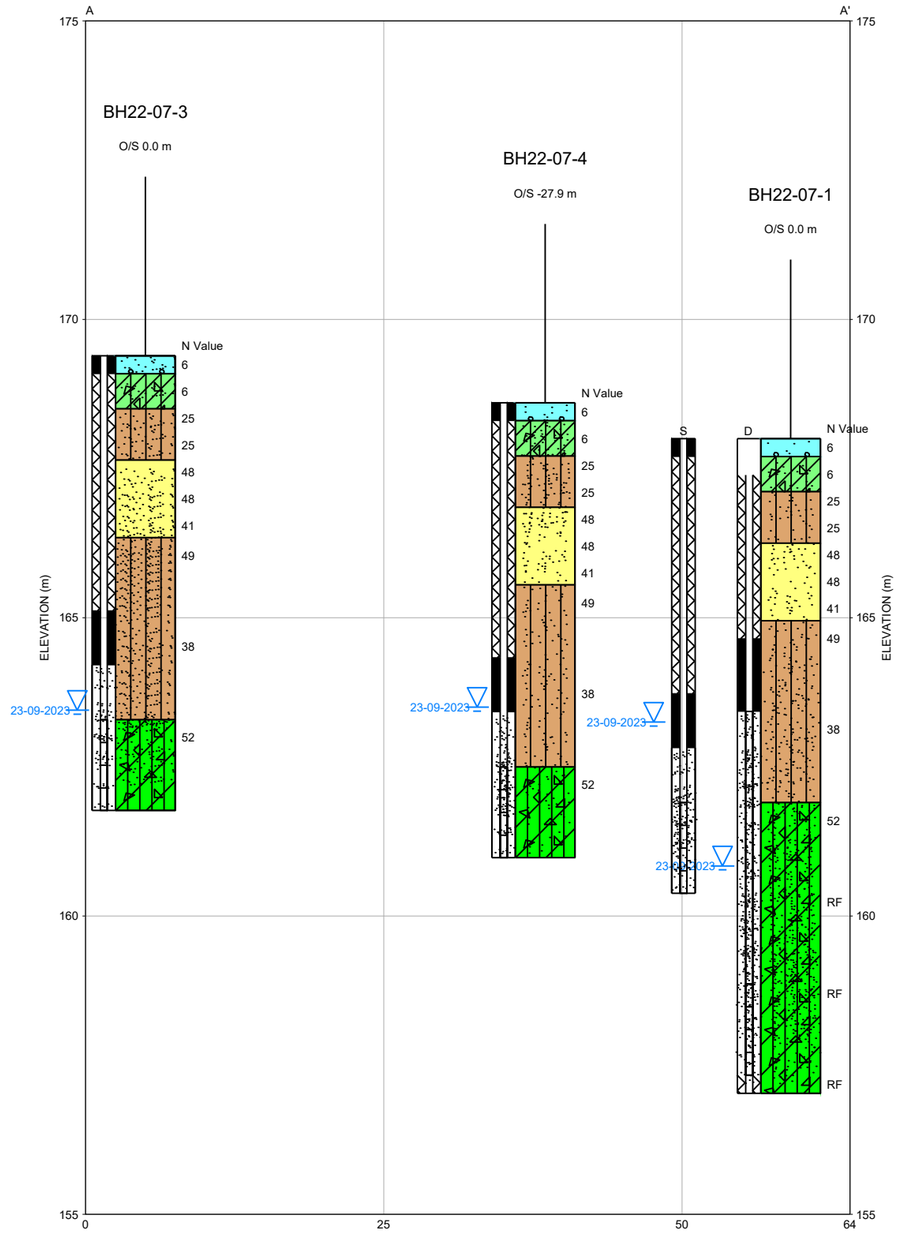
YYYY-MM-DD	2024-07-18
DESIGNED	XXX
PREPARED	NM
REVIEWED	XXX
APPROVED	XXX

PROJECT NO.	CONTROL	REV.	FIGURE
21455151	0001	----	5

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

0 25 mm

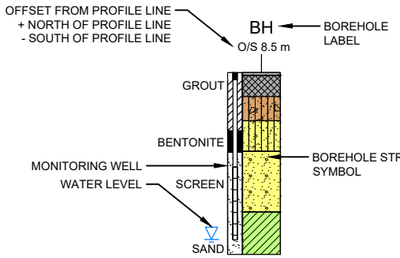
Path: \\corp.pbwan.net\CA\CAMIS300\CTX_Data\SIM\Clients\MartenFalls_FirstNation\Northern_Ontario\02_DATA\DWG\Marten_Falls_Access_Road\PROJ\ | File Name: 21455151-001_Cross_Sections_0000.dwg



SOIL STRATIGRAPHY

- SAND
- SAND AND GRAVEL
- SILTY CLAY
- SANDY SILT
- CLAYEY SILT TILL

LEGEND



0 2.5 5
1:100 VERTICAL SCALE METRES

0 10 20
1:500 HORIZONTAL SCALE METRES

CLIENT
AECOM

CONSULTANT
wsp

YYYY-MM-DD	2024-07-18
DESIGNED	XXX
PREPARED	NM
REVIEWED	XXX
APPROVED	XXX

PROJECT
MARTEN FALLS COMMUNITY ACCESS ROAD

TITLE
INTERPRETED SOIL STRATIGRAPHY CROSS SECTION A-A'

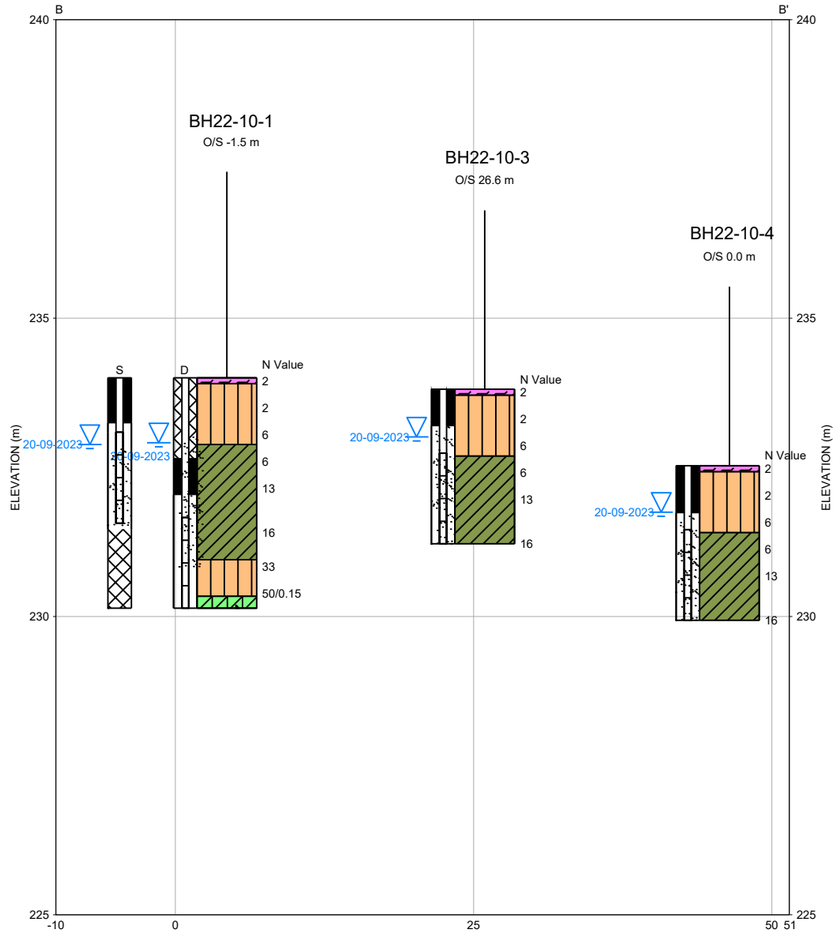
PROJECT NO.	CONTROL	REV.	FIGURE
21455151	0001	----	1

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

25 mm

0

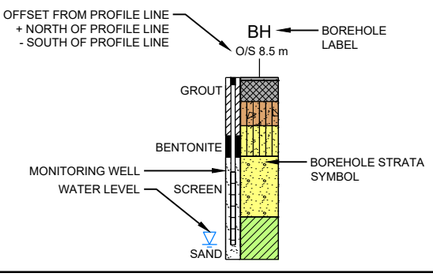
Path: \\corp.pbwan.net\CA\CAM\IS300\CTX_Data\SIM\Clients\MartenFalls_FirstNation\Northern_Ontario\02_DATA\DWG\Marten_Falls_Access_Road\PRO.A | File Name: 21455151-001_Cross_Sections_0000.dwg



SOIL STRATIGRAPHY

- ORGANICS/TOPSOIL
- SILT
- CLAY
- SILTY CLAY

LEGEND



0 2.5 5
1:100 VERTICAL SCALE METRES

0 10 20
1:500 HORIZONTAL SCALE METRES

CLIENT
AECOM

CONSULTANT

YYYY-MM-DD	2024-07-18
DESIGNED	XXX
PREPARED	NM
REVIEWED	XXX
APPROVED	XXX

PROJECT
MARTEN FALLS COMMUNITY ACCESS ROAD

TITLE
INTERPRETED SOIL STRATIGRAPHY CROSS SECTION B-B'

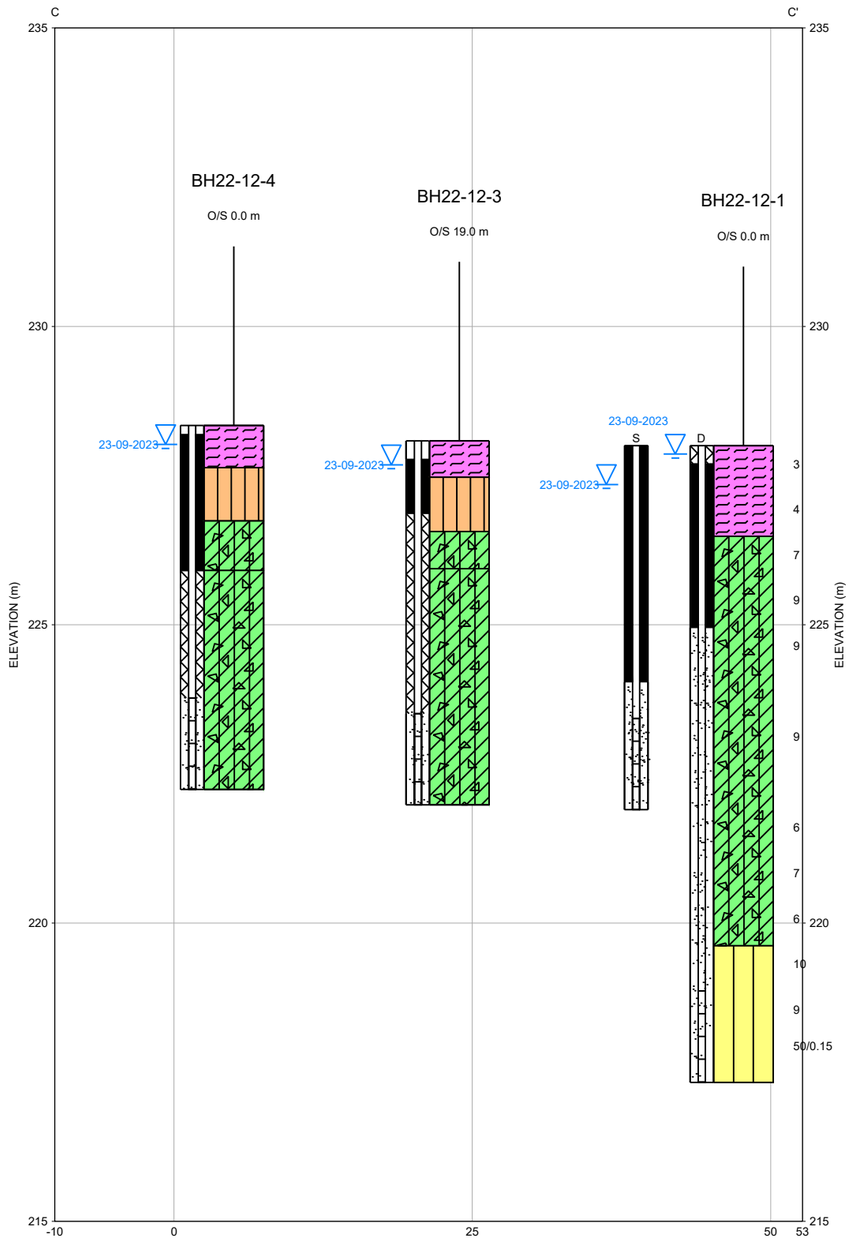
PROJECT NO.	CONTROL	REV.	FIGURE
21455151	0001	----	2

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

25 mm

0

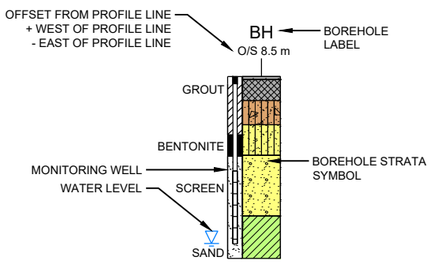
Path: \\corp.pbwan.net\CA\CAMIS300\CTX_Data\SIM\Clients\MartenFalls_FirstNation\Northern_Ontario\02_DATA\DWG\Marten_Falls_Access_Road\PRO\A | File Name: 21455151-001_Cross_Sections_0000.dwg



SOIL STRATIGRAPHY

- ORGANICS/TOPSOIL
- SILT
- SILTY CLAY TILL
- SILTY SAND

LEGEND



0 2.5 5
1:100 VERTICAL SCALE METRES

0 10 20
1:500 HORIZONTAL SCALE METRES

CLIENT
AECOM

CONSULTANT
wsp

PROJECT
MARTEN FALLS COMMUNITY ACCESS ROAD

YYYY-MM-DD	2024-07-18
DESIGNED	XXX
PREPARED	NM
REVIEWED	XXX
APPROVED	XXX

TITLE
INTERPRETED SOIL STRATIGRAPHY CROSS SECTION C-C'

PROJECT NO.	CONTROL	REV.	FIGURE
21455151	0001	----	3

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

25 mm

0

Path: \\corp.pbwan.net\CA\CAMIS300\CTX_Data\SM\Clients\MartenFalls_FirstNation\Northern_Ontario\02_DATA\DWG\Marten_Falls_Access_Road\PROJ\ | File Name: 21455151-001_Cross_Sections_0000.dwg

Attachment I – Pit / Quarry Inflow Analysis

I-1: Inflow to the Open Pit
Based on Equations by Marinelli and Niccoli (2000)

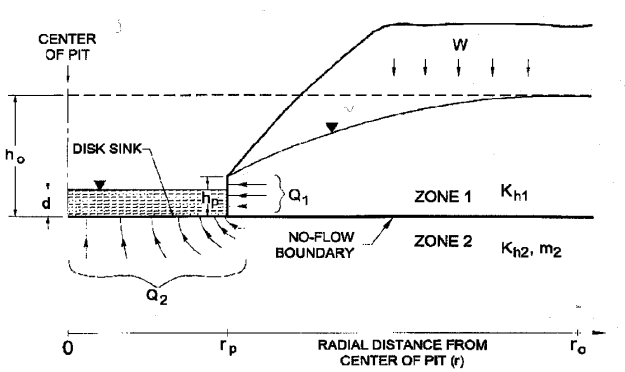


Figure 2. Pit inflow analytical model.

Marinelli, F., and W. L. Niccoli. 2000. Simple analytical equations for estimating ground water inflow to a mine pit. Ground Water 38, no. 2: 311-314.

(A) $$h_o = \sqrt{h_p^{\,2} + \frac{W}{K_{h1}}\left[r_o^2 \ln\left(\frac{r_o}{r_p}\right) - \frac{\left(r_o^2 - r_p^2\right)}{2}\right]},$$

(B) $$Q_1 = W\pi\left(r_o^2 - r_p^2\right),$$

(C) $$Q_2 = 4r_p\left(\frac{K_{h2}}{m_2}\right)\left(h_0 - d\right),$$

(D) $$m_2 = \sqrt{\frac{K_{h2}}{K_{v2}}}$$

Scenario

Estimate of pumping volumes and radius of influence for a quarry dewatered to a depth of 10 m below static groundwater level with inflow along the lower 1 m of the quarry face and the quarry floor. The assumed quarry diameter is 300 m and the assumed hydraulic conductivities are 1 x 10^{-5} m/s for horizontal flow to the quarry and 5 x 10^{-6} and 5 x 10^{-7} m/s for horizontal and vertical flow to the quarry floor, respectively.

Inflow from Zone 1

r_o (m)	721.1	radius of influence calculated by iterating equation A
(known h_o)	(h_o calculated using eq. A)	
10.0	= 10.0	
Q1 (m^3/s)	2.7E-03	pit inflow from Zone 1 calculated using equation B
Q1 (m^3/day)	235.5	
Q1 (USgpm)	43.2	

Inflow from Zone 2

m_2	3.16	anisotropy parameter calculated using equation D
Q2 (m^3/s)	9.5E-03	pit inflow from Zone 2 calculated using equation C
Q1 (m^3/day)	819.7	
Q1 (USgpm)	150.4	

Total Pit Inflow

Q (m^3/s)	1.2E-02
Q (m^3/day)	1055.1
Q (USgpm)	193.6

Input Parameters

W (m/s)	1.7E-09	recharge flux
K_{h1} (m/s)	1.0E-05	horizontal hydraulic conductivity in Zone 1
K_{h2} (m/s)	5.0E-06	horizontal hydraulic conductivity in Zone 2
K_{v2} (m/s)	5.0E-07	vertical hydraulic conductivity in Zone 2
h_o (m)	10.0	initial saturated thickness above the base of Zone 1
h_p (m)	1.0	saturated thickness at the pit wall
r_p (m)	150.0	effective pit radius
d (m)	0.0	depth of the pit lake

I-2: Inflow to the Open Pit
Based on Equations by Marinelli and Niccoli (2000)

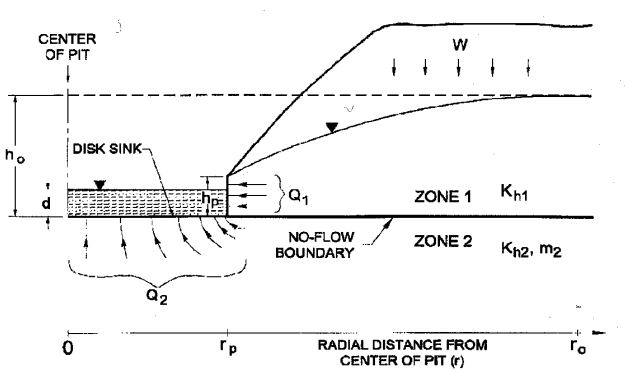


Figure 2. Pit inflow analytical model.

Marinelli, F., and W. L. Niccoli. 2000. Simple analytical equations for estimating ground water inflow to a mine pit. Ground Water 38, no. 2: 311-314.

(A) $$h_o = \sqrt{h_p^{\,2} + \frac{W}{K_{h1}}\left[r_o^2 \ln\left(\frac{r_o}{r_p}\right) - \frac{\left(r_o^2 - r_p^2\right)}{2}\right]},$$

(B) $$Q_1 = W\pi\left(r_o^2 - r_p^2\right),$$

(C) $$Q_2 = 4r_p\left(\frac{K_{h2}}{m_2}\right)\left(h_0 - d\right),$$

(D) $$m_2 = \sqrt{\frac{K_{h2}}{K_{v2}}}$$

Scenario

Estimate of pumping volumes and radius of influence for a quarry dewatered to a depth of 5 m below static groundwater level with inflow along the lower 1 m of the quarry face and the quarry floor. The assumed quarry diameter is 300 m and the assumed hydraulic conductivities are 1 x 10^{-5} m/s for horizontal flow to the quarry and 5 x 10^{-6} and 5 x 10^{-7} m/s for horizontal and vertical flow to the quarry floor, respectively.

Inflow from Zone 1

r_o (m)	455.2	radius of influence calculated by iterating equation A
(known h_o)	(h_o calculated using eq. A)	
5.0	= 5.0	
Q1 (m^3/s)	1.0E-03	pit inflow from Zone 1 calculated using equation B
Q1 (m^3/day)	87.4	
Q1 (USgpm)	16.0	

Inflow from Zone 2

m_2	3.16	anisotropy parameter calculated using equation D
Q2 (m^3/s)	4.7E-03	pit inflow from Zone 2 calculated using equation C
Q1 (m^3/day)	409.8	
Q1 (USgpm)	75.2	

Total Pit Inflow

Q (m^3/s)	5.8E-03
Q (m^3/day)	497.3
Q (USgpm)	91.2

Input Parameters

W (m/s)	1.7E-09	recharge flux
K_{h1} (m/s)	1.0E-05	horizontal hydraulic conductivity in Zone 1
K_{h2} (m/s)	5.0E-06	horizontal hydraulic conductivity in Zone 2
K_{v2} (m/s)	5.0E-07	vertical hydraulic conductivity in Zone 2
h_o (m)	5.0	initial saturated thickness above the base of Zone 1
h_p (m)	1.0	saturated thickness at the pit wall
r_p (m)	150.0	effective pit radius
d (m)	0.0	depth of the pit lake

I-3: Inflow to the Open Pit
Based on Equations by Marinelli and Niccoli (2000)

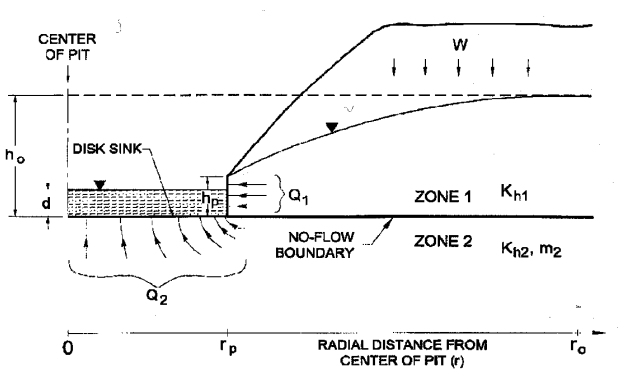


Figure 2. Pit inflow analytical model.

Marinelli, F., and W. L. Niccoli. 2000. Simple analytical equations for estimating ground water inflow to a mine pit. Ground Water 38, no. 2: 311-314.

(A) $$h_o = \sqrt{h_p^{\,2} + \frac{W}{K_{h1}}\left[r_o^2 \ln\left(\frac{r_o}{r_p}\right) - \frac{\left(r_o^2 - r_p^2\right)}{2}\right]},$$

(B) $$Q_1 = W\pi\left(r_o^2 - r_p^2\right),$$

(C) $$Q_2 = 4r_p\left(\frac{K_{h2}}{m_2}\right)\left(h_0 - d\right),$$

(D) $$m_2 = \sqrt{\frac{K_{h2}}{K_{v2}}}$$

Scenario

Estimate of pumping volumes and radius of influence for a pit dewatered to a depth of 5 m below static groundwater level with inflow along the lower 1 m of the pit face and the pit floor. The assumed pit diameter is 300 m and the assumed hydraulic conductivities are 5 x 10^{-5} m/s for horizontal flow to the pit and 1 x 10^{-5} and 1 x 10^{-6} m/s for horizontal and vertical flow to the pit floor, respectively.

Inflow from Zone 1

r_o (m)	690.6	radius of influence calculated by iterating equation A
(known h_o)	(h_o calculated using eq. A)	
5.0	= 5.0	
Q1 (m^3/s)	2.6E-03	pit inflow from Zone 1 calculated using equation B
Q1 (m^3/day)	221.0	
Q1 (USgpm)	40.6	

Inflow from Zone 2

m_2	3.16	anisotropy parameter calculated using equation D
Q2 (m^3/s)	6.3E-03	pit inflow from Zone 2 calculated using equation C
Q1 (m^3/day)	546.4	
Q1 (USgpm)	100.3	

Total Pit Inflow

Q (m^3/s)	8.9E-03
Q (m^3/day)	767.5
Q (USgpm)	140.8

Input Parameters

W (m/s)	1.7E-09	recharge flux
K_{h1} (m/s)	5.0E-05	horizontal hydraulic conductivity in Zone 1
K_{h2} (m/s)	1.0E-05	horizontal hydraulic conductivity in Zone 2
K_{v2} (m/s)	1.0E-06	vertical hydraulic conductivity in Zone 2
h_o (m)	5.0	initial saturated thickness above the base of Zone 1
h_p (m)	1.0	saturated thickness at the pit wall
r_p (m)	100.0	effective pit radius
d (m)	0.0	depth of the pit lake

I-4: Inflow to the Open Pit
Based on Equations by Marinelli and Niccoli (2000)

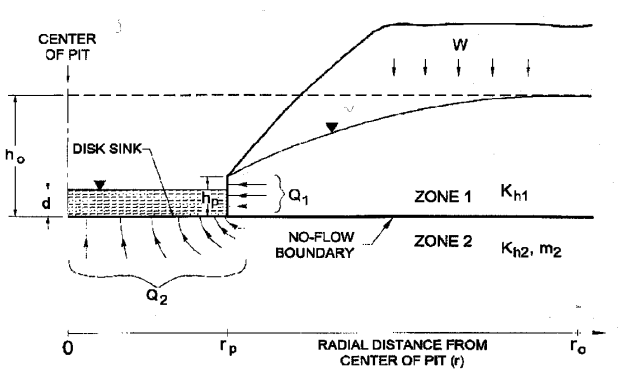


Figure 2. Pit inflow analytical model.

Marinelli, F., and W. L. Niccoli. 2000. Simple analytical equations for estimating ground water inflow to a mine pit. Ground Water 38, no. 2: 311-314.

(A) $$h_o = \sqrt{h_p^{\,2} + \frac{W}{K_{h1}}\left[r_o^2 \ln\left(\frac{r_o}{r_p}\right) - \frac{\left(r_o^2 - r_p^2\right)}{2}\right]},$$

(B) $$Q_1 = W\pi\left(r_o^2 - r_p^2\right),$$

(C) $$Q_2 = 4r_p\left(\frac{K_{h2}}{m_2}\right)\left(h_0 - d\right),$$

(D) $$m_2 = \sqrt{\frac{K_{h2}}{K_{v2}}}$$

Scenario

Estimate of pumping volumes and radius of influence for a pit dewatered to a depth of 3 m below static groundwater level with inflow along the lower 1 m of the pit face and the pit floor. The assumed pit diameter is 200 m and the assumed hydraulic conductivities are 5 x 10^{-5} m/s for horizontal flow to the pit and 1 x 10^{-5} and 1 x 10^{-6} m/s for horizontal and vertical flow to the pit floor, respectively.

Inflow from Zone 1

r_o (m)	465.2	radius of influence calculated by iterating equation A
(known h_o)	(h_o calculated using eq. A)	
3.0	= 3.0	
Q1 (m^3/s)	1.1E-03	pit inflow from Zone 1 calculated using equation B
Q1 (m^3/day)	97.7	
Q1 (USgpm)	17.9	

Inflow from Zone 2

m_2	3.16	anisotropy parameter calculated using equation D
Q2 (m^3/s)	3.8E-03	pit inflow from Zone 2 calculated using equation C
Q1 (m^3/day)	327.9	
Q1 (USgpm)	60.2	

Total Pit Inflow

Q (m^3/s)	4.9E-03
Q (m^3/day)	425.6
Q (USgpm)	78.1

Input Parameters

W (m/s)	1.7E-09	recharge flux
K_{h1} (m/s)	5.0E-05	horizontal hydraulic conductivity in Zone 1
K_{h2} (m/s)	1.0E-05	horizontal hydraulic conductivity in Zone 2
K_{v2} (m/s)	1.0E-06	vertical hydraulic conductivity in Zone 2
h_o (m)	3.0	initial saturated thickness above the base of Zone 1
h_p (m)	1.0	saturated thickness at the pit wall
r_p (m)	100.0	effective pit radius
d (m)	0.0	depth of the pit lake

I-5: Inflow to the Open Pit
Based on Equations by Marinelli and Niccoli (2000)

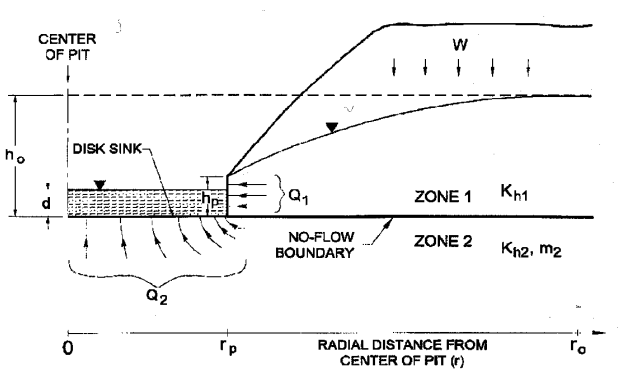


Figure 2. Pit inflow analytical model.

Marinelli, F., and W. L. Niccoli. 2000. Simple analytical equations for estimating ground water inflow to a mine pit. Ground Water 38, no. 2: 311-314.

(A) $$h_o = \sqrt{h_p^{\,2} + \frac{W}{K_{h1}}\left[r_o^2 \ln\left(\frac{r_o}{r_p}\right) - \frac{\left(r_o^2 - r_p^2\right)}{2}\right]},$$

(B) $$Q_1 = W\pi\left(r_o^2 - r_p^2\right),$$

(C) $$Q_2 = 4r_p\left(\frac{K_{h2}}{m_2}\right)\left(h_0 - d\right),$$

(D) $$m_2 = \sqrt{\frac{K_{h2}}{K_{v2}}}$$

Scenario

Estimate of pumping volumes and radius of influence for a flooded pit dewatered to a depth of 1 m below static groundwater level with inflow along the lower 2 m of the pit face and the pit floor with a 2 m deep pond in the pit. The assumed pit diameter is 200 m and the assumed hydraulic conductivities are 5 x 10^{-5} m/s for horizontal flow to the pit and 1 x 10^{-5} and 1 x 10^{-6} m/s for horizontal and vertical flow to the pit floor, respectively.

Inflow from Zone 1

r_o (m)	396.9	radius of influence calculated by iterating equation A
(known h_o)	(h_o calculated using eq. A)	
3.0	= 3.0	
Q1 (m^3/s)	8.1E-04	pit inflow from Zone 1 calculated using equation B
Q1 (m^3/day)	69.8	
Q1 (USgpm)	12.8	

Inflow from Zone 2

m_2	3.16	anisotropy parameter calculated using equation D
Q2 (m^3/s)	1.3E-03	pit inflow from Zone 2 calculated using equation C
Q1 (m^3/day)	109.3	
Q1 (USgpm)	20.1	

Total Pit Inflow

Q (m^3/s)	2.1E-03
Q (m^3/day)	179.1
Q (USgpm)	32.9

Input Parameters

W (m/s)	1.7E-09	recharge flux
K_{h1} (m/s)	5.0E-05	horizontal hydraulic conductivity in Zone 1
K_{h2} (m/s)	1.0E-05	horizontal hydraulic conductivity in Zone 2
K_{v2} (m/s)	1.0E-06	vertical hydraulic conductivity in Zone 2
h_o (m)	3.0	initial saturated thickness above the base of Zone 1
h_p (m)	2.0	saturated thickness at the pit wall
r_p (m)	100.0	effective pit radius
d (m)	2.0	depth of the pit lake

Phone: 1-800-764-9114 **Email:** info@martenfallsaccessroad.ca **Web:** http://www.martenfallsaccessroad.ca